The practice of obstetrics and gynecology encompasses a broad spectrum of care directed to many aspects of a woman's health (see Appendix H). During the reproductive years, the obstetric–gynecologic practitioner often serves as a woman's point of entry into the health care system, her provider of primary care, and a source of continuity in her health care. Obstetric–gynecologic practice requires an approach to care that recognizes the broad range of women's health care needs—reproductive, medical, surgical, psychosocial, and preventive. Awareness of and response to women with diverse needs, such as women with disabilities and women from different cultural backgrounds, plays an important role in the delivery of women's health care.

The scope of services provided by obstetric–gynecologic practitioners in the ambulatory setting will vary from practice to practice (see Box 3-1). For example, a practitioner may feel comfortable in providing preventive screening for healthy asymptomatic women, but not in treating chronic diseases. Therefore, it is important to clarify with the patient what health care issues are outside the purview of her obstetrician–gynecologist and whether she has a primary care physician who will be providing medical care and preventive health services as well as subspecialty referrals when indicated. The scope of services provided in inpatient settings also varies depending on the obstetrician–gynecologist's training and experience. For example, in some hospitals a hospitalist may provide care for inpatients, or the gynecologic surgeon may not have privileges for a procedure that the patient requires.
Box 3–1. Scope of Ambulatory Women’s Health Care Services

Primary and Preventive Services

• Age-specific routine assessment (asymptomatic women)
• Health status evaluation and counseling
  – Fitness
  – Nutrition
  – Exercise
• Routine detection and prevention of disease
  – Cardiovascular disorders
  – Diabetes mellitus
  – Cancer
  – Smoking
  – Substance abuse
• Psychosocial issues: early detection and management
  – Sexuality
  – Depression and mood disorders
  – Intimate partner violence and domestic violence
  – Child abuse
  – Abuse and neglect of the elderly
• Family planning
• Preconception care
• Menopausal management

Obstetrics

• Obstetric care: high and low risk

Gynecologic Services

• Initial and periodic evaluation and treatment of gynecologic conditions (including breast conditions)
• Abortion-related services
• Evaluation and treatment of incontinence
• Gynecologic ultrasonography
• Evaluation and treatment of endocrine dysfunction and infertility
The American College of Obstetricians and Gynecologists (ACOG) believes a full array of clinical services should be available throughout a woman's life, and without costly delays or the imposition of geographic, financial, attitudinal, or legal barriers. The American College of Obstetricians and Gynecologists and its members are committed to facilitating high-quality women's health care and access to it. To ensure access to high-quality programs meeting the health care needs of all women, ACOG Fellows should exercise their responsibility to improve the health status of women and their offspring both in the traditional patient–physician relationships and by working within their community and at the state and national levels.

Uninsured individuals often defer obtaining preventive and medical services, thus jeopardizing the health and well-being of themselves and their families. The American College of Obstetricians and Gynecologists supports universal coverage that is designed to improve the individual and collective health of society. The need is urgent, given that a considerable and increasing portion of the U.S. population does not have health insurance coverage. Of the 30 countries in the Organization of Economic Cooperation and Development, only Mexico and Turkey have a higher rate of uninsured citizens than the United States. Accordingly, expanding health coverage to all Americans must become a high priority.

Resources


Well-Woman Care

Obstetrician–gynecologists have a tradition of providing primary and preventive care to women. Primary care emphasizes the following services and principles:

- Health maintenance
- Preventive services
- Early detection of disease
- Availability of services
- Continuity of care

The obstetrician–gynecologist often serves as a primary medical resource and counselor to the patient and her family for a wide range of medical conditions. However, all clinicians, regardless of the extent of their training, have limitations to their knowledge and skills and should seek consultation at appropriate times for both reproductive and nonreproductive care.

This section focuses on primary and preventive care as it relates to routine assessments for asymptomatic women, special concerns for specific women based on their age and risk factors, and counseling that can help engage a woman in maintaining a healthy lifestyle and in minimizing health risks. Recommendations are evidence based, when available (Appendix I). Once a problem has been identified, intervention can take the form of behavior modification, additional monitoring, treatment, or referral, as needed.

Increasingly, managed care plans dictate the amount of time spent with patients during office visits. Unless applied flexibly, such an attempt to standardize caregiving threatens to overlook any nonstandard needs of an individual woman. In particular, adolescents, the elderly, and individuals with several medical, psychologic, or social issues may have needs that require more than the standard time allotted. It may not be possible to address all of the patient’s concerns in one visit; the physician and patient
will need to prioritize medical problems, and additional visits may need to be scheduled. In addition, if a clinician believes that a patient's health interests are jeopardized by the policies of her medical insurance plan, he or she should consider making an appeal to the plan or medical director.

Recommendations for primary and preventive services have been issued by a number of medical bodies in addition to ACOG and differ somewhat in their specifics. The Agency for Healthcare Research and Quality acts in part as a clearinghouse for evidence-based clinical practice guidelines, thus providing a readily available means for clinicians to compare different guidelines for a specific medical condition or intervention. The National Guideline Clearinghouse can be found at www.guideline.gov.

The recommendations discussed in this section have been selected from many sources, and they describe routine assessments for women based on age group and risk factors (see Box 3–2). These assessments, yearly or as appropriate, include screening, evaluation, and counseling. Variations to routine assessments may be required to adjust to the needs of a specific individual. For example, certain risk factors may influence additional assessments and interventions. Caregivers should be alert to high-risk factors, indicated by an asterisk in Box 3–2 and further elucidated in Table 3–1. During evaluation, the patient should be made aware of high-risk conditions that require targeted screening or treatment. Adolescent preventive services also are addressed in the “Adolescents” section later in Part 3.

The leading causes of mortality and morbidity included in Box 3–2 were derived from various sources. Leading causes of mortality are provided by the Mortality Statistics Branch at the National Center for Health Statistics. Data are from 2002, the most recent year for which final data are available. The causes are ranked.

Leading causes of morbidity are unranked estimates based on information from the following sources:

- National Health Interview Survey, 2004
- National Ambulatory Medical Care Survey, 2004
- National Hospital Discharge Survey, 2004
- National Nursing Home Survey, 1999
- U.S. Department of Justice National Violence Against Women Survey, 2006
The specialty of obstetrics and gynecology is devoted to the health care of women throughout their lifetime. It focuses on the normal and abnormal processes of the female reproductive system, but considers the whole patient. The first contact with an obstetrician–gynecologist often takes place during the reproductive years. The initial contact may begin a long-term physician–patient relationship in which the obstetrician–gynecologist provides continuity of care. A comprehensive medical record should be kept and updated periodically, including medical history, physical examination, and laboratory and radiology results. Information from referrals and other medical services outside the purview of the obstetrician–gynecologist should be integrated into the medical record.

An adolescent’s initial visit for reproductive health guidance, screening, and provision of preventive services should take place when she is between the ages of 13 years and 15 years. Specific recommendations for an adolescent’s initial visit for reproductive health guidance, screening, and preventive services are addressed in the “Adolescents” section later in Part 3.

Medical History

Conducting an Interview

The diagnostic process begins at the first moment of meeting a patient. When obtaining the patient's medical history, the interviewer should greet the patient by title and name, make eye contact, shake hands, and be welcoming. The physical environment can enhance the quality of the interview. Whenever possible, the interview should take place in a quiet, private, well-lit room with comfortable and adequate space and seating, with the patient dressed. Instruments that may be intimidating should be covered.
Box 3–2. Periodic Assessments
Ages 13–18 Years

**Screening**

**History**
- Reason for visit
- Health status: medical, menstrual, surgical, family
- Dietary/nutrition assessment
- Physical activity
- Use of complementary and alternative medicine
- Tobacco, alcohol, other drug use
- Abuse/neglect
- Sexual practices

**Physical Examination**
- Height
- Weight
- Body mass index (BMI)
- Blood pressure
- Secondary sexual characteristics (Tanner staging)
- Pelvic examination (when indicated by the medical history)
- Skin*

**Laboratory Testing**

**Periodic**
- Cervical cytology (annually beginning at approximately 3 years after initiation of sexual intercourse)
- Chlamydia and gonorrhea testing (if sexually active)

**High-Risk Groups**
- Hemoglobin level assessment
- Bacteriuria testing
- Sexually transmitted disease testing
- Human immunodeficiency virus (HIV) testing
- Genetic testing/counseling
- Rubella titer assessment
- Tuberculosis skin testing
- Lipid profile assessment
- Fasting glucose testing
- Hepatitis C virus testing
- Colorectal cancer screening†

**Evaluation and Counseling**

**Sexuality**
- Development
- High-risk behaviors
- Preventing unwanted/unintended pregnancy
  - Postponing sexual involvement
  - Contraceptive options, including emergency contraception
- Sexually transmitted diseases
  - Partner selection
  - Barrier protection

**Fitness and Nutrition**
- Dietary/nutrition assessment (including eating disorders)
- Exercise: discussion of program
- Folic acid supplementation (0.4 mg/d)
- Calcium intake

**Psychosocial Evaluation**
- Suicide: depressive symptoms
- Interpersonal/family relationships
- Sexual identity
- Personal goal development
- Behavioral/learning disorders
- Abuse/neglect
- Satisfactory school experience
- Peer relationships
- Date rape prevention

**Cardiovascular Risk Factors**
- Family history
- Hypertension
- Dyslipidemia
- Obesity
- Diabetes mellitus

**Health/Risk Behaviors**
- Hygiene (including dental), fluoride supplementation*
- Injury prevention
  - Safety belts and helmets
  - Recreational hazards
  - Firearms

(continued)
### Box 3–2. Periodic Assessments (continued)

**Ages 13–18 Years (continued)**

- Hearing
- Occupational hazards
- School hazards
- Exercise and sports involvement
- Skin exposure to ultraviolet rays
- Tobacco, alcohol, other drug use

#### Immunizations

**Periodic**

- Tetanus–diphtheria–pertussis booster (once between ages 11 years and 16 years)
- Hepatitis B vaccine (one series for those not previously immunized)
- Human papillomavirus vaccine (one series for those not previously immunized)
- Meningococcal conjugate vaccine (before entry into high school for those not previously immunized)

**High-Risk Groups***

- Influenza vaccine
- Hepatitis A vaccine
- Pneumococcal vaccine
- Measles–mumps–rubella vaccine
- Varicella vaccine

### Leading Causes of Death

1. Accidents
2. Malignant neoplasms
3. Homicide
4. Suicide
5. Congenital anomalies
6. Diseases of the heart
7. Chronic lower respiratory diseases
8. Influenza and pneumonia
9. Septicemia
10. Pregnancy, childbirth, and puerperium

### Leading Causes of Morbidity

- Acne
- Asthma
- Chlamydia
- Headache
- Mental disorders, including affective and neurotic disorders
- Nose, throat, ear, and upper respiratory infections
- Obesity
- Sexual assault
- Sexually transmitted diseases
- Urinary tract infections
- Vaginitis

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*See Table 3–1.


(continued)
Box 3–2. Periodic Assessments (continued)
Ages 19–39 Years

Screening

**History**
- Reason for visit
- Health status: medical, surgical, family
- Dietary/nutrition assessment
- Physical activity
- Use of complementary and alternative medicine
- Tobacco, alcohol, other drug use
- Abuse/neglect
- Sexual practices
- Urinary and fecal incontinence

**Physical Examination**
- Height
- Weight
- Body mass index (BMI)
- Blood pressure
- Neck: adenopathy, thyroid
- Breasts
- Abdomen
- Pelvic examination
- Skin*

**Laboratory Testing**

**Periodic**
- Cervical cytology (annually beginning no later than age 21 years; every 2–3 years after three consecutive negative test results if age 30 years or older with no history of cervical intraepithelial neoplasia 2 or 3, immunosuppression, human immunodeficiency virus (HIV) infection, or diethylstilbestrol exposure in utero)†
- Chlamydia testing (if aged 25 years or younger and sexually active)
- Human Immunodeficiency virus (HIV) testing‡

**High-Risk Groups***
- Hemoglobin level assessment
- Bacteriuria testing
- Mammography
- Fasting glucose testing
- Sexually transmitted disease testing
- Genetic testing/counseling
- Rubella titer assessment
- Tuberculosis skin testing
- Lipid profile assessment
- Thyroid-stimulating hormone testing
- Hepatitis C virus testing
- Colorectal cancer screening
- Bone density screening

**Evaluation and Counseling**

**Sexuality and Reproductive Planning**
- High-risk behaviors
- Discussion of a reproductive health plan§
- Contraceptive options for prevention of unwanted pregnancy, including emergency contraception
- Preconception and genetic counseling
- Sexually transmitted diseases
  —Partner selection
  —Barrier protection
  —Sexual function

**Fitness and Nutrition**
- Dietary/nutrition assessment
- Exercise: discussion of program
- Folic acid supplementation (0.4 mg/d)
- Calcium intake

**Psychosocial Evaluation**
- Interpersonal/family relationships
- Intimate partner violence
- Work satisfaction
- Lifestyle/stress
- Sleep disorders

**Cardiovascular Risk Factors**
- Family history
- Hypertension
- Dyslipidemia
- Obesity
- Diabetes mellitus
- Lifestyle

**Health/Risk Behaviors**
- Hygiene (including dental)
- Injury prevention
  —Safety belts and helmets
  —Occupational hazards
  —Recreational hazards
  —Firearms

(continued)
### Box 3–2. Periodic Assessments (continued)

**Ages 19–39 Years (continued)**

**High-Risk Groups**

- Measles–mumps–rubella vaccine
- Hepatitis A vaccine
- Hepatitis B vaccine
- Influenza vaccine
- Meningococcal vaccine
- Pneumococcal vaccine
- Varicella vaccine

**Immunizations**

**Periodic**

- Human papillomavirus vaccine (one series for those aged 26 years or less and not previously immunized)
- Tetanus–diphtheria–pertussis booster (every 10 years)

**Leading Causes of Death**

1. Malignant neoplasms
2. Accidents
3. Diseases of the heart
4. Suicide
5. Human immunodeficiency virus (HIV) disease
6. Homicide
7. Cerebrovascular diseases
8. Diabetes mellitus
9. Chronic liver diseases and cirrhosis
10. Chronic lower respiratory diseases

**Leading Causes of Morbidity**

- Mental disorders, including affective and neurotic disorders
- Nose, throat, ear, and upper respiratory infections
- Obesity
- Sexual assault/domestic violence
- Sexually transmitted diseases
- Substance abuse
- Urinary tract infections

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*See Table 3–1.


||Despite a lack of definite data for or against breast self-examination, breast self-examination has the potential to detect palpable breast cancer and can be recommended.

Box 3–2. Periodic Assessments (continued)

Ages 40–64 Years

Screening

**History**
- Reason for visit
- Health status: medical, surgical, family
- Dietary/nutrition assessment
- Physical activity
- Use of complementary and alternative medicine
- Tobacco, alcohol, other drug use
- Abuse/neglect
- Sexual practices
- Urinary and fecal incontinence

**Physical Examination**
- Height
- Weight
- Body mass index (BMI)
- Blood pressure
- Oral cavity
- Neck: adenopathy, thyroid
- Breasts, axillae
- Abdomen
- Pelvic examination
- Skin*

**Laboratory Testing**

**Periodic**
- Cervical cytology (every 2–3 years after three consecutive negative test results if no history of cervical intraepithelial neoplasia 2 or 3, immunosuppression, human immunodeficiency virus (HIV) infection, or diethylstilbestrol exposure in utero)†
- Mammography (every 1–2 years beginning at age 40 years, yearly beginning at age 50 years)
- Lipid profile assessment (every 5 years beginning at age 45 years)
- Colorectal cancer screening (beginning at age 50 years), using one of the following options:
  1. Yearly patient-collected fecal occult blood testing‡
  2. Flexible sigmoidoscopy every 5 years
  3. Yearly patient-collected fecal occult blood testing‡ plus flexible sigmoidoscopy every 5 years
  4. Double contrast barium enema every 5 years
  5. Colonoscopy every 10 years
- Fasting glucose testing (every 3 years after age 45 years)
- Thyroid-stimulating hormone screening (every 5 years beginning at age 50 years)
- Human immunodeficiency virus (HIV) testing§

**High-Risk Groups**
- Hemoglobin level assessment
- Bacteriuria testing
- Fasting glucose testing
- Sexually transmitted disease testing
- Tuberculosis skin testing
- Lipid profile assessment
- Thyroid-stimulating hormone testing
- Hepatitis C virus testing
- Colorectal cancer screening

**Evaluation and Counseling**

**Sexuality**
- High-risk behaviors
- Contraceptive options for prevention of unwanted pregnancy, including emergency contraception
- Sexually transmitted diseases
  - Partner selection
  - Barrier protection
- Sexual function

**Fitness and Nutrition**
- Dietary/nutrition assessment
- Exercise: discussion of program
- Folic acid supplementation (0.4 mg/d before age 50 years)
- Calcium intake

**Psychosocial Evaluation**
- Family relationships
- Intimate partner violence
- Work satisfaction
- Retirement planning
- Lifestyle/stress
- Sleep disorders

**Cardiovascular Risk Factors**
- Family history
- Hypertension
- Dyslipidemia
- Obesity
- Diabetes mellitus
- Lifestyle
### Box 3–2. Periodic Assessments (continued)

#### Ages 40–64 Years (continued)

**Health/Risk Behaviors**

- Hygiene (including dental)
- Hormone therapy
- Injury prevention
  - Safety belts and helmets
  - Occupational hazards
  - Recreational hazards
- Exercise and sports involvement
- Firearms
- Hearing
- Breast self-examination
- Chemoprophylaxis for breast cancer (for high-risk women)
- Skin exposure to ultraviolet rays
- Suicide: depressive symptoms
- Tobacco, alcohol, other drug use

**Immunizations**

- **Periodic**
  - Influenza vaccine (annually beginning at age 50 years)
  - Tetanus-diphtheria-pertussis booster (every 10 years)

- **High-Risk Groups**
  - Measles–mumps–rubella vaccine
  - Hepatitis A vaccine
  - Hepatitis B vaccine
  - Influenza vaccine
  - Meningococcal vaccine
  - Pneumococcal vaccine
  - Varicella vaccine

**Leading Causes of Death**

1. Malignant neoplasms
2. Diseases of the heart
3. Cerebrovascular diseases
4. Chronic lower respiratory diseases
5. Accidents
6. Diabetes mellitus
7. Chronic liver disease and cirrhosis
8. Septicemia
9. Suicide
10. Human immunodeficiency virus (HIV) disease

**Leading Causes of Morbidity**

- Arthritis/osteoarthritis
- Asthma
- Cancer
- Cardiovascular disease
- Depression
- Diabetes mellitus
- Disorders of the urinary tract
- Headache/migraine
- Hypertension
- Menopause
- Mental disorders, including affective and neurotic disorders
- Musculoskeletal symptoms
- Nose, throat, ear, and upper respiratory infections
- Obesity
- Sexually transmitted diseases
- Ulcers
- Vision impairment

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*See Table 3–1.


‡Fecal occult blood testing (FOBT) requires two or three samples of stool collected by the patient at home and returned for analysis. A single stool sample for FOBT obtained by digital rectal examination is not adequate for the detection of colorectal cancer.


¶Preconception and genetic counseling is appropriate for certain women in this age group.

Despite a lack of definitive data for or against breast self-examination, breast self-examination has the potential to detect palpable breast cancer and can be recommended.

### Box 3–2. Periodic Assessments (continued)

#### Ages 65 Years and Older

**Screening**

**History**
- Reason for visit
- Health status: medical, surgical, family
- Dietary/nutrition assessment
- Physical activity
- Use of complementary and alternative medicine
- Tobacco, alcohol, other drug use, and concurrent medication use
- Abuse/neglect
- Sexual practices
- Urinary and fecal incontinence

**Physical Examination**
- Height
- Weight
- Body mass index (BMI)
- Blood pressure
- Oral cavity
- Neck: adenopathy, thyroid
- Breasts, axillae
- Abdomen
- Pelvic examination
- Skin*

**Laboratory Testing**

**Periodic**
- Cervical cytology (every 2–3 years after three consecutive negative test results if no history of cervical intraepithelial neoplasia 2 or 3, immunosuppression, human immunodeficiency virus (HIV) infection, or diethylstilbestrol exposure in utero)†
- Urinalysis
- Mammography
- Lipid profile assessment (every 5 years)
- Colorectal cancer screening using one of the following methods:
  1. Yearly patient-collected fecal occult blood testing‡
  2. Flexible sigmoidoscopy every 5 years
  3. Yearly patient-collected fecal occult blood testing‡ plus flexible sigmoidoscopy every 5 years
  4. Double contrast barium enema every 5 years
  5. Colonoscopy every 10 years

**Fasting glucose testing (every 3 years)**
- Bone density screening§
- Thyroid-stimulating hormone screening (every 5 years)

**High-Risk Groups**
- Hemoglobin level assessment
- Sexually transmitted disease testing
- Human immunodeficiency virus (HIV) testing
- Tuberculosis skin testing
- Thyroid-stimulating hormone screening
- Hepatitis C virus testing
- Colorectal cancer screening

**Evaluation and Counseling**

**Sexuality**
- Sexual function
- Sexual behaviors
- Sexually transmitted diseases
  - Partner selection
  - Barrier protection

**Fitness and Nutrition**
- Dietary/nutrition assessment
- Exercise: discussion of program
- Calcium intake

**Psychosocial Evaluation**
- Neglect/abuse
- Lifestyle/stress
- Depression/sleep disorders
- Family relationships
- Work/retirement satisfaction

**Cardiovascular Risk Factors**
- Hypertension
- Dyslipidemia
- Obesity
- Diabetes mellitus
- Sedentary lifestyle

**Health/Risk Behaviors**
- Hygiene (including dental)
- Hormone therapy
- Injury prevention
  - Safety belts and helmets
  - Prevention of falls
  - Occupational hazards
  - Recreational hazards
Box 3–2. Periodic Assessments (continued)

Ages 65 Years and Older (continued)

—Exercise and sports involvement
—Firearms
Visual acuity/glaucoma
Hearing
Breast self-examination
Chemoprophylaxis for breast cancer (for high-risk women)
Skin exposure to ultraviolet rays
Suicide: depressive symptoms
Tobacco, alcohol, other drug use

Immunizations

Periodic
Tetanus–diphtheria booster (every 10 years)
Influenza vaccine (annually)
Pneumococcal vaccine (once)

High-Risk Groups*
Hepatitis A vaccine
Hepatitis B vaccine
Meningococcal vaccine
Varicella vaccine

Leading Causes of Death
1. Diseases of the heart
2. Malignant neoplasms
3. Cerebrovascular diseases
4. Chronic lower respiratory diseases
5. Alzheimer’s disease
6. Influenza and pneumonia
7. Diabetes mellitus
8. Nephritis, nephrotic syndrome, and nephrosis
9. Accidents
10. Septicemia

Leading Causes of Morbidity
Arthritis/osteoarthritis
Asthma
Cancer
Cardiovascular disease
Chronic obstructive pulmonary diseases
Diabetes mellitus
Diseases of the nervous system and sense organs
Hearing and vision impairment
Hypertension
Mental disorders
Musculoskeletal symptoms
Nose, throat, ear, and upper respiratory infections
Obesity
Osteoporosis
Pneumonia
Ulcers
Urinary incontinence
Urinary tract infections
Vertigo

*See Table 3–1.
‡Fecal occult blood testing (FOBT) requires two or three samples of stool collected by the patient at home and returned for analysis. A single stool sample for FOBT obtained by digital rectal examination is not adequate for detection of colorectal cancer.
§In the absence of new risk factors, subsequent bone density screening should not be performed more frequently than every 2 years.
||Despite a lack of definitive data for or against breast self-examination, breast self-examination has the potential to detect palpable breast cancer and can be recommended.
**Table 3–1. High-Risk Factors**

<table>
<thead>
<tr>
<th>Intervention</th>
<th>High-Risk Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteriuria testing</td>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td>Bone density screening*</td>
<td>Postmenopausal women younger than 65 years: history of prior fracture as an adult; family history of osteoporosis; Caucasian; dementia; poor nutrition; smoking; low weight and BMI; estrogen deficiency caused by early (age younger than 45 years) menopause, bilateral oophorectomy or prolonged (longer than 1 year) premenopausal amenorrhea; low lifelong calcium intake; alcoholism; impaired eyesight despite adequate correction; history of falls; inadequate physical activity</td>
</tr>
<tr>
<td>Colorectal cancer screening†</td>
<td>Colorectal cancer or adenomatous polyps in first-degree relative younger than 60 years or in two or more first-degree relatives of any ages; family history of familial adenomatous polyposis or hereditary nonpolyposis colon cancer; history of colorectal cancer, adenomatous polyps, inflammatory bowel disease, chronic ulcerative colitis, or Crohn’s disease</td>
</tr>
<tr>
<td>Fasting glucose testing</td>
<td>Overweight (BMI greater than equal to 25); family history of diabetes mellitus; habitual physical inactivity; high-risk race/ethnicity (eg, African American, Hispanic, Native American, Asian, Pacific Islander); have given birth to a newborn weighing more than 9 lb or have a history of gestational diabetes mellitus; hypertension; high-density lipoprotein cholesterol level less than or equal to 35 mg/dL; triglyceride level greater than or equal to 250 mg/dL; history of impaired glucose tolerance or impaired fasting glucose; polycystic ovary syndrome; history of vascular disease</td>
</tr>
<tr>
<td>Fluoride supplementation</td>
<td>Live in area with inadequate water fluoridation (less than 0.7 ppm)</td>
</tr>
<tr>
<td>Genetic testing/counseling</td>
<td>Considering pregnancy and: patient, partner, or family member with history of genetic disorder or birth defect; exposure to teratogens; or African, Cajun, Caucasian, European, Eastern European (Ashkenazi) Jewish, French Canadian, Mediterranean, or Southeast Asian ancestry</td>
</tr>
<tr>
<td>Hemoglobin level assessment</td>
<td>Caribbean, Latin American, Asian, Mediterranean, or African ancestry; history of excessive menstrual flow</td>
</tr>
<tr>
<td>HAV vaccination</td>
<td>Chronic liver disease, clotting factor disorders, illegal drug users, individuals who work with HAV-infected nonhuman primates or with HAV in a research laboratory setting, individuals traveling to or working in countries that have high or intermediate endemicity of hepatitis A</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Intervention</th>
<th>High-Risk Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBV vaccination</td>
<td>Hemodialysis patients; patients who receive clotting factor concentrates; health care workers and public safety workers who have exposure to blood in the workplace; individuals in training in schools of medicine, dentistry, nursing, laboratory technology, and other allied health professions; injecting drug users; individuals with more than one sexual partner in the previous 6 months; individuals with a recently acquired STD; all clients in STD clinics; household contacts and sexual partners of individuals with chronic HBV infection; clients and staff of institutions for the developmentally disabled; international travelers who will be in countries with high or intermediate prevalence of chronic HBV infection for more than 6 months; inmates of correctional facilities</td>
</tr>
<tr>
<td>HCV testing</td>
<td>History of injecting illegal drugs; recipients of clotting factor concentrates before 1987; chronic (long-term) hemodialysis; persistently abnormal alanine aminotransferase levels; recipients of blood from donors who later tested positive for HCV infection; recipients of blood or blood-component transfusion or organ transplant before July 1992; occupational percutaneous or mucosal exposure to HCV-positive blood</td>
</tr>
<tr>
<td>HIV testing</td>
<td>More than one sexual partner since most recent HIV test or a sex partner with more than one sexual partner since most recent HIV test, seeking treatment for STDs, drug use by injection, history of prostitution, past or present sexual partner who is HIV positive or bisexual or injects drugs, long-term residence or birth in an area with high prevalence of HIV infection, history of transfusion from 1978 to 1985, invasive cervical cancer, adolescents who are or ever have been sexually active, adolescents entering detention facilities. Offer to women seeking preconception evaluation.</td>
</tr>
<tr>
<td>Influenza vaccination</td>
<td>Anyone who wishes to reduce the chance of becoming ill with influenza; chronic cardiovascular or pulmonary disorders, including asthma; chronic metabolic diseases, including diabetes mellitus, renal dysfunction, hemoglobinopathies, and immunosuppression (including immunosuppression caused by medications or by HIV); residents and employees of nursing homes and other long-term care facilities; individuals likely to transmit influenza to high-risk individuals (eg, household members and caregivers of the elderly, children aged from birth to 59 months, and adults with high-risk conditions); those with any condition (eg, cognitive dysfunction, spinal cord injury, seizure or other neuromuscular disorder) that compromises respiratory function or the handling of respiratory secretions, or that increases the risk of aspiration; health care workers</td>
</tr>
</tbody>
</table>
Table 3–1. High-Risk Factors (continued)

<table>
<thead>
<tr>
<th>Intervention</th>
<th>High-Risk Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lipid profile assessment</td>
<td>Family history suggestive of familial hyperlipidemia; family history of premature (age younger than 50 years for men, age younger than 60 years for women) cardiovascular disease; diabetes mellitus; multiple coronary heart disease risk factors (eg, tobacco use, hypertension)</td>
</tr>
<tr>
<td>Mammography</td>
<td>Women who have had breast cancer or who have a first-degree relative (ie, mother, sister, or daughter) or multiple other relatives who have a history of premenopausal breast or breast and ovarian cancer</td>
</tr>
<tr>
<td>Meningococcal vaccination</td>
<td>Adults with anatomic or functional asplenia or terminal complement component deficiencies, first-year college students living in dormitories, microbiologists routinely exposed to <em>Neisseria meningitidis</em> isolates, military recruits, travel to hyperendemic or epidemic areas</td>
</tr>
<tr>
<td>MMR vaccination</td>
<td>Adults born in 1957 or later should be offered vaccination (one dose of MMR) if there is no proof of immunity or documentation of a dose given after first birthday; individuals vaccinated in 1963–1967 should be offered revaccination (two doses); health care workers, students entering college, international travelers, and rubella-negative postpartum patients should be offered a second dose.</td>
</tr>
<tr>
<td>Pneumococcal vaccination</td>
<td>Chronic illness, such as cardiovascular disease, pulmonary disease, diabetes mellitus, alcoholism, chronic liver disease, cerebrospinal fluid leaks, functional asplenia (eg, sickle cell disease) or splenectomy; exposure to an environment where pneumococcal outbreaks have occurred; immunocompromised patients (eg, HIV infection, hematologic or solid malignancies, chemotherapy, steroid therapy). Revaccination after 5 years may be appropriate for certain high-risk groups.</td>
</tr>
<tr>
<td>Rubella titer assessment</td>
<td>Childbearing age and no evidence of immunity</td>
</tr>
<tr>
<td>STD testing</td>
<td>History of multiple sexual partners or a sexual partner with multiple contacts, sexual contact with individuals with culture-proven STD, history of repeated episodes of STDs, attendance at clinics for STDs, women with developmental disabilities; routine screening for chlamydial infection for all sexually active women aged 25 years or younger and other asymptomatic women at high risk for infection; routine screening for gonorrheal infection for all sexually active adolescents and other asymptomatic women at high risk for infection; sexually active adolescents who exchange sex for drugs or money, use intravenous drugs, are entering a detention facility, or live in a high prevalence area should also be tested for syphilis.</td>
</tr>
</tbody>
</table>

(continued)
As much as possible, allow the patient to express her story in her own words. Listen without interruption, and be aware that the presence of family members could be an impediment to an honest interview, especially in cases of intimate partner or domestic violence or when the patient is an adolescent. If the family is present, include time in the interview for a private conversation in the absence of family members. The “Adolescents” section later in Part 3 suggests how to structure a visit with an adolescent patient to maximize communication and confidentiality.

Communication is the key to a successful medical history interview (see Box 3–3). The interviewer should make the patient comfortable enough to
**Box 3–3. The RESPECT Communication Model**

**Rapport**
- Connect on a social level.
- See the patient's point of view.
- Consciously suspend judgment.
- Recognize and avoid making assumptions.

**Empathy**
- Remember that the patient has come to you for help.
- Seek out and understand the patient's rationale for her behaviors or illness.
- Verbally acknowledge and legitimize the patient's feelings.

**Support**
- Ask about and understand the barriers to care and compliance.
- Help the patient overcome barriers.
- Involve family members, if appropriate.
- Reassure the patient that you are and will be able to help.

**Partnership**
- Be flexible with regard to control issues.
- Negotiate roles, when necessary.
- Stress that you are working together to address health problems.

**Explanations**
- Check often for understanding.
- Use verbal clarification techniques.

**Cultural Competence**
- Respect the patient's cultural beliefs.
- Understand that the patient's view of you may be defined by ethnic or cultural stereotypes.
- Be aware of your own cultural biases and preconceptions.
- Know your limitations in addressing medical issues across cultures.
- Understand your personal style and recognize when it may not be working with a given patient.

**Trust**
- Recognize that self-disclosure may be difficult for some patients.
- Consciously work to establish trust.

speak freely, and the questions should be understood easily and be tailored to the individual patient. The help of a trained medical interpreter should be sought for patients who do not easily understand or speak the language or languages in which the clinician is fluent. Use of family members as translators is discouraged because of issues of privacy, confidentiality, and bias and the sensitive nature of many issues of women's health.

The goal of a medical history interview is to gather pertinent and basic information about the patient's health status. An interviewer should consider all aspects of the patient's presentation and condition and prioritize areas for further evaluation. The interviewer should be aware of the influence of social, economic, and cultural factors in shaping the nature of the patient's concerns and her descriptions of health status and symptoms. Issues of cultural competency and barriers to effective communication must be examined and addressed when developing patient communication and documentation systems. Clinicians and staff members should be aware of the "culture of medicine" and their own cultural attitudes. Increased sensitivity to cultural issues can facilitate more positive interactions and help the patient feel comfortable with her health care team. Consideration should be given to providing patient information in other languages. Patient communication procedures should respect cultural differences in the role of the extended family in health care decision making, religious beliefs, and the role of traditional remedies. In addition, clinicians should be attuned to the possible intimidation of patients with little exposure to the health care system. The volume of paperwork and the use of professional jargon often associated with health care information systems can be intimidating.

Mutual trust and respect in the patient–clinician relationship help to allow appropriate discussion of questions and concerns about sexuality. An awareness by the clinician of his or her own biases and a nonjudgmental approach by the clinician are essential for effective counseling (see also “Female Sexuality” and “Lesbians and Bisexual Women” later in Part 3).

Content of the Medical History

Information contained in the medical history includes discussions of the chief complaint, history of present illness, review of systems, medical history, family history, social history, and sexual history. Because many patients are reluctant to volunteer problems of urinary and fecal incontinence, substance use, sexual dysfunction, or current or past intimate part-
ner or domestic violence, abuse, or sexual assault, women should routinely be asked about these conditions. Direct and behaviorally specific questions generally result in more accurate responses about these sensitive issues (see “Abuse” later in Part 3).

In 1995 and 1997, the Health Care Financing Administration (currently known as the Centers for Medicare and Medicaid Services [CMS]) developed Medicare documentation guidelines for problem-oriented evaluation and management services (see the CMS Medicare Learning Network at www.cms.hhs.gov/medlearn/emdoc.asp). These guidelines were developed jointly by the American Medical Association (AMA) and the CMS to provide physicians and claims reviewers with advice about preparing or reviewing documentation for the evaluation and management services provided under Medicare, but they are used more broadly. Either the 1995 or 1997 version may be used; the difference between the two guidelines is in the examination only. Currently, the 1997 documentation guidelines for evaluation and management services recommend key threshold elements to determine the level of complexity related to the chief complaint, past history, and review of systems. These recommendations are currently being reviewed by the AMA, the CMS, and other interested medical organizations. It is expected that the 1997 recommendations will be modified. Because these recommendations will substantially influence compensation for medical care, the recommendations presented here should be compared carefully with future guidelines published by the AMA and the CMS.

Many practices have modified their medical records to reflect the requirements specified by the CMS. These requirements are reflected in the Woman’s Health Record produced by ACOG (Appendix J).

The levels of services described by the CMS are based on four types of history (problem focused, expanded problem focused, detailed, and comprehensive). Each type of history includes some or all of the following elements:

- Chief complaint
- History of present illness
- Review of systems
- Past, family, and social history

The extent of history of present illness; review of systems; and past, family, and social history that is obtained and documented depends on clinical judgment and the nature of the presenting problem.
Chief Complaint. The chief complaint is a concise statement describing the symptom, problem, condition, diagnosis, physician-recommended return, or other factor that is the reason for the encounter. It usually is stated in the patient's words.

History of Present Illness. The history of present illness is a chronologic description of the development of the patient's present illness. It describes the illness from the first sign or symptom or from the previous encounter to the present.

Review of Systems. A review of systems is an inventory of body systems obtained through a series of questions seeking to identify signs and symptoms that the patient may be experiencing or has experienced. The ACOG Woman's Health Record (Appendix J) includes a review of the systems recognized by the CMS. The importance of the review of systems is highlighted in the case of ovarian cancer; a high index of suspicion for relatively nonspecific symptoms such as an increase in abdominal size, bloating, fatigue, indigestion, urinary frequency, constipation, and back pain provides the best way to detect early ovarian cancer.

Past, Family, and Social History. The past, family, and social history consists of a review of general medical and obstetric and gynecologic history, family health history, allergies, current medications, and sexual and social history (see Appendix J).

Implementation of a medication reconciliation process is a National Patient Safety goal of the Joint Commission (formerly the Joint Commission on Accreditation of Healthcare Organizations). After obtaining and documenting a list of current medications from the patient, a process is required to compare this list to a list of medications to be provided. In addition, the Joint Commission requires that a complete list of the patient's medications be communicated to the next provider of service when a patient is referred or transferred.

Questions about “medication” or “drugs” may not elicit or trigger answers related to the use of over-the-counter medications or complementary and alternative medicines. Most patients who use complementary and alternative medicines do not tell their physicians they are doing so. Thus, their medical record is incomplete, and the possibility of medical risk cannot be addressed. Patients can be asked questions similar to “Have you used, or have you been considering using, other kinds of treatment or medications for relief of your symptoms or to maintain wellness?” Follow-up questions to a positive answer can include asking when the patient
decided to use complementary or alternative medicines, what results she was expecting, how she chose the method, and how it has worked for her. This information then can be documented in the patient’s medical record. Additional information regarding complementary and alternative medicines can be found in Appendix K.

**The General Examination**

The general physical examination serves to detect abnormalities suggested by the medical history as well as unsuspected problems. Specific information the patient gives during the history should guide the practitioner to areas of physical examination that may not be surveyed in a routine screening. The extent of the examination is based on the practitioner’s clinical relationship with the patient, what is being medically managed by other clinicians, and what is medically indicated. Once a problem has been identified, intervention can take the form of behavior modification, additional monitoring, treatment, or referral, as necessary. The focus of a preoperative examination will depend on the procedure (see “Ambulatory Gynecologic Surgery” later in Part 3). Again, because these recommendations will substantially influence compensation for medical care, the recommendations presented here should be compared carefully with future guidelines published by the AMA and the CMS.

The ACOG recommendations for periodic health assessment include weight, height, and blood pressure measurements. The body mass index (BMI), which takes into account both height and weight and provides the best general assessment of weight, should be calculated. (Calculations for BMI and a BMI chart are provided in the “Fitness” section later in Part 3.) A calculator that determines adolescent BMI for age percentile is available at www.acog.org/goto/teens. For adults, BMI measurements fall into the following categories:

- **Underweight**: BMI less than 18.5
- **Normal weight**: BMI 18.5–24.9
- **Overweight**: 25.0–29.9
- **Obese**: 30 or above

Clinicians should offer patients appropriate interventions or referrals to promote a healthy weight and lifestyle (see “Routine Screening and Prevention of Disease” later in Part 3).
Classification of blood pressure should be based on the average of two or more readings at each of two or more visits after an initial screen. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure proposed the following new definitions of normal and abnormal blood pressure in adults:

- **Normal blood pressure**: systolic lower than 120 mm Hg and diastolic lower than 80 mm Hg
- **Prehypertension**: systolic 120–139 mm Hg or diastolic 80–89 mm Hg
- **Hypertension**: systolic 140 mm Hg or higher or diastolic 90 mm Hg or higher

For adolescents, classification of blood pressure depends on age, and these classifications are not the same as classifications for adults (see “Adolescents” later in Part 3).

Prehypertension is associated with twice the risk of subsequent hypertension as lower values. Its finding should prompt recommendations for lifestyle modifications (see “Hypertension” later in Part 3).

**The Breast Examination**

All women should have clinical breast examinations annually as part of the physical examination, and for adolescent patients the examinations should include Tanner (sexual maturation) staging. Detailed recommendations for the performance of clinical breast examination are available (see Resources). Although there is a lack of definitive data for or against breast self-examination, this technique has the potential to detect palpable breast cancer and can be recommended. The clinician can review the principles of breast self-examination with the patient while performing the physical examination.

The clinical breast examination involves both visual assessment of skin changes and palpation. A visual examination should be performed while the patient is sitting or standing with her hands on her hips. The axillary and supraclavicular areas should be palpated to detect adenopathy. To assess any palpable dominant mass, the examiner should use the fingertips to palpate all of the breast tissue, including the axilla, with the patient in both the upright and supine positions. The presence of nipple discharge should be ascertained by gentle pressure.

Patients should be encouraged to undergo screening by mammography in accordance with ACOG guidelines (see Box 3–2). Women who undergo
mammography may be counseled that high false-positive rates (10% per screening in postmenopausal women and as high as 20% per screening in obese or premenopausal women) may result in further testing.

Obstetrician–gynecologists may perform diagnostic procedures when indicated or should make referrals to physicians who specialize in the diagnosis and treatment of breast disease (see also “Neoplasms” later in Part 3). Institutions that grant physicians privileges to perform breast surgery should apply the same criteria for privileging to obstetrician–gynecologists as to other physicians.

When a nonpalpable mass is perceived on screening mammography, the patient should be referred to a professional experienced in the diagnosis of breast cancer. When a patient is referred to another physician for diagnostic testing or consultation, the obstetrician–gynecologist should ensure that the patient is provided with the following:

- An explanation that she needs further care
- The names of qualified physicians from whom the patient can receive care
- An opportunity to have her questions answered
- A summary of the history, physical examination, and diagnostic tests performed
- Information for the consultant if diagnostic imaging is required for a reason of clinical concern rather than merely routine screening

Documentation of these steps and a description of the clinical findings should be included in the medical record.

The evaluation of breast disease is based on risk factors and age and is determined by history, physical examination, imaging studies, cytologic examination, and biopsy, as needed. The clinician should be knowledgeable regarding the indications and options for breast cancer prevention, including chemoprevention and prophylactic mastectomy. In some circumstances, and with appropriate training and experience, the obstetrician–gynecologist may diagnose by biopsy, participate in the treatment of life-threatening breast disease, or both. The clinician should be able to do the following:

- Elicit a history related to breast disorders.
  - Duration, onset, and cyclicity of signs and symptoms, including any breast discharge
Well-Woman Care 165

• Menstrual and reproductive history
• Hormone use
• Dietary habits
• Breast implants

• Perform a thorough physical examination of the breasts.
• Educate patients on the technique of breast self-examination.
• Counsel patients on the appropriate screening and diagnostic modalities for life-threatening breast disease, such as mammography and ultrasonography, including timing and follow-up.
• Diagnose and manage (consistent with training and experience), or refer for treatment, patients with the following signs and symptoms.
  – A solid or cystic breast mass
  – A mammographic abnormality
  – Breast pain
  – Physiologic and abnormal nipple discharge
  – Mastitis
  – Fibrocystic changes of the breast
• Counsel patients on familial and genetic risks and behavioral factors related to breast disease.

A palpable mass, skin changes, breast pain, or nonlactational nipple discharge requires evaluation, which may include a follow-up examination or additional diagnostic testing (see Fig. 3–1). A persistent palpable breast mass requires evaluation. Normal diagnostic mammography alone is not always sufficient to rule out malignancy in a patient with a palpable breast mass. Ultrasonography may be useful to define a cystic lesion. If a cyst is aspirated and the fluid is clear (transparent and not bloody), there is no need for cytologic evaluation. If the cyst does not disappear after aspiration or recurs within 6 weeks, surgical follow-up should be considered. In adult women, a solid, dominant, persistent mass requires tissue diagnosis by fine-needle aspiration or biopsy. Physical examination, imaging, and cytologic evaluations all contribute information but are not definitive.

To respond to a lack of uniformity in mammography terminology, in 1995 the American College of Radiology developed a terminology and lex-
icon system called the Breast Imaging Reporting and Data System (BI-RADS). This system classifies abnormalities identified by mammography with a standardized reporting system.

Mammography results are classified as Categories 0–6 based on likelihood of malignancy (see Table 3–2). A Category 3 result indicates a 0–2% chance of malignancy. Category 5 is used for approximately a 98% or higher chance of malignancy. Findings that fall between these two categories are designated Category 4. The American College of Radiology has recommended an optional division of Category 4 into three subgroups to provide more concrete evaluation for treatment and outcome studies.

Obstetrician–gynecologists who provide mammography services should be in compliance with the Mammography Quality Standards Act and its regulations (see “Compliance With Government Regulations” in Part 1).

*Fig. 3–1. Relative location of malignant lesions of the breast.*
(DeSaia PJ, Creasman WT. Clinical gynecologic oncology. St. Louis [MO]: Mosby; 2002.)
The Pelvic Examination

After emptying her bladder, the patient should be assisted to the lithotomy position and properly draped. Other positions may be appropriate, depending on the age or physical limitations of the patient (see “Pediatric Gynecology” and “Women With Disabilities” later in Part 3). Careful inspection of the vulva and perianal area with adequate lighting is performed first. In adolescents, the sequence in which the components of the pelvic examination are performed and the need for a speculum examination should be assessed on an individual basis.

The labia are then gently separated to allow visualization of the urethra and introitus. The clinician should carefully note and record any pertinent findings. After the external examination, a warm speculum of appropriate size should be inserted gently into the vagina, with posterior pressure against the perineal and levator muscles until the cervix can be visualized entirely. If the speculum does not pass easily, it may be moistened with water. If lubricant is used, care should be taken to avoid contaminating any sample, because lubricant can interfere with the interpretation of results of cervical cytologic studies, as well as with the growth of microorganisms if a culture is taken.

If appropriate, cells for a cervical cytology test are obtained (see later in this discussion). If abnormal vaginal or cervical discharge is noted, or if the history indicates, appropriate culturing and testing should be performed.

<table>
<thead>
<tr>
<th>Category</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Need additional imaging evaluation; assessment incomplete</td>
</tr>
<tr>
<td>1</td>
<td>Negative</td>
</tr>
<tr>
<td>2</td>
<td>Benign finding</td>
</tr>
<tr>
<td>3</td>
<td>Probably benign finding; short-interval follow-up suggested</td>
</tr>
<tr>
<td>4A</td>
<td>Needing intervention but low suspicion for malignancy</td>
</tr>
<tr>
<td>4B</td>
<td>Intermediate suspicion of malignancy</td>
</tr>
<tr>
<td>4C</td>
<td>Moderate concern, but no classic signs (malignancy expected)</td>
</tr>
<tr>
<td>5</td>
<td>Almost certainly malignant</td>
</tr>
<tr>
<td>6</td>
<td>Malignancy confirmed (prior to definitive therapies)</td>
</tr>
</tbody>
</table>

Routine annual screening for chlamydial infection is recommended for all sexually active women aged 25 years and younger and for other asymptomatic women at high risk for infection (see “Sexually Transmitted Diseases” later in Part 3). Sexually active adolescents also should be screened for gonorrhea. Nucleic acid amplification tests for gonorrhea and chlamydial infection can be performed on urine or vaginal swab specimens, and they may be considered in adolescents.

After adequate inspection of the cervix and vaginal fornices has been carried out, the speculum should be slowly removed so that the vaginal walls can be inspected. A bimanual examination then is carried out to evaluate the vagina and the cervix, as well as the size, shape, and position of the uterus. The adnexa are then examined for size, shape, and tenderness. When indicated, a rectovaginal examination should be performed as the last part of the examination to evaluate the rectovaginal septum, the posterior uterine surface, the adnexal structures, the uterosacral ligaments, and the posterior cul-de-sac. Uterosacral nodularity or posterior uterine tenderness associated with pelvic endometriosis can be assessed in this manner. In addition, this examination may identify hemorrhoids, anal fissures, sphincter tone, and possible rectal polyps or carcinoma. A single stool sample for fecal occult blood testing obtained by digital rectal examination is not adequate for the detection of colorectal cancer and is not recommended (see “Cancer Screening and Prevention” later in Part 3).

A cellular sample from the endocervical canal obtained with an endocervical brush and a scraping of the portio, to include the entire transformation zone, provides a reliable sample for cervical cytologic testing. An endocervical brush should be used to obtain the endocervical cell sampling because it is more reliable in terms of identifying cervical intraepithelial neoplasia, providing adequate cytology specimens, and limiting false-negative results.

To obtain an adequate sample, include the following important measures:

- Cells should be collected before the bimanual examination.
- Care should be taken to avoid contaminating the sample with lubricant.
- If testing for sexually transmitted diseases (STDs) is indicated, cell collection for cervical cytologic evaluation should be undertaken first.
- Ideally, the entire portio of the cervix should be visible when the sample is obtained.
- In an effort to reduce air-drying artifact, the specimen should be transferred and fixed as quickly as possible.
Routine swabbing of the discharge from the cervix may result in cytologic samples of scant cellularity.

When conventional Pap tests are performed, a single slide, combining both the endocervical and ectocervical samples, or two separate slides can be used. The most important consideration is rapid fixation. If liquid-based preparations are used, rapid immersion in liquid media is equally important. Evidence-based data indicate that both liquid-based and conventional methods of cervical cytology are acceptable for screening.

Annual cervical cytology screening should begin approximately 3 years after initiation of sexual intercourse but no later than age 21 years. Initiation of screening for the adolescent patient should be based on the clinician’s assessment of risks, including age of first sexual intercourse, history of sexual abuse, behaviors that may place the patient at greater risk for human papillomavirus (HPV) infection, and risk of noncompliance with follow-up visits.

Once screening has been initiated, it should be performed annually for women younger than 30 years. The interval between cervical cytology testing may be extended to every 2–3 years in women aged 30 years and older who have had three consecutive negative cervical cytology screening test results and who have no history of cervical intraepithelial neoplasia (CIN) 2 or CIN 3 findings, are not immunocompromised and are not infected with human immunodeficiency virus (HIV), and were not exposed to diethylstilbestrol in utero. Regardless of the frequency of cervical cytology screening, women should be counseled that annual examinations, including pelvic examinations, are still recommended.

Women with HIV infection should have cervical cytology screening twice in the first year after diagnosis and annually thereafter. Annual screening also is recommended for women who are immunosuppressed, women who were exposed to diethylstilbestrol in utero, and women treated in the past for CIN 2 or CIN 3 or cancer. Cervical cytology testing may be discontinued in women who have had a total hysterectomy for benign indications and no history of CIN 2 or CIN 3 or worse.

The use of a combination of cervical cytology tests and HPV DNA screening is appropriate for women aged 30 years and older. If this combination is used, women who receive negative results on both tests should be rescreened no more frequently than every 3 years. Testing for HPV is not a useful primary screening tool for women younger than 30 years because of the high prevalence of HPV and the low prevalence of cervical cancer in this population.
Resources

**ACOG Patient Resources**


**ACOG Professional Resources**


Other Resources


Agency for Healthcare Research and Quality
Preventive services web site
http://www.preventiveservices.ahrq.gov

Agency for Healthcare Research and Quality. National Guideline Clearinghouse
http://www.guideline.gov


U.S. Preventive Services Task Force (USPSTF)
http://www.ahrq.gov/clinic/uspstfix.htm
Gynecologic Health

Female Sexuality

A woman's sexuality is influenced by her health and emotional well-being; likewise, healthy sexual functioning promotes physical and emotional well-being. However, studies suggest that fewer than one half of patients' sexual concerns are recognized by their physicians. The obstetrician–gynecologist has an important role in assessing sexual function because many women view their sexuality as an important quality-of-life issue that frequently is affected by reproductive events.

Sexuality involves a broad range of expressions of intimacy and is fundamental to self-identification, with strong cultural, biologic, and psychologic components. The clinician should not make assumptions or judgments about the woman's behavior and, when counseling patients, should keep in mind the possibility of cultural and personal variation in sexual practices.

The sexual history is part of the patient's general assessment. Discussions of sexuality are accomplished best in a confidential and supportive setting. Mutual trust and respect in the patient–clinician relationship will allow appropriate discussion of questions and concerns about sexuality. A nonjudgmental and respectful approach by the clinician, as well as awareness by the clinician of his or her own biases, is essential for effective care. Patients are more likely to develop trusting relationships with their health care practitioners when the issue of confidentiality has been addressed directly. A confidential relationship, in turn, can facilitate the open disclosure of health histories and behaviors. The use of broad, open-ended questions in a routine history gathering can help disclose problems that require further exploration. Inquiry about the partner's sexual function and level of satisfaction may elicit more specific information and give an indication of the couple's level of communication. Deliberate inquiries should be made to assess the quality of the interpersonal relationship between the patient and her partner, including mutual satisfaction with their sexual relationship. The following are examples of basic questions, posed in a gender-neutral fashion:

- “Are you sexually active?”
- “Are you sexually satisfied?”
• "Do you think your partner is satisfied?"
• "Do you have questions or concerns about sexual functioning?"

The clinician should not make assumptions about the woman's choice of partner. Although most women report that their sexual partners are men, some women have sex only with other women, and others may have partners of both sexes. The use of terms such as partner instead of husband and sexual activity instead of sexual intercourse and an understanding of nonheterosexual sexuality will assist in open communication and assessment of any difficulties (see "Lesbians and Bisexual Women" later in Part 3).

Most clinicians are familiar with the traditional human sexual response cycle of Masters, Johnson, and Kaplan. This model depicts a linear sequence of discrete events: desire, arousal, plateau, orgasm, and resolution (see Fig. 3–2). However, the usefulness of this model for depicting women's sexuality is limited. Sexual response in women is complex, and events do not always occur in a predictable sequence, as they usually do in men. An alternate model of women's sexual response (see Fig. 3–3) depicts the many sexual motivations, sexual stimuli, and psychologic and biologic factors that govern the processing of those stimuli, thus determining the woman's arousability (see "Sexual Dysfunction" later in Part 3).

Clinicians should encourage women to formulate a reproductive health plan and should discuss it in a nondirective way at each visit. Such a plan would address the individual's or couple's desire for a child or children (or desire not to have children); the optimal number, spacing, and timing of children in the family; and age-related changes in fertility. Because many women’s plans change over time, creating a reproductive health plan requires an ongoing, conscientious assessment of the desirability of a future pregnancy, determination of steps that need to be taken either to prevent or to plan for and optimize a pregnancy, and evaluation of current health status and other issues relevant to the health of a pregnancy.
Women of advanced reproductive age are more likely to have infertility issues caused by oocyte abnormalities and decreased ovarian reserve. The American Society for Reproductive Medicine states that “although there is no strict definition of advanced reproductive age in women, infertility becomes more pronounced after the age of 35.” Women should be educated about this issue so that they can formulate a reproductive health plan that is most appropriate for them.

Every encounter with the health care system should be viewed as an opportunity to reinforce reproductive awareness in women of childbearing age. A woman’s awareness of reproductive risks, health-enhancing behaviors, and family planning options is essential to improving her own health and the outcomes of pregnancy. Nearly one half of all pregnancies in the United States are unplanned. A major challenge for clinicians lies not only in addressing pregnancy planning for women who seek medical care and consultation specifically in anticipation of a planned pregnancy but also in educating and screening all women capable of reproduction on an ongoing basis to identify potential maternal and fetal risks and hazards before and between pregnancies.

Reproductive health hazards—including the use of alcohol, tobacco, and other drugs—exist across all socioeconomic and age groups; therefore, all women should receive reproductive awareness education. Adolescents and women in their 40s require a special approach and focus because reproductive health risks and the rates of unintended pregnancy are highest in these groups. Reproductive awareness messages and strategies to deliver them should be developed for men as well.

Although reproductive health screening should be performed by all health care professionals serving women in their reproductive years, clinicians should be careful not to assume that all women are at risk for pregnancy (eg, women in same-sex relationships or those who are celibate). Women’s overall health, rather than women’s health as potential mothers, should remain the focus of gynecologic care.

**Preconception Care**

Women who are contemplating pregnancy should be encouraged to undergo a comprehensive preconception evaluation and counseling. However, as noted above, aspects of preconception care should be incorporated into every health care visit of reproductively capable women. Although most pregnancies result in good maternal and fetal outcomes, some pregnan-
cies result in adverse health effects for the woman, fetus, or neonate. Although some of these outcomes cannot be prevented, optimizing a woman's health and knowledge before she plans and conceives a pregnancy may eliminate or reduce the risk. For example, initiation of folic acid supplementation at least 1 month before pregnancy reduces the incidence of neural tube defects. Similarly, adequate blood glucose control in a woman with diabetes mellitus before conception and throughout pregnancy can decrease maternal morbidity, spontaneous abortion, fetal malformation, fetal macrosomia, intrauterine fetal death, and neonatal morbidity. When pregnancy is planned, a woman can use the months preceding conception to evaluate her health status and to make changes that will benefit her own health status, that of her baby, and that of family members.

During a preconception evaluation, the clinician may make recommendations that may reduce the chance of having a baby with a birth defect; determine whether any maternal medical problems are present and provide recommendations for treatment; and provide information about nutrition, exercise, and other means of achieving optimal physical and psychologic health. This visit is an opportunity for women to learn about fertility issues and what to expect during pregnancy.

**History.** At the preconception visit, information that may have a bearing on a future pregnancy should be obtained. The following components serve as a guide to preconception care:

- Systematic identification of preconception risks through assessment of reproductive, family, and medical histories; nutrition status; drug, alcohol, and tobacco exposures; environmental exposures at work and at home; and social concerns of all reproductively capable women
- Provision of education and counseling regarding any identified risks
- Discussion of possible effects of pregnancy on existing medical conditions for the woman, the possible effects of the woman's existing medical conditions on the fetus, and introduction of interventions, if appropriate
- Discussion of genetic concerns and referral, if appropriate
- Determination of immunity to rubella, hepatitis, pertussis, and varicella, as well as immunization, if indicated
• Human immunodeficiency virus counseling and testing
• Laboratory tests, as indicated
• Discussion of physical activity and exercise
• Nutrition counseling on appropriate weight for height, recommendation for folic acid supplementation, and avoidance of excessive vitamin supplementation or food fads; referral for in-depth counseling, if appropriate
• Discussion of social, financial, and psychologic issues and social support in preparation for pregnancy and parenting
• Discussion regarding desired birth spacing and real and perceived barriers to achieving these goals, including problems with contraceptive use
• Emphasis on the importance of early and continuous prenatal care and discussion of how care may be structured based on the woman’s risks and concerns
• Recommendation to patient to keep a menstrual calendar

**Medical History.** Conditions that may have an effect on pregnancy should be covered in the medical history. Information should be obtained about chronic conditions, such as diabetes mellitus; hypertension; epilepsy; anemia and disorders of coagulation; herpes and other STDs, including HIV infection; heart disease; kidney disease; endocrine disease; and reactive airway disease. The history also should include menstrual history, surgical history, contraceptive methods previously used and any complications, past accidents, allergies, childhood disease history, and immunization history (including rubella immunization). The patient should be questioned about specific conditions related to ethnic background and family history suggestive of genetic disorders such as muscular dystrophy, hemophilia, Tay–Sachs disease, sickle cell disease, cystic fibrosis, thalassemia, consanguinity, mental retardation, anatomic birth defects, Down syndrome, and other chromosomal abnormalities. 

**Medication and Substance Abuse.** Patients should be asked about prescription or over-the-counter medications that they take regularly or as needed. They should be asked specifically about medications that they may be reluctant to mention, such as sedatives or tranquilizers, herbal supplements, or appetite suppressants. Use of tobacco, alcohol, and illegal drugs should be determined.
The preconception interview allows for timely education about drug use and abuse in pregnancy, informed decision making about the risks to the fetus, and the introduction of interventions for patients who abuse substances. Patients should be reassured of the confidentiality of this information in an attempt to ensure a candid response; however, a few states require health care practitioners to report drug use by pregnant women. Use of tobacco and alcoholic beverages should be determined and discouraged, especially during pregnancy. This is a good opportunity to offer smoking cessation programs (see “Substance Use and Abuse” later in Part 3).

**Reproductive History.** Patients should be asked about conditions that may affect future pregnancy. These conditions include a history of therapy or surgery on the cervix, ovaries, uterus, or fallopian tubes; in utero exposure to diethylstilbestrol; and prior adverse pregnancy outcomes.

**Nutrition.** The patient’s height and weight and a general assessment of her dietary habits should be recorded; her BMI also should be calculated. Information about her use of dietary supplements, efforts to control weight, any history of eating disorders such as bulimia or anorexia, and prior obesity should be obtained in the inquiry.

The preconception ingestion of folic acid has been shown to reduce the risk of neural tube defects. The U.S. Public Health Service has advocated that all women of reproductive age who are capable of becoming pregnant take 0.4 mg of folic acid daily to prevent neural tube defects. For this reason, the recommended dietary allowance for folic acid has been increased to 0.4 mg as well. Although many grains now are fortified with folic acid, it is unlikely that a daily intake of 0.4 mg can be achieved through diet alone. Therefore, daily supplementation with 0.4 mg of folic acid is recommended for all women of reproductive age. To be of value, folic acid supplementation must occur early in pregnancy, even before pregnancy has been identified. Patients at high risk for neural tube defects (eg, those who have a history of neural tube defects, have had an affected infant, or are taking anticonvulsants) should ingest 4 mg of folic acid daily, preferably starting 1 month before the time they plan to become pregnant and continuing through the first 3 months of pregnancy. Increasing the doses of multivitamin preparations to reach these levels is not advised because of the potential for ingesting excessive amounts of other vitamins.

**Environmental Factors.** The clinician should inquire about the patient’s occupation; working conditions; number of hours worked per week; physical activity required at work; and possible exposure to toxic substances such as lead, certain solvents, insecticides, or radiation. Similar inquiries
should be made regarding the patient's home environment. Information about exercise habits, pets (especially cats), and hobbies should be elicited. Although there is a paucity of data on the effects of toxic hazards during pregnancy, information may be obtained from workplace physicians or toxicology hotlines if toxic hazards may be an issue (see Box 3–4).

Other aspects of an individual's home environment also may be of concern. Fear and abuse are problems for many women. It is important to determine if the woman feels safe and what options she may have if she does not feel safe (see “Abuse” later in Part 3).

**Physical Assessment.** After a history is obtained, a complete physical assessment of the patient should be performed, with emphasis on conditions that might affect pregnancy adversely. A pelvic examination should be conducted to detect possible reproductive anomalies that may influence conception and pregnancy. Cervical cytologic testing and screening for STDs should be performed when appropriate. Human immunodeficiency virus screening should be offered.

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**Box 3–4. Sources of Current Teratogen Information**

Several sources of useful current information regarding potential teratogens are available, including numerous teratogen information services available throughout the United States that serve specific geographic areas. For information on the teratogen service in a particular area, contact the following:

**Organization of Teratology Information Specialists (OTIS)**
866-626-6847
http://www.otispregnancy.org
(Click on the “Find a TIS” tab)

The following web site provides a variety of resources and links:
**The Teratology Society**
1821 Michael Faraday Drive, Suite 300
Reston, VA 20190
(703) 438-3104
http://www.teratology.org
thsq@teratology.org

The following computerized teratology and reproductive risk database provides up-to-date summaries of electronic resource teratology information at no cost:
**TOXNET—Toxicology Data Network**
Counseling. After the history and physical assessment are completed, the patient should be counseled regarding risk factors and lifestyle changes that may increase her chance of having a successful pregnancy and a healthy baby. It should be stressed to the patient that a healthy lifestyle not only will improve her chances of having a healthy pregnancy but also will have long-term benefits for herself and her family; however, patients should be informed that ideal physical health before pregnancy does not prevent all complications of pregnancy. Pregnancy complications or discomforts may necessitate changes in lifestyle, such as cessation of work or prolonged bed rest, that are not predictable before conception or in early pregnancy.

Measures should be taken to modify behavior that may be detrimental, such as smoking, alcohol consumption, or poor nutrition. If the patient has known high-risk factors, such as diabetes mellitus or hypertension, these conditions should be assessed and optimally controlled before conception.

Couples with identifiable risks of having a child with heritable abnormalities and couples with genetic concerns should be counseled appropriately or referred to genetic counseling services. Genetic counseling includes in-depth assessment of risks and discussion of availability and limitations of prenatal diagnosis and options. Recognizing positive carrier status before conception allows couples to understand the risks outside the emotional context of pregnancy; allows time for thorough family evaluation, when indicated; and prepares the couple for prenatal diagnostic procedures during pregnancy, if desired (see “Hereditary Disorders” later in Part 3).

Women with metabolic diseases, such as phenylketonuria and diabetes mellitus, should be counseled regarding the importance of appropriate diet and metabolic control before conception and during pregnancy. Women should be asked whether they have phenylketonuria. Because some women are not aware they were ever diagnosed with the condition, they should be asked whether they were placed on a special diet during childhood. Dietary restrictions that result in lower maternal phenylalanine levels appear to reduce the risk of fetal abnormalities. Good glycemic control reduces the risk of miscarriage, fetal anomalies, and other adverse pregnancy outcomes in women with diabetes mellitus. To be most effective, appropriate dietary modifications should begin before conception.

Women should be educated regarding pregnancy outcome with advancing maternal age, especially for those older than 35 years. Although any woman may give birth to a child with Down syndrome or other trisomy, the risk of autosomal trisomy increases with advancing maternal age. Other complications of pregnancy more common in pregnant women older than 35
years include gestational diabetes, hypertensive disorders, cesarean delivery, maternal mortality, and possibly perinatal mortality and neural tube defects.

Patients should be counseled regarding the possibility of postpartum depression. This condition is more common in women with a history of depression before pregnancy, previous postpartum depression, or other psychiatric disorders.

**Resources**

**ACOG Patient Resources**


**ACOG Professional Resources**


Other Resources


Family Planning

The United States has the highest rate of unintended pregnancy in the developed world; approximately one half of all pregnancies are unintended. Although the percentage of unintended pregnancies is highest in adolescents and women older than 40 years, approximately one third of pregnancies in the middle reproductive years also are unintended. Couples using no contraceptive method account for approximately one half of unintended pregnancies, and the other half are the result of contraceptive failures. Unintended pregnancies result in tremendous individual and societal consequences, which include family upheaval, nonattainment of educational goals, and financial burdens.

Two thirds of American women of reproductive age wish to avoid or postpone pregnancy. When discussing contraception with these women, clinicians should tailor counseling to the individual patient's lifestyle and needs, in addition to outlining the benefits and risks of different types of contraceptive methods. Counseling also should focus on information that may help decrease contraceptive failures for the method the patient chooses.
**Initial Evaluation.** The initial visit for family planning provides an opportunity to assess the health status of the woman and to enlist her involvement in overall health maintenance. The family planning visit can be combined with a general preventive care visit.

For all women of reproductive age, a contraceptive and sexual history should be obtained to assess the need for contraceptive services. The clinician should obtain a general medical and gynecologic history for women requesting contraception, with a physical examination and laboratory studies as indicated to identify relative and absolute contraindications to the various family planning methods. Special warning regarding the use of condoms and diaphragms should be given to patients with latex sensitivity. Women are especially at high risk of reaction because of mucous membrane contact with these devices. Nonlatex condoms and diaphragms are available.

The general physical examination should be consistent with that described for asymptomatic women (see “The Women’s Health Examination” earlier in Part 3). After review of the patient’s medical history and clinical situation, the clinician may elect to defer the physical examination at the request of a woman, including an adolescent, who is choosing to use hormonal contraceptives. However, weight and blood pressure should be measured for every patient requesting contraception because this information may affect the medical risks or efficacy of a given contraceptive method.

For women who do not have risk factors, laboratory tests are not needed before prescribing contraception. In women with risk factors, certain laboratory tests may be appropriate. For example, in a patient with a strong family history of significant hyperlipidemia, lipid analysis is reasonable to exclude familial hyperlipidemia. Although women with identified risk factors should be evaluated for STDs, these tests are not required before contraception is prescribed. Routine testing for hereditary thrombophilia is not indicated before the prescription of hormonal contraception.

In the absence of contraindications, patient choice should be the principal factor in prescribing one method of contraception over another. To help the patient make this choice, the health care practitioner should do the following:

- Fully explain potential adverse effects and risks for all methods; in a healthy woman, death rates from pregnancy are higher than from any contraceptive method.
- Discuss efficacy and failure rates (see Table 3–3).
- Describe ease of use and noncontraceptive benefits.
<table>
<thead>
<tr>
<th>Method</th>
<th>Typical Use*</th>
<th>Perfect Use†</th>
<th>% of Women Continuing Use at 1 Year‡</th>
</tr>
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<tbody>
<tr>
<td>No method§</td>
<td>85</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Spermicides¶</td>
<td>29</td>
<td>18</td>
<td>42</td>
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<tr>
<td>Withdrawal</td>
<td>27</td>
<td>4</td>
<td>43</td>
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<tr>
<td>Fertility awareness–based methods¶</td>
<td>25</td>
<td></td>
<td>51</td>
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<td>Standard days method</td>
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<td>5</td>
<td></td>
</tr>
<tr>
<td>Two-day method</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ovulation method</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sponge</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Parous women</td>
<td>32</td>
<td>20</td>
<td>46</td>
</tr>
<tr>
<td>Nulliparous women</td>
<td>16</td>
<td>9</td>
<td>57</td>
</tr>
<tr>
<td>Diaphragm*</td>
<td>16</td>
<td>6</td>
<td>57</td>
</tr>
<tr>
<td>Condom**</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Female (Reality)</td>
<td>21</td>
<td>5</td>
<td>49</td>
</tr>
<tr>
<td>Male</td>
<td>15</td>
<td>2</td>
<td>53</td>
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<tr>
<td>Combined pill and minipill</td>
<td>8</td>
<td>0.3</td>
<td>68</td>
</tr>
<tr>
<td>EVRA patch</td>
<td>8</td>
<td>0.3</td>
<td>68</td>
</tr>
<tr>
<td>NuvaRing</td>
<td>8</td>
<td>0.3</td>
<td>68</td>
</tr>
<tr>
<td>Method</td>
<td>1st Year Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depo-Provera</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Intrauterine device</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Copper T (ParaGard)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Levonorgestrel Intrauterine system</td>
<td>0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Mirena)</td>
<td>0.2</td>
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<td></td>
</tr>
<tr>
<td>Implanon</td>
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<td></td>
</tr>
<tr>
<td>Female sterilization</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Male sterilization</td>
<td>0.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Among typical couples who initiate use of a method (not necessarily for the first time), the percentage who experience an accidental pregnancy during the 1st year if they do not stop use for any other reason. Estimates of the probability of pregnancy during the first year of typical use for spermicides, withdrawal, fertility awareness–based methods, the diaphragm, the male condom, the pill, and Depo-Provera are taken from the 1995 National Survey of Family Growth corrected for underreporting of abortion.

†Among couples who initiate use of a method (not necessarily for the first time) and who use it perfectly (both consistently and correctly), the percentage who experience an accidental pregnancy during the first year if they do not stop use for any other reason.

‡Among couples attempting to avoid pregnancy, the percentage who continue to use a method for 1 year.

§Among couples who initiate use of a method (not necessarily for the first time). The percentages becoming pregnant in the typical use and perfect use columns are based on data from populations where contraception is not used and from women who cease using contraception in order to become pregnant. Among such populations, approximately 89% become pregnant within 1 year. This estimate was lowered slightly (to 85%) to represent the percentage who would become pregnant within 1 year among women now relying on reversible methods of contraception if they abandoned contraception altogether.

¶Foams, creams, gels, vaginal suppositories, and vaginal film.

#With spermicidal cream or jelly.

**Without spermicides.

• Explain the need to use barrier methods to protect against STDs when nonbarrier contraceptive methods are used (see “Sexually Transmitted Diseases” later in Part 3).

• Provide information on when and how to use emergency contraception; prescription or provision of emergency contraception in advance of need can increase availability and use.

Prevention of unintended pregnancy assumes increasing importance for many women during the perimenopausal years. Approximately 51% of pregnancies in women older than 40 years are unintended. It may be difficult to know when it is safe to change from hormonal contraception to postmenopausal hormone treatment. Assessment of follicle-stimulating hormone levels to determine when older contraceptive users have become menopausal is expensive and may be misleading. Until a well-validated tool to confirm menopause is available, it is appropriate for healthy, non-smoking women doing well on a combination contraceptive to continue contraceptive use until age 50–55 years. The likelihood that a woman has reached menopausal status by age 55 years is 85%.

A woman who feels that her family is complete should be informed about both male and female sterilization options. In addition, intrauterine devices (IUDs) should be considered because the efficacy of IUDs is similar to that of surgical sterilization. If a patient elects surgical sterilization, she should be told that the procedure is intended to be permanent, that there is a small chance of failure, and that the success of any attempts for subsequent surgical restoration of fertility is uncertain. Although most women do not regret their decision to have tubal sterilization, women aged 30 years or younger at the time of sterilization are more likely than those older than 30 years to express regret about the procedure.

The advantages of vasectomy include the fact that it is a less invasive procedure than tubal sterilization and that it can be performed with local anesthesia. It also costs less than tubal sterilization.

Physicians need to be aware of applicable federal and state requirements relating to surgical sterilization, including any informed consent requirements or age restrictions. If the physician has any question about the patient’s competence to authorize the procedure, he or she should seek consultation to ensure that legal requirements are met.

**Periodic Reassessment.** If a patient is a first-time user of a contraceptive method, contact with her health care practitioner within the first few months of her initial visit provides an opportunity to evaluate major and minor adverse
effects of the contraceptive, check blood pressure, re-instruct the patient re-garding appropriate use, and dispel any fears or concerns the patient may have developed since the initial counseling. Rates of pregnancy and discontinua-
tion are highest in the first few months after the initiation of a contraceptive method; therefore, an educational visit in the first few months to trou-
bleshoot problems can help avoid discontinuation or facilitate transfer to another method. Once the patient has become comfortable with her method of contraception, annual follow-up examinations should be conducted in accordance with age-specific recommendations for asymptomatic women.

**Contraception in Women With Coexisting Medical Conditions.** Clinicians must balance benefits and risks when contemplating appropriate contraception in women with coexisting medical conditions. Avoidance of un-intended pregnancy is often particularly important, given the risks of pregnancy to the woman and her fetus for some medical conditions. Some conditions or medications may alter contraceptive effectiveness. Excellent resources are available to guide practitioners in regard to contraception for patients with coexisting medical conditions, including ACOG Practice Bulletin No. 73, *Use of Hormonal Contraception in Women with Coexisting Medical Conditions* (available online to ACOG Fellows at www.acog.org/publications/educational_bulletins/pb073.cfm) and the World Health Organization's *Medical Eligibility Criteria for Contraceptive Use* (available at www.who.int/reproductive-health/publications/mec/index.htm) (see Resources).

**Combination Hormonal Contraceptives.** Combination hormonal contra-
ceptives containing both an estrogen and a progestin are available in oral contraceptive pills, the contraceptive patch, and the contraceptive ring. Because all have an estrogen component, a contraindication to estrogen use precludes the use of any of these methods. Combination hormonal contraceptives should be prescribed with caution, if ever, to women who are older than 35 years and are smokers.

The contraceptive patch is changed weekly for 3 weeks, followed by 1 week without the patch. It is less effective in women weighing more than 90 kg. If application of the patch is skipped for more than 1 day, a backup method should be used for 7 days after a new patch is applied.

The vaginal contraceptive ring is initially inserted on a day between cycle days 1 and 5 and left in place for 3 weeks, followed by 1 week of no ring use. A backup method is advised for the first 7 days of the first cycle of use. If the ring is expelled accidentally or removed for more than 3 hours, use of a backup method for 7 days after the ring is reinserted is advised. Currently,
only one brand of contraceptive patch and ring is available in the United States. Both products have informational web sites sponsored by the pharmaceutical makers, which provide patients and clinicians with answers to frequently asked questions. Various scenarios, such as detached patches and what to do if the ring falls out, also are covered in the patient package insert.

Studies have been published on a “quick start” method for combination hormonal contraceptives, with initiation immediately when a patient is seen. This method is utilized in an attempt to decrease the chance of pregnancy that might occur before cycle-dependent initiation. This off-label approach is not included in current ACOG recommendations because of insufficient data, although individual practitioners may consider the benefits of this approach to outweigh the risks in some scenarios.

Information on how to handle a missed dose of a contraceptive pill can differ between product labeling and protocols by various organizations. Often, patients missing several doses will have unscheduled or breakthrough bleeding, which may serve as a compliance reminder and opportunity to reevaluate contraceptive method choice. The World Health Organization has developed a protocol for missed doses of oral contraceptive pills (see Box 3–5). Package labeling also makes recommendations depending on the package week and number of doses missed.

Missed doses are very common for any prescription product. Practitioners can help patients with daily compliance by linking the taking of the product to a daily activity, such as tooth brushing or the morning cup of coffee, and the pills can be stored next to the toothbrush or coffee products as a memory cue. Similar lifestyle reminders can be used for weekly products, such as setting a weekly confidential reminder on a computer to remind oneself that the contraceptive patch needs to be changed.

**Medroxyprogesterone Acetate.** Medroxyprogesterone acetate is injected intramuscularly or subcutaneously every 12 weeks. The typical use failure rate over 1 year of use is 3%, which is lower than the typical use failure rate of 8% for combined oral contraceptives, the minipill, or the birth control patch or ring. Because injectable contraception requires minimal patient action, it is often a method favored by women for whom compliance with other methods is a problem.

The use of medroxyprogesterone acetate in contraceptive doses suppresses ovarian production of estradiol. Thus, there has been concern that women using medroxyprogesterone acetate for contraception might increase their future risk of developing osteoporosis. In 2004, the U.S.
Food and Drug Administration (FDA) added a black box warning to medroxyprogesterone acetate regarding loss of bone mineral density, indicating that use of the product for contraception should be continued for more than 2 years only if other contraceptive methods are inadequate. A letter from the manufacturer suggested that bone mineral density should be evaluated in long-term medroxyprogesterone acetate users.

**Box 3–5. What Can a Woman Do If She Misses Oral Contraceptive Doses?**

*For 30–35 mcg ethinyl estradiol pills:*
Missed one or two active (hormonal) pills or if she starts a pack 1 or 2 days late
- She should take an active (hormonal) pill as soon as possible* and then continue taking pills daily, one each day.
- She does not need any additional contraceptive protection.

Missed three or more active (hormonal) pills or if she starts a pack 3 or more days late
- She should take an active (hormonal) pill as soon as possible* and then continue taking pills daily, one each day.
- She should also use condoms or abstain from sex until she has taken active (hormonal) pills for 7 days in a row.
- If she missed the pills in the third week, she should finish the active (hormonal) pill in her current pack and start a new pack the next day. She should not take the 7 inactive pills.
- If she missed the pills in the first week and had unprotected sex, she may wish to consider the use of emergency contraception.

*For 20 mcg or less ethinyl estradiol pills:*
- If the woman misses one active (hormonal) pill or starts a pack 1 day late, she should follow the guidance above for “Missed one or two active (hormonal) pills or if she starts a pack 1 or 2 days late.”
- If the woman misses two or more active (hormonal) pills or if she starts a pack 2 or more days late, she should follow the guidance above for “Missed three or more active (hormonal) pills or if she starts a pack 3 or more days late.”

*For both 30–35 mcg and 20 mcg or less ethinyl estradiol pills:*
- Missed any inactive (nonhormonal) pills
- She should discard the missed inactive (nonhormonal) pill(s) and then continue taking pills daily, one each day.
Many studies have observed bone mineral density declines in current users of medroxyprogesterone acetate, which is seen as a surrogate marker for future osteoporosis and fracture. One of these studies found evidence of osteoporosis or fractures in individuals who took medroxyprogesterone acetate. Two cross-sectional studies found that years after women discontinued use of medroxyprogesterone acetate, their bone mineral density was similar to that of individuals who had never taken it. Given these observations, skeletal health concerns should not restrict the use of medroxyprogesterone acetate in adult women. Caution is advised in the use of medroxyprogesterone acetate for women with mobility disorders who are not weight bearing.

Box 3–5. What Can a Woman Do If She Misses Oral Contraceptive Doses? (continued)

For Progestogen-Only Pills (POPs):

Having menstrual cycles (including those who are breastfeeding) AND missed one or more pills by more than 3 hours

- She should:
  - Take one pill as soon as possible.
  - Continue taking the pills daily, one each day.
  - Abstain from sex or use additional contraceptive protection for the next 2 days.

- She may wish to consider the use of emergency contraception if appropriate.

Breastfeeding and amenorrheic and missed one or more pills by more than 3 hours

- She should:
  - Take one pill as soon as possible.
  - Continue taking the pills daily, one each day.

- If she is less than 6 months postpartum, no additional contraceptive protection is needed.

* If a woman misses more than one active (hormonal) pill, she can take the first missed pill and then either continue taking the rest of the missed pills or discard them to stay on schedule. Depending on when she remembers that she missed a pill(s), she may take two pills on the same day (one at the moment of remembering, and the other at the regular time) or even at the same time.

As in adults, medroxyprogesterone acetate use in adolescents is associated with declines in bone mineral density. In adolescents, the advantages of taking medroxyprogesterone acetate likely outweigh the theoretical safety concerns regarding bone mineral density and fractures. However, in the absence of long-term data in this population, consideration of long-term use should be individualized. Regardless of age, short- or long-term use of medroxyprogesterone acetate in healthy women likewise should not be considered an indication for dual-energy X-ray absorptiometry or other tests that assess bone mineral density.

**Intrauterine Devices.** Intrauterine devices (IUDs) are used at lower rates by U.S. women compared with women in other nations. The National Survey of Family Growth reports that in 2002, only 2% of U.S. women used an IUD as contraception. The effectiveness of IUDs is similar to female sterilization.

Candidates for IUD use are listed in Box 3–6, and contraindications are in Box 3–7. Both nulliparous and multiparous women at low risk for STDs who desire long-term reversible contraception are good candidates for IUD use. Previous ectopic pregnancy is not a contraindication to IUD use. Pelvic inflammatory disease (PID) complicating IUD insertion is uncommon, and the risk of PID decreases to the baseline risk after the first 20 days following insertion. Progestin-containing IUDs may have noncontraceptive benefits, including decreased menstrual flow. There is sufficient evidence to support the use of the levonorgestrel intrauterine system as a treatment option for idiopathic menorrhagia.

**Emergency Contraception.** Emergency contraception should be offered or made available to women who experience unprotected or inadequately protected sexual intercourse and who do not desire pregnancy. Treatment with emergency contraception should be initiated as soon as possible to maximize efficacy, and it should be made available to patients who request it up to 120 hours after unprotected intercourse. No clinical examination or pregnancy testing is necessary before the provision or prescription of emergency contraception. Efficacy seems to decline substantially with time. The progestin-only emergency contraceptive regimen (Plan B) has been approved by the FDA for nonprescription use by women older than 18 years. Prescription or provision of emergency contraception in advance of need, particularly for adolescents younger than 18 years, can increase availability and use.

The two most commonly used oral emergency contraception regimens are the progestin-only regimen (Plan B), which consists of a total of 1.5
mg of levonorgestrel, and the combined estrogen–progestin regimen, which consists of two doses—each containing 100 mcg of ethinyl estradiol plus 0.5 mg of levonorgestrel—taken 12 hours apart. Both regimens are available in many countries as products labeled specifically for use as emergency contraception, but the levonorgestrel-only product is the only dedicated emergency contraception product currently marketed in the United States. Both regimens also can be made from a variety of standard oral contraceptives (see Table 3–4), although data exist only for regimens containing levonorgestrel, norgestrel (levonorgestrel plus an equal amount of the inactive enantiomer dextronorgestrel), and norethindrone.

**Box 3–6. Candidates for Intrauterine Device Use**

- Multiparous and nulliparous women at low risk for sexually transmitted diseases
- Women who desire long-term reversible contraception
- Women with the following medical conditions, for which an intrauterine device may be an optimal method:
  - Diabetes*
  - Thromboembolism†
  - Menorrhagia/dysmenorrhea‡
  - Breastfeeding§
  - Breast cancer||
  - Liver disease¶


†Consider the levonorgestrel intrauterine system for women with bleeding disorders or those taking anticoagulants because it decreases menstrual bleeding. (Siegel JE, Kouides PA. Menorrhagia from a haematologist’s point of view. Part II: management. Haemophilia 2002;8:339–47.)


§Copper only until 4–6 weeks postpartum.

||Copper only for current breast cancer.

¶The levonorgestrel intrauterine system is not recommended for current liver disease.

The levonorgestrel-only regimen is more effective and is associated with less nausea and vomiting; therefore, if available, it should be used in preference to the combined estrogen–progestin regimen. The 1.5-mg levonorgestrel-only regimen can be taken as a single dose, or two 0.75-mg pills can be taken 12–24 hours apart. To reduce the chances of nausea with the combination estrogen–progestin regimen, an antiemetic agent may be taken 1 hour before the first emergency contraception dose.

Emergency contraception is effective only before a pregnancy is established. Emergency contraception can prevent pregnancy during the 5 or more days between intercourse and implantation of a fertilized egg, but it is ineffective after implantation. Studies of high-dose oral contraceptives indicate that emergency contraception confers no increased risk to an established pregnancy or harm to a developing embryo.

Emergency contraception may be used even if the woman has used it before, even within the same menstrual cycle. No data specifically examine the risk of using hormonal methods of emergency contraception among women with contraindications to the use of conventional oral contraceptive preparations; nevertheless, emergency contraception may be made available to such women.

**Box 3–7. Contraindications to Intrauterine Device Use**

- Pregnancy
- Pelvic inflammatory disease (current or within the past 3 months)
- Sexually transmitted diseases (current)
- Puerperal or postabortion sepsis (current or within the past 3 months)
- Purulent cervicitis
- Undiagnosed abnormal vaginal bleeding
- Malignancy of the genital tract
- Known uterine anomalies or fibroids distorting the cavity in a way incompatible with intrauterine device (IUD) insertion
- Allergy to any component of the IUD (for copper-containing IUDs)
- Wilson’s disease

Table 3–4. Oral Contraceptives That Can Be Used for Emergency Contraception in the United States*

<table>
<thead>
<tr>
<th>Brand</th>
<th>Company</th>
<th>Pills per Dose†</th>
<th>Ethinyl Estradiol per Dose (mcg)</th>
<th>Levonorgestrel per Dose (mg)‡</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Progestin-only pills: take one dose†</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan B</td>
<td>Barr/Duramed</td>
<td>2 white pills</td>
<td>0</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Combined progestin and estrogen pills: take two doses 12 hours apart</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alesse</td>
<td>Wyeth-Ayerst</td>
<td>5 pink pills</td>
<td>100</td>
<td>0.50</td>
</tr>
<tr>
<td>Aviane</td>
<td>Barr/Duramed</td>
<td>5 orange pills</td>
<td>100</td>
<td>0.50</td>
</tr>
<tr>
<td>Cryscelle</td>
<td>Barr/Duramed</td>
<td>4 white pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Enpresse</td>
<td>Barr/Duramed</td>
<td>4 orange pills</td>
<td>120</td>
<td>0.50</td>
</tr>
<tr>
<td>Jollessa</td>
<td>Barr/Duramed</td>
<td>4 pink pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Lessina</td>
<td>Barr/Duramed</td>
<td>5 pink pills</td>
<td>100</td>
<td>0.50</td>
</tr>
<tr>
<td>Levlen</td>
<td>Berlex</td>
<td>4 light-orange pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Levite</td>
<td>Berlex</td>
<td>5 pink pills</td>
<td>100</td>
<td>0.50</td>
</tr>
<tr>
<td>Levora</td>
<td>Watson</td>
<td>4 white pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Lo/Ovral</td>
<td>Wyeth-Ayerst</td>
<td>4 white pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Low-Ogestrel</td>
<td>Watson</td>
<td>4 white pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Lutera</td>
<td>Watson</td>
<td>5 white pills</td>
<td>100</td>
<td>0.50</td>
</tr>
<tr>
<td>Nordette</td>
<td>Wyeth-Ayerst</td>
<td>4 light-orange pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Ogestrel</td>
<td>Watson</td>
<td>2 white pills</td>
<td>100</td>
<td>0.50</td>
</tr>
<tr>
<td>Ovral</td>
<td>Wyeth-Ayerst</td>
<td>2 white pills</td>
<td>100</td>
<td>0.50</td>
</tr>
<tr>
<td>Portia</td>
<td>Barr/Duramed</td>
<td>4 pink pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Quasense</td>
<td>Watson</td>
<td>4 white pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Seasonale</td>
<td>Barr/Duramed</td>
<td>4 pink pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Seasonique</td>
<td>Barr/Duramed</td>
<td>4 light-blue-green pills</td>
<td>120</td>
<td>0.60</td>
</tr>
<tr>
<td>Tri-Levlen</td>
<td>Berlex</td>
<td>4 yellow pills</td>
<td>120</td>
<td>0.50</td>
</tr>
<tr>
<td>Triphasil</td>
<td>Wyeth-Ayerst</td>
<td>4 yellow pills</td>
<td>120</td>
<td>0.50</td>
</tr>
<tr>
<td>Trivora</td>
<td>Watson</td>
<td>4 pink pills</td>
<td>120</td>
<td>0.50</td>
</tr>
</tbody>
</table>

* Plan B is the only dedicated product specifically marketed for emergency contraception. Alesse, Aviane, Cryscelle, Enpresse, Jollessa, Lessina, Levlen, Levite, Levora, Lo/Ovral, Low-Ogestrel, Lutera, Nordette, Ogestrel, Ovral, Portia, Quasense, Seasonale, Seasonique, Tri-Levlen, Triphasil, and Trivora have been declared safe and effective for use as emergency contraceptive pills by the U.S. Food and Drug Administration.

† The label for Plan B says to take one pill within 72 hours after unprotected intercourse, and another pill 12 hours later. However, recent research has found that both Plan B pills can be taken at the same time. Research has also shown that all of the brands listed here are effective when used within 120 hours after unprotected sex.

‡ The progestin in Cryscelle, Lo/Ovral, Low-Ogestrel, Ogestrel, and Ovral is norgestrel, which contains two isomers, only one of which (levonorgestrel) is bioactive; the amount of norgestrel in each tablet is twice the amount of levonorgestrel.

Information regarding effective contraceptive methods should be made available either at the time that emergency contraception is prescribed or at some convenient time thereafter. Clinical evaluation is indicated for women who have used emergency contraception if menses are delayed by a week or more after the expected time or if abdominal pain or persistent irregular bleeding develops.

No single mechanism of action has been established for emergency contraception; rather, the mode of action varies according to the day of the menstrual cycle on which intercourse occurs and emergency contraception is administered. Both the combined regimen and the levonorgestrel-only regimen have been shown to inhibit or delay ovulation. Earlier studies documented histologic and biochemical changes in the endometrium after administration of the combined regimen, suggesting that emergency contraception may alter the receptiveness of the endometrium and inhibit implantation of a fertilized egg. However, several more recent studies have not supported these findings, and the endometrial changes that have been observed may not be sufficient to prevent implantation. Other proposed mechanisms or actions include interference with sperm transport or penetration and impairment of corpus luteum function. Although no direct clinical evidence supports these theories, it is statistically unlikely that emergency contraception could be as effective as it is for preventing pregnancy if interference with ovulation were its only method of action.

The Copper T IUD also has been described as a method of emergency contraception. It must be inserted within 5 days after intercourse.

**Contraceptive Failures.** There is no substantive evidence that the use of any contraception during early pregnancy is associated with fetal anomalies. If a pregnancy occurs while a hormonal method of contraception is being used, the method should be discontinued. The FDA recommends that, if a patient becomes pregnant while using an IUD, the IUD be removed when possible without an invasive procedure.

**Resources**

**Patient Resources**


Emergency Contraception Hotline: 888-NOT-2-LATE

ACOG Professional Resources


**Other Resources**


**Sexually Transmitted Diseases**

Sexually transmitted diseases can be transmitted through contact during oral, vaginal, or anal sex. The transmission of an STD may result in myriad consequences, including infertility, cancer, and even death. Sexually
transmitted diseases are the number one cause of preventable infertility and are strongly associated with ectopic pregnancy. Sexually transmitted infections may increase the risk of HIV acquisition threefold to fivefold, and the management of STDs is a critical strategy in the prevention of HIV infection. In addition, the presence of STDs can take an individual toll, often causing pain, discomfort, and strain on personal relationships. The Institute of Medicine has highlighted that U.S. STD rates are the highest in the industrialized world, and in some communities they are comparable to infection rates in many developing countries.

**Prevention**

Prevention of STDs includes strategies to decrease exposure through delaying the onset of sexual activity, limiting the number of sexual partners, limiting exposure to high-risk partners, limiting risky sexual practices, and increasing the use of condoms. Prevention also can include partner notification and treatment, reporting of reportable diseases, and immunization. Anal sex poses a particularly high risk, because tissues in the rectum break easily, and organisms can be transmitted through breaks in skin and mucosal surfaces. Oral–genital sex is known to be a method of transmission of several STDs. Some patients may not consider oral or anal sex as defining them as sexually active and at risk of acquiring STDs, and this perception should be taken into account during the gathering of sexual history.

Clinicians can arrange directly for partner notification or treatment for STDs or use local or state health departments as referral sites. Treatment of male sexual partners is important in the prevention of transmission and reinfection with certain STDs. Clinicians may be asked to provide a prescription for the patient’s partner without having performed an examination of the individual, an approach known as *expedited partner therapy*. In most cases, such a prescription will result in treatment without complication. An adverse reaction to the medication is uncommon but may result in a significant health hazard to the partner. Each clinician must decide whether providing such prescriptions is appropriate. Male partners receiving expedited partner therapy should be encouraged to seek medical evaluation.

A Centers for Disease Control and Prevention (CDC) review of the evidence has found expedited partner therapy to be a useful option, especially for treatment of male partners of women with a chlamydial infection.
or gonorrhea (see www.cdc.gov/STD/treatment/EPTFinalReport2006.pdf). However, state law and liability standards may prohibit expedited partner therapy in some areas. Clinicians are encouraged to become familiar with local regulations and resources.

Gonorrhea, syphilis, chlamydial infection, and acquired immunodeficiency syndrome (AIDS) are reportable diseases in every U.S. state. Clinicians should be familiar with any federal, state, or local requirements for the screening, follow-up, and reporting of STDs. Recommended immunizations for preventable STDs, such as hepatitis and human papillomavirus (HPV) infection, are described in Box 3–2 for various age groups.

Clinician counseling on condoms should include educating patients on the proper use of male condoms. This education is particularly important in young populations, who have significantly higher rates of breakage and slippage. The following question may guide counseling in noncondom users who are at risk for STDs: “The last time you did not use a condom, what were the reasons?” Answers might include nonavailability, lack of time or knowledge, or partner objection. The CDC recommendations for proper use of male condoms are provided in Box 3–8.

**Box 3–8. Centers for Disease Control and Prevention Recommendations for Proper Use of Male Condoms**

- Use a new condom with each sex act (eg, oral, vaginal, and anal).
- Carefully handle the condom to avoid damaging it with fingernails, teeth, or other sharp objects.
- Put the condom on after the penis is erect and before any genital, oral, or anal contact with the partner.
- Use only water-based lubricants (eg, K-Y Jelly, Astroglide, AquaLube, and glycerin) with latex condoms. Oil-based lubricants (eg, petroleum jelly, shortening, mineral oil, massage oils, body lotions, and cooking oil) can weaken latex.
- Ensure adequate lubrication during vaginal and anal sex, which might require the use of exogenous water-based lubricants.
- To prevent the condom from slipping off, hold the condom firmly against the base of the penis during withdrawal, and withdraw while the penis is still erect.

Three types of male condoms are available in the United States: natural membrane (sometimes referred to as lambskin), polyurethane, and latex. Natural membrane condoms are not recommended for STD prophylaxis and should be used only for pregnancy prevention, because they may allow pathogens to pass thorough their pores. Latex condoms are the optimal choice for most individuals. Polyurethane condoms, which are approximately double the cost of latex condoms but provide similar protection against STDs and pregnancy, are recommended if either sexual partner has a history of latex allergy. Slippage and breakage rates are significantly higher for polyurethane condoms. The CDC does not recommend condoms lubricated with spermicides for STD and HIV prevention. Condoms lubricated with spermicides are no more effective than other lubricated condoms for STD and HIV prevention. In addition, condoms lubricated with spermicide have been associated with urinary tract infection in young women, and frequent use of spermicides containing nonoxynol-9 has been associated with a possible higher risk of HIV transmission through disruption of the genital epithelium.

Screening
Appropriate STD screening in nonpregnant women depends on the age of the patient and assessment of risk factors elicited during the medical and sexual history. Box 3–9 details routine screening and screening based on risk factors. Optimal rescreening intervals are ill defined but should take into account any change in sexual partners. The CDC recommends that clinicians consider retesting all women with chlamydial infections approximately 3 months after treatment or whenever they next seek care within the next 12 months because of the high prevalence of reinfection. The CDC advises that urine or swab specimens from the endocervix or vagina can be used for screening and diagnosis and that nucleic acid amplification tests are the most sensitive tests for these specimens.

Diagnosis and Treatment
Presenting history and examination findings vary and are covered in detail in the STD treatment guidelines published by the CDC and available at www.cdc.gov/mmwr/preview/mmwrhtml/rr5511a1.htm. Selected recommendations for treatment from these guidelines are outlined in Table 3–5. Many infections are asymptomatic. Tables 3–6 and 3–7 briefly discuss the prevalence, presentation, and diagnostic testing in patients with 1) dis-
eases that are characterized by genital ulcers and 2) diseases that are characterized by cervicitis, urethritis, or both.

Cervicitis may be a sign of upper genital tract infection. The CDC recommends that women with a new episode of cervicitis be screened for PID, chlamydial infection, gonorrhea, bacterial vaginosis, and trichomoniasis and be treated, if necessary.

**Box 3–9. ACOG STD Screening Recommendations**

**Routine Screening:**
- Sexually active women 25 years and younger should be routinely screened for chlamydial infection.
- All sexually active adolescents should be routinely screened for gonorrhea.
- Women with developmental disabilities should be screened for STDs.
- HIV screening is recommended for women aged 19–64 years and adolescents who are or ever have been sexually active. *

**Screening Based on Risk Factors:**
- Women with history of multiple sexual partners or a sexual partner with multiple contacts, sexual contact with individuals with culture-proven STDs, a history of repeated episodes of STDs, or attendance at clinics for STDs should be regularly screened for STDs.
- Human immunodeficiency virus (HIV) screening is indicated for women with more than one sexual partner since most recent HIV test or a sexual partner with more than one sexual partner since most recent HIV test, current treatment for STDs, a history of drug use by injection, a history of prostitution, a past or present sexual partner who is HIV positive or bisexual or who injects drugs, long-term residence or birth in an area with a high prevalence of HIV infection, a history of transfusion between 1978 and 1985, or invasive cervical cancer; adolescents who are or ever have been sexually active; and adolescents entering detention facilities. Testing should be offered to women seeking preconception care.
- Asymptomatic women aged 26 and older who are at high risk for infection should be routinely screened for chlamydial infection and gonorrhea.

*Physicians should be aware of and follow their states’ HIV screening requirements.

Table 3–5. Selected Recommendations from the Centers for Disease Control and Prevention 2006 Guidelines for the Treatment of Sexually Transmitted Diseases*

<table>
<thead>
<tr>
<th>Condition</th>
<th>CDC-Recommended Treatment</th>
<th>CDC-Recommended Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacterial vaginosis</td>
<td>Metronidazole, 500 mg, orally twice a day for 7 d OR</td>
<td>Clindamycin, 300 mg orally twice a day for 7 d OR</td>
</tr>
<tr>
<td></td>
<td>Metronidazole gel, 0.75%, one 5-g applicator intravaginally once a day for 5 d OR</td>
<td>Clindamycin ovules, 100 g intravaginally once at bedtime for 3 d</td>
</tr>
<tr>
<td></td>
<td>Clindamycin cream, 2%, one 5-g applicator intravaginally at bedtime for 7 d</td>
<td></td>
</tr>
<tr>
<td>Chancroid</td>
<td>Azithromycin, 1 g orally in a single dose OR</td>
<td>Erythromycin base, 500 mg orally 4 times a day for 7 d OR</td>
</tr>
<tr>
<td></td>
<td>Ceftriaxone, 250 mg IM in a single dose OR</td>
<td>Erythromycin ethylsuccinate, 800 mg orally 4 times a day for 7 d OR</td>
</tr>
<tr>
<td></td>
<td>Ciprofloxacin, 500 mg orally twice a day for 3 d OR</td>
<td>Ofloxacin, 300 mg orally twice a day for 7 d OR</td>
</tr>
<tr>
<td></td>
<td>Erythromycin base, 500 mg orally 3 times a day for 7 d</td>
<td>Levofloxacin, 500 mg orally once a day for 7 d</td>
</tr>
<tr>
<td>Chlamydial infection</td>
<td>Azithromycin, 1 g orally in a single dose OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Doxycycline, 100 mg orally twice a day for 7 d</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Erythromycin base, 500 mg orally 4 times a day for 7 d OR</td>
<td></td>
</tr>
<tr>
<td>Genital herpes</td>
<td>Acyclovir, 400 mg orally 3 times a day for 7–10 d OR</td>
<td></td>
</tr>
<tr>
<td>First clinical episode</td>
<td>Acyclovir, 200 mg orally 5 times a day for 7–10 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Famiciclovir, 250 mg orally 3 times a day for 7–10 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valacyclovir, 1 g orally twice a day for 7–10 d</td>
<td></td>
</tr>
</tbody>
</table>

(continued)
**Table 3–5. Selected Recommendations from the Centers for Disease Control and Prevention 2006 Guidelines for the Treatment of Sexually Transmitted Diseases***

*(continued)*

<table>
<thead>
<tr>
<th>Condition</th>
<th>CDC-Recommended Treatment</th>
<th>CDC-Recommended Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Genital herpes (continued)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Episodic therapy for recurrences</td>
<td>Acyclovir, 400 mg orally 3 times a day for 5 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acyclovir, 800 mg orally twice a day for 5 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acyclovir, 800 mg orally 3 times a day for 2 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Famciclovir, 125 mg orally twice a day for 5 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Famciclovir, 1 g orally twice a day for 1 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valacyclovir, 500 mg orally twice a day for 3 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valacyclovir, 1 g orally once a day for 5 d</td>
<td></td>
</tr>
<tr>
<td>Suppressive therapy</td>
<td>Acyclovir, 400 mg orally twice a day OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Famciclovir, 250 mg orally twice a day OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valacyclovir, 500 mg orally once a day OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valacyclovir, 1 g orally once a day</td>
<td></td>
</tr>
<tr>
<td><strong>Genital herpes and HIV infection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Episodic infection</td>
<td>Acyclovir, 400 mg orally 3 times a day for 5–10 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Famciclovir, 500 mg orally twice a day for 5–10 d OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valacyclovir, 1 g orally twice a day for 5–10 d</td>
<td></td>
</tr>
<tr>
<td>Suppressive therapy</td>
<td>Acyclovir, 400–800 mg 2–3 times a day OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Famciclovir, 500 mg orally twice a day OR</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valacyclovir, 500 mg orally twice a day for 5–10 d</td>
<td></td>
</tr>
</tbody>
</table>

*(continued)*
Table 3–5. Selected Recommendations from the Centers for Disease Control and Prevention 2006 Guidelines for the Treatment of Sexually Transmitted Diseases* (continued)

<table>
<thead>
<tr>
<th>Condition</th>
<th>CDC-Recommended Treatment</th>
<th>CDC-Recommended Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhea (urogenital or rectal)</td>
<td>Ceftriaxone, 125 mg IM in a single dose <strong>OR</strong></td>
<td>Spectinomycin, 2 g in a single IM dose <strong>OR</strong></td>
</tr>
<tr>
<td></td>
<td>Cefixime, 400 mg orally in a single dose</td>
<td>Single-dose cephalosporin regimens</td>
</tr>
<tr>
<td></td>
<td><strong>PLUS</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Treatment for chlamydial infection if chlamydial infection is not ruled out</td>
<td></td>
</tr>
<tr>
<td>Syphilis</td>
<td>Benzathine penicillin G, 2.4 million units IM in a single dose</td>
<td>Oral doxycycline, 100 mg twice a day for 14 d <strong>OR</strong></td>
</tr>
<tr>
<td>Early-primary, secondary, or latent syphilis, less than 1 y since infection</td>
<td></td>
<td>Tetracycline, 500 mg 4 times a day for 14 d</td>
</tr>
<tr>
<td>Tertiary or late latent syphilis, or latent syphilis of unknown duration</td>
<td>Benzathine penicillin G, 7.2 million units total, administered as three doses (2.4 million units each, IM) at 1-wk intervals</td>
<td>Oral doxycycline, 100 mg twice a day for 28 d <strong>OR</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oral tetracycline, 500 mg 4 times a day for 28 d</td>
</tr>
<tr>
<td>Neurosyphilis</td>
<td>Aqueous crystalline penicillin G, 18–24 million units per day, administered as 3–4 million units IV every 4 hours or continuous infusion, for 10–14 d</td>
<td>Procaine penicillin G, 2.4 million units IM, once a day for 10–14 d <strong>PLUS</strong></td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>Metronidazole, 2 g orally in a single dose <strong>OR</strong></td>
<td>Metronidazole, 500 mg orally twice a day for 7 d</td>
</tr>
<tr>
<td></td>
<td>Tinidazole, 2 g orally in a single dose</td>
<td></td>
</tr>
</tbody>
</table>

CDC indicates Centers for Disease Control and Prevention; HIV, human immunodeficiency virus; IM, intramuscularly; IV, intravenously.

*The complete CDC guidelines are available at www.cdc.gov/mmwr/preview/mmwrhtml/rr5511a1.htm and www.cdc.gov/mmwr/preview/mmwrhtml/mm5614a3.htm.

Table 3–6. Diseases Characterized by Genital Ulcers

- Differential diagnosis: genital herpes, syphilis, chancroid, and nonsexually transmitted infections
- Diagnosis: history and physical examination frequently inaccurate; all patients should be tested for syphilis and herpes; consideration given to chancroid

### Herpes

**Prevalence:**
- At least 50 million persons in the United States have HSV infection.

**Presentation:**
- Classic presentation of vesicles/ulcers absent in many cases.
- Many women with either HSV-1 or HSV-2 infection are asymptomatic.
- Recurrences much less common with HSV-1; important fact for counseling.

**Diagnostic tests:**
- Clinical diagnosis should be confirmed by laboratory testing.
- Isolation of HSV in cell culture is the preferred virologic test.
- Viral culture isolates should be typed to determine if HSV-1 or HSV-2 is the cause of the infection.
- The serologic type-specific glycoprotein G-based assays should be specifically requested when serology is performed.

### Syphilis

**Prevalence:**
- Decreasing; more prevalent in metropolitan areas.

**Common presentations:**
- Primary: ulcer or chancre.
- Secondary: skin rash, lymphadenopathy, mucocutaneous lesions.
- Tertiary: cardiac or ophthalmic manifestations, auditory abnormalities, gummatous lesions.
- Latent: no symptoms, diagnosed by serology.

**Diagnostic tests:**
- Dark-field examinations and direct fluorescent antibody tests of lesion exudate or tissue are the definitive methods for diagnosing early syphilis.
- Presumptive diagnosis is possible with nontreponemal tests (VDRL and RPR) and treponemal tests (eg, FTA-ABS and TP-PA).
- The use of only one type of serologic test is insufficient; false-positive nontreponemal test results are sometimes associated with medical conditions unrelated to syphilis.

### Chancroid

**Prevalence:**
- Usually in discrete outbreaks—high rates of HIV coinfection.

**Presentation:**
- Combination of a painful genital ulcer and tender suppurative inguinal adenopathy.

**Diagnosis:**
- Culture media and PCR testing not readily available.
- Probable diagnosis: patient with ulcers, no evidence of syphilis, typical chancroid presentation, and diagnostic tests negative for herpes.

FTA-ABS indicates fluorescent treponemal antibody absorbed; HIV, human immunodeficiency virus; HSV, herpes simplex virus; PCR, polymerase chain reaction; RPR, rapid plasma reagin; TP-PA, T pallidum particle agglutination; VDRL, Venereal Disease Research Laboratory.

### Table 3–7. Diseases Characterized by Cervicitis or Urethritis

<table>
<thead>
<tr>
<th>Chlamydial Infection</th>
<th>Gonorrhea</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalence:</strong></td>
<td><strong>Prevalence:</strong></td>
</tr>
<tr>
<td>• Most frequently reported infectious disease in the United States</td>
<td>• Estimated 600,000 new infections in the United States each year</td>
</tr>
<tr>
<td>• Highest prevalence in persons 25 years and younger</td>
<td>• Prevalence varies widely among communities and populations.</td>
</tr>
<tr>
<td></td>
<td>• Women younger than 25 years are at highest risk.</td>
</tr>
<tr>
<td><strong>Presentation:</strong></td>
<td><strong>Presentation:</strong></td>
</tr>
<tr>
<td>• Asymptomatic infection common</td>
<td>• Frequently asymptomatic</td>
</tr>
<tr>
<td>• Other presentations: mucopurulent cervicitis, abnormal vaginal discharge, irregular intermenstrual vaginal bleeding</td>
<td></td>
</tr>
<tr>
<td><strong>Evaluation:</strong></td>
<td><strong>Evaluation:</strong></td>
</tr>
<tr>
<td>• All sexually active women 25 years and younger should be screened annually.</td>
<td>• Testing appropriate in patients at high risk for STDs</td>
</tr>
<tr>
<td>• Urogenital infection in women can be diagnosed by testing urine or swab specimens collected from the endocervix or vagina.</td>
<td>• ACOG recommends annual screening for gonorrhea in sexually active adolescents.</td>
</tr>
<tr>
<td>• Culture, direct immunofluorescence, EIA, nucleic acid hybridization tests, and NAATs are available for the detection of <em>Chlamydia trachomatis</em> on endocervical swab specimens.</td>
<td>• Pharyngeal and anorectal infections should be considered based on sexual practices elicited during the sexual history.</td>
</tr>
<tr>
<td>• NAATs are the most sensitive tests for endocervical swab specimens and are FDA-cleared for use with urine, and some tests are cleared for use with vaginal swab specimens.</td>
<td>• Consider urine screening when adolescents are reluctant to have pelvic examination or are seen where pelvic examination is not feasible.</td>
</tr>
<tr>
<td>• ACOG recommends consideration of urine screening for adolescents reluctant to have pelvic examination or seen where pelvic examination is not feasible.</td>
<td></td>
</tr>
<tr>
<td><strong>Special considerations:</strong></td>
<td><strong>Special considerations:</strong></td>
</tr>
<tr>
<td>• Persons treated for chlamydial infection should be instructed to abstain from sexual intercourse for 7 days after single-dose therapy or until completion of a 7-day regimen, and be instructed to abstain from sexual intercourse until all of their sex partners are treated.</td>
<td>• Patients with gonorrhea should be treated routinely for chlamydial infection unless it has been excluded by NAAT.</td>
</tr>
<tr>
<td></td>
<td>• Consider advising all patients with gonorrhea to be retested 3 months after treatment. If patients do not seek retesting in 3 months, encourage retesting</td>
</tr>
</tbody>
</table>

(continued)
Table 3–7. Diseases Characterized by Cervicitis or Urethritis (continued)

<table>
<thead>
<tr>
<th>Chlamydial Infection (continued)</th>
<th>Gonorrhea (continued)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special considerations: (continued)</td>
<td>Special considerations: (continued)</td>
</tr>
<tr>
<td>• Test of cure (repeated testing 3–4 weeks after completing therapy) is not recommended for persons treated with the recommended or alternative regimens, unless therapeutic compliance is in question, symptoms persist, or reinfection is suspected.</td>
<td>whenever these patients seek medical care within the following 12 months.</td>
</tr>
<tr>
<td>• Because of high rates of reinfection, consider advising all women with chlamydial infection to be retested approximately 3 months after treatment and encourage retesting for all women treated for chlamydial infection whenever they next seek medical care within the following 3–12 months.</td>
<td></td>
</tr>
</tbody>
</table>

ACOG indicates American College of Obstetricians and Gynecologists; CDC, Centers for Disease Control and Prevention; EIA, enzyme immunoassay; FDA, Food and Drug Administration; NAAT, nucleic acid amplification test; STD, sexually transmitted disease.


**Pelvic Inflammatory Disease.** Pelvic inflammatory disease, a leading cause of infertility, is associated with STDs. No specific finding or test is both sensitive and specific for the diagnosis of PID. Many cases go unrecognized and may present with mild, nonspecific symptoms such as abnormal bleeding or vaginal discharge. The CDC recommends that practitioners have a low threshold for diagnosing PID given the potential for infertility in what appears to be mild or atypical PID. The CDC advises empiric treatment for PID in sexually active young women and other women at risk for STDs if no other cause of the illness can be identified and any one of the following is present on pelvic examination: uterine tenderness, adnexal tenderness, or cervical motion tenderness. The CDC also recommends that all women with diagnosed acute PID be tested for chlamydial infection, gonorrhea, and HIV infection.

Most, but not all, women with PID will have white blood cells in their vagina or a mucopurulent cervical discharge. In patients without these
findings, the diagnosis of PID is unlikely, and thorough evaluation should investigate other possible sources of pain.

The routine use of laparoscopy to diagnose PID is not indicated because of cost and operative risk. However, if the diagnosis is uncertain, the patient fails to respond to therapy, or symptoms recur soon after adequate therapy, diagnostic laparoscopy then may be indicated to rule out other conditions causing pain, such as endometriosis.

The CDC recommends that treatment be initiated as soon as the presumptive diagnosis of PID has been made, using recommended treatment regimens. The CDC also notes that clinicians should consider availability, cost, patient acceptance, and antimicrobial susceptibility when selecting a treatment regimen.

Some experts have recommended that all patients with PID be hospitalized. The CDC concludes that outpatient therapy can provide similar outcomes to inpatient therapy for women with mild or moderate PID. The decision to hospitalize must be individualized. The CDC has listed suggested criteria for hospitalization (see Box 3–10). Adolescents with PID often are hospitalized, but data do not substantiate that they benefit from inpatient therapy more than other age groups. Young women with mild to moderate disease have similar outcomes with either inpatient or outpatient therapy, and response to outpatient therapy is similar across age groups. The CDC recommends that the same criteria used to determine the need for hospitalization of adolescents be used for older women with acute PID.

**Box 3–10. Suggested Criteria for Hospitalization for Pelvic Inflammatory Disorder**

- Surgical emergencies (eg, appendicitis) cannot be excluded.
- The patient is pregnant.
- The patient does not respond clinically to oral antimicrobial therapy.
- The patient is unable to follow or tolerate an outpatient oral regimen.
- The patient has severe illness, nausea and vomiting, or high fever.
- The patient has a tuboovarian abscess.

**Human Papillomavirus Infection.** Infection with one or more HPV subtypes is extremely common, occurring in up to 80% of sexually active women by age 50. It appears that the majority of young sexually active men and women are, or have been, infected with this organism. Most cervical HPV infections appear to be transient, but the proportion of women whose infections are resolved decreases with age. In one prospective study, the time required for 50% of prevalent cases to become HPV DNA negative was 4.8 months for nononcogenic types and 8.1 months for oncogenic types. This finding may not reflect the true duration of infection, because it is unknown how long the women had been infected at the time of enrollment in the study. Infections of the cervix often are diagnosed through assessment of cervical cytology (see “The Women’s Health Examination” earlier in Part 3).

Some subtypes (particularly the nononcogenic types, such as types 6 and 11) are associated with the development of genital warts. In most cases, external warts can be treated with the topical application of podofilox, imiquimod, trichloroacetic or bichloroacetic acid or podophyllin resin, or the use of cryotherapy, laser ablation, or electrocautery. Treatment should be guided by the preference of the patient and the experience of the clinician. Patients who fail to respond to treatment may be immunosuppressed and should be counseled about, and offered, testing for HIV. Patients known to be immunosuppressed (eg, transplant patients, chronic steroid users, and HIV-positive patients) should receive HPV and STD prevention counseling.

The FDA recently licensed the first vaccine shown to be effective at preventing infection with some genotypes of HPV. The prophylactic quadrivalent human papillomavirus L1 viruslike particle vaccine offers protection against cervical cancer, cervical dysplasias, vulvar or vaginal dysplasias, and genital warts associated with HPV genotypes 6, 11, 16, and 18. The FDA approval is for administration of this three-dose vaccine to females aged 9–26 years at intervals of 0, 2, and 6 months (see Box 3–11). The need for booster doses remains to be demonstrated. To date, protection has been shown to last at least 5 years.

A second, bivalent formulation of an HPV vaccine is in development. Results of initial studies of this vaccine indicate that it offers protection similar to the quadrivalent vaccine against HPV infections caused by genotypes 16 and 18.

The ACOG Committee on Adolescent Health Care and the ACOG Working Group on Immunization recommend the vaccination of females
Box 3–11. Key Information Regarding the Quadrivalent Human Papillomavirus Vaccine

Dosage:
The quadrivalent human papillomavirus (HPV) vaccine should be administered intramuscularly as three separate 0.5-mL doses according to the following schedule:
- First dose: at elected date
- Second dose: 2 months after the first dose
- Third dose: 6 months after the first dose

Storage:
The quadrivalent vaccine should be refrigerated at 2–8°C (36–46°F). It should not be frozen and should be protected from light.

Contraindication:
Hypersensitivity to the active substances or to any of the excipients of the quadrivalent vaccine. Individuals who develop symptoms indicative of hypersensitivity after receiving a dose of quadrivalent vaccine should not receive further doses of the product.

Precautions:
- As with any vaccine, vaccination may not protect all vaccine recipients.
- The quadrivalent vaccine is not intended to be used for treatment of active genital warts, cervical cancer, cervical intraepithelial neoplasia, vulvar intraepithelial neoplasia, or vaginal intraepithelial neoplasia.
- The quadrivalent vaccine has not been shown to protect against disease due to nonvaccine HPV types.

Vaccine Adverse Event Reporting:
To report an adverse event associated with administration, go to vaers.hhs.gov.

Advisory Committee on Immunization Practices Recommendations:
For current recommendations by the Advisory Committee on Immunization Practices, go to www.cdc.gov/nip/ACIP.


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aged 9–26 years against HPV. The Advisory Committee on Immunization Practices has recommended the initial vaccination target of females aged 11 or 12 years. Although obstetrician–gynecologists are not likely to care for many girls in this initial vaccination target group, these clinicians are critical to the widespread use of the vaccine for females aged 13–26 years. The American College of Obstetricians and Gynecologists has recommended that the first adolescent reproductive health care visit take place between ages 13 years and 15 years. Adolescents and young women aged 16–26 years visit obstetrician–gynecologists for primary care, contraceptive or other gynecologic needs, or pregnancy-related services. These visits are a strategic time to discuss HPV infection and the potential benefit of the HPV vaccine and to offer vaccination to patients who have not already received it. During a health care visit with a girl or woman in the age range for vaccination, an assessment of the patient’s HPV vaccine status should be conducted and documented in the patient record.

Current cervical cytologic screening recommendations remain unchanged and should be followed regardless of vaccination status (see “The Pelvic Examination” earlier in Part 3). The currently approved quadrivalent vaccine protects against acquisition of HPV genotypes that account for only 70% of HPV-related cervical cancer and only 90% of genital warts cases. The vaccine is a preventive tool and is not a substitute for cancer screening.

Sexually active women can receive the quadrivalent HPV vaccine. Women with previous abnormal cervical cytologic findings or genital warts also can receive the quadrivalent HPV vaccine. Testing for HPV is currently not recommended before vaccination. Patients should be counseled that the vaccine may be less effective in women who have been exposed to HPV before vaccination than in women who were HPV naive at the time of vaccination.

There is concern that provision of the vaccination to women with previous CIN may create a false sense of protection, potentially deterring patients from continuing their regular screening and management. The quadrivalent vaccine can be given to patients with previous CIN, but practitioners need to emphasize that the benefits may be limited, and cervical cytology screening and corresponding management based on ACOG recommendations must continue.

The quadrivalent HPV vaccine is not intended to treat patients with cervical cytologic abnormalities or genital warts. Patients with these conditions should undergo the appropriate evaluation and treatment. It is important to note that many early cytologic abnormalities can be detected
and managed conservatively, given the significant rate of regression. This is especially true in adolescents and young women.

The presence of immunosuppression, such as that experienced in patients with HIV infection, is not a contraindication to the quadrivalent HPV vaccine. However, the immune response may be smaller in the immunocompromised patient than in immunocompetent patients.

Abstinence from sexual activity is the most effective way to avoid STDs, including HPV infection. Limiting the number of sexual partners also may decrease one's risk of STDs, including HPV infection. The use of latex condoms is the only method currently available for sexually active individuals to reduce the likelihood of HPV acquisition and HPV-related cervical dysplasia.

**Infectious Hepatitis.** Although infection with hepatitis B virus (HBV) is contracted more often by other routes of exposure, some studies have suggested that up to 60% of all such infections result from sexual transmission. Women who have active HBV infections or women who are HBV carriers should be counseled to have their partners use condoms during intercourse. They should avoid oral–genital contact. Patients with STDs, all adolescents not previously immunized, and others listed in Table 3–1 should be offered HBV vaccination. Hepatitis B vaccination also should be initiated in nonimmunized sexual assault victims.

**Human Immunodeficiency Virus Infection.** Heterosexual contact is the leading mode of HIV transmission in women. Women with ulcerated or nonulcerated STDs have an increased risk of HIV infection. In just a little more than a decade, the proportion of all AIDS cases reported among adult and adolescent women in the United States more than tripled, from 7% in 1985 to 27% in 2004. It is estimated that more than 120,000 adult and adolescent females in the United States currently are living with HIV infection.

Women should be counseled routinely regarding HIV infection. The obstetrician–gynecologist should be prepared to educate patients about the modes of transmission of the virus, means of protection from infection, and the significance of HIV infection in pregnancy. Prevention of HIV infection should be a priority. Voluntary and confidential HIV testing should be available to any woman who wishes to be tested. The CDC now recommends routine HIV screening for all women aged 13–64 years, regardless of risk, with rescreening at least annually for those at risk. The American College of Obstetricians and Gynecologists supports routine screening for women aged 19–64 years. In addition, ACOG recommends screening for patients at high risk, including adolescents who are, or ever have been, sex-
Physicians should be aware of, and follow, their states’ HIV screening requirements. Clinicians should consult their state medical associations for more information on state laws governing HIV testing and test results. The CDC recommends that patients be notified that testing will be performed, but separate written consent and prevention counseling should not be required.

The CDC recommends that HIV-negative test results may be conveyed without direct personal contact with the patient. Persons known to be at high risk for HIV infection should be advised of the need for periodic retesting and should be offered, or be referred for, prevention counseling. Individuals with HIV-positive test results should receive confidential communication of test results through personal contact by a clinician, nurse, midlevel practitioner, counselor, or other skilled staff member. Persons who test positive for HIV should receive, or be referred for, clinical care promptly.

Several FDA-approved rapid HIV tests are available. With rapid HIV testing, results are available in 10–30 minutes if given at the point of care. Currently, both blood and oral fluid rapid tests are used. Positive screening test results should be confirmed. Point-of-care testing facilitates screening in settings with limited access to laboratories but also allows patients in all settings, including the routine visit, to learn their test results during that visit. Such immediate notice not only reduces the number of persons who do not return to learn their test results but also allows for prompt entry into care. The CDC recommends rapid HIV testing in settings such as emergency departments, STD clinics, and annual visits. Clinicians should develop resources to allow them to provide appropriate counseling and support services if they use rapid testing.

It is unethical for an obstetrician–gynecologist to refuse to accept as a patient or to refuse to continue to care for persons solely because they are or are thought to be seropositive for HIV. Health care practitioners should observe standard precautions to minimize skin, mucous membrane, and percutaneous exposure to blood, secretions, and body fluids from all patients to protect against a variety of pathogens, including HIV. In making decisions about patient-care activities, a health care worker infected with HIV should adhere to the fundamental professional obligation to avoid harm to patients (see also “Human Resources” in Part 1).
Resources

ACOG Patient Resources


ACOG Professional Resources


Other Resources

Agency for Healthcare Research and Quality. Screening for human immunodeficiency virus: focused update of a 2005 systematic evidence review for the U.S. Preventive Services


The National Clinicians’ Post-Exposure Hotline (PEP-Line). Created to assist clinicians with postexposure prophylaxis issues, it is a 24-hour free service funded by the U.S. Centers for Disease Control and Prevention, Health Resources and Services Administration, and the University of California, San Francisco. The number is 888-448-4911. Available at: www.ucsf.edu/hivcntr/PEPline/.


Menopause

Menopause is the permanent cessation of menstruation that occurs after the loss of ovarian activity. In North America, the median age of menopause is 51 years. Medical intervention in menopausal women should focus on primary and preventive health care and counseling and address diet, fitness, use of alcohol, smoking cessation, cancer screening, and the role of hormone therapy (HT) (see “Routine Screening and Prevention of Disease” later in Part 3).

Most women go through a period of irregular menstrual function before menopause. Common symptoms of menopause include vasomotor symptoms (hot flushes) and vaginal dryness. Atrophic changes of the external genitalia commonly occur with time. Certain medical conditions occur more often in this age group. These conditions include cancer, osteoporosis, coronary artery disease, cerebrovascular disease, diabetes mellitus, pulmonary disorders, Alzheimer's disease, and adult macular degeneration. Low estrogen levels after menopause may contribute to osteoporosis, Alzheimer's disease, macular degeneration, coronary artery disease, and cerebrovascular disease.

Counseling

Counseling should be provided as described in “The Women’s Health Examination” earlier in Part 3 and “Routine Screening and Prevention of Disease” later in Part 3. The following recommendations are of particular importance.

Patients in the perimenopausal period should be given information about the normal events of aging, including specific information regarding the reduction of ovarian hormonal function and the manifestations of these ovarian changes. In addition, women should be apprised that modifications in lifestyle, such as changes in dietary and exercise habits, may ben-
efit their overall health during menopause. Smoking cessation, lipid monitoring, blood pressure monitoring, weight management, and annual health care maintenance should be emphasized.

Menopausal women should be counseled about the benefits of exercise, proper nutrition, and avoidance of certain lifestyle factors (cigarettes and alcohol) in retarding osteoporosis. They also should be informed about special dietary needs, including the importance of calcium intake. The National Institutes of Health's current recommendation for optimal calcium intake for postmenopausal women is 1,000 mg/d for women receiving estrogen therapy and 1,500 mg/d for women not receiving estrogen therapy and all women older than 65 years. Because of the risk of fractures, women should be informed of the importance of accident prevention and safety issues (see also “Osteoporosis” later in Part 3). Recommendations for cancer screening, such as cervical cytologic testing and mammography, should be reviewed (see “The Women’s Health Examination” earlier in Part 3 and “Cancer Screening and Prevention” later in Part 3). Discussions regarding elder abuse and intimate partner and domestic violence should be considered (see “Abuse” later in Part 3).

Menopausal Hormone Therapy

Estrogens alone or estrogens plus progestins are highly effective for the alleviation of hot flushes and night sweats. For patients with severe symptoms, estrogens are the most effective treatment. Estrogen is effective for treatment of patients with vaginal dryness and atrophic changes that impede sexual function. Topical and systemic estrogens appear to be equally effective in relieving vaginal atrophy and associated dyspareunia. Estrogen may be an appropriate first-line therapy for osteoporosis for women with menopausal symptoms.

The benefits and risks of menopausal HT should be discussed in detail with each patient before the initiation of therapy and when renewing her annual prescription so that she can make the best decision for her own health. The risks of HT exceed the benefits for the prevention of chronic diseases in postmenopausal women.

In women who have an intact uterus, the use of an estrogen–progestin regimen is recommended to reduce the risk of endometrial hyperplasia and endometrial cancer. For such women who do not tolerate estrogen–progestin or progestin-only regimens, low-dose (eg, 0.3–0.45 mg/d) estrogen-only therapy may be considered if the patient can be monitored closely by
endometrial assessment to detect endometrial proliferation. Consideration also may be given to the use of the levonorgestrel intrauterine system as an alternative delivery method for the progestin component of HT.

The following are some concerns patients may have regarding HT:

- **Endometrial neoplasia.** Unopposed estrogen use increases the risk of endometrial cancer. Treatment with a combination of progestin and estrogen eliminates this increased risk.
- **Ovarian neoplasia.** No relationship between estrogen therapy and ovarian cancer has been proved.
- **Breast neoplasia.** There is randomized clinical trial evidence that HT increases the risks for developing breast cancer. In observational studies, once HT is discontinued, the risk appears to dissipate. The absolute risk of breast cancer remains low (20 per 10,000 over 5 years), but the risk does increase. For estrogen-only users who have had a hysterectomy and possible oophorectomy, the risk of breast cancer does not appear to be increased. On balance, multiple observational studies suggest an increased risk, but many well-designed observational studies do not.
- **Cholelithiasis.** Women should be cautioned about the increased risks of gallstones and biliary tract surgery with the use of HT.
- **Thromboembolic disease.** Evidence consistently demonstrates at least a twofold greater risk of venous thromboembolism in women taking HT, and the risk of pulmonary embolism also is increased. Venous thromboembolism is more likely to occur in the first year of therapy, and especially in women with risk of thrombosis.
- **Hypertension.** Hormone therapy modestly lowers blood pressure; however, in a few women it may induce or exacerbate hypertension. Routine blood pressure monitoring is appropriate.
- **Coronary heart disease (CHD).** Recent data suggest that HT may be associated with an increase in CHD in women. Within several years of the start of therapy, however, the risk of morbidity drops. Hormone therapy should not be initiated or continued for primary or secondary prevention of CHD.

Contraindications to estrogen therapy include the following:

- Undiagnosed abnormal genital bleeding
- Known or suspected estrogen-dependent neoplasia except in appropriately selected patients
• Active deep vein thrombosis, pulmonary embolism, or a history of these conditions
• Active or recent arterial thromboembolic disease (stroke, myocardial infarction)
• Liver dysfunction or liver disease
• Known or suspected pregnancy
• Hypersensitivity to estrogen therapy preparations

For breast cancer survivors, alternatives to HT should be considered in treatment of menopausal symptoms. The routine use of estrogen therapy or HT in women who have had breast cancer is not recommended. A history of endometrial cancer generally is considered to be a contraindication to HT. This opinion is based on the fact that adenocarcinoma is considered an estrogen-dependent neoplasm. Although this contraindication is widely accepted, there is a lack of scientific evidence to support the theory that estrogen therapy is potentially dangerous for endometrial cancer patients who have had a hysterectomy.

After a thorough discussion regarding the risks and benefits of HT, the patient should undergo a medical evaluation before the initiation of treatment. At least three treatment regimens are used for the administration of HT:

1. **Cyclic.** Estrogen is given for 25 days or more, with the addition of a cyclic progestin.

2. **Combined.** Estrogen and a low dose of progestin are given daily or through the levonorgestrel intrauterine system.

3. **Estrogen only.** Estrogen is given for 25 days per month or more.

Endometrial sampling is not necessary before instituting therapy in asymptomatic patients. It should be performed annually, however, in women who are taking estrogen without progestin. An endometrial biopsy also should be performed if a patient bleeds at unpredictable times. Ultrasonographic visualization of the endometrium can be reassuring, but is not diagnostic (see “Neoplasms” later in Part 3).

Alternatives to HT are available for the treatment of women with menopausal symptoms. Selective serotonin reuptake inhibitors (SSRIs) and the anticonvulsant gabapentin may decrease vasomotor symptoms. Many women find some symptom relief from botanicals. For example, soy protein
may reduce vasomotor symptoms and vaginal dryness and may protect against CHD and osteoporosis. Black cohosh also may decrease vasomotor symptoms. St. John’s wort may be helpful in the short-term (less than 2 years) treatment of women with mild to moderate depression. Physicians should counsel patients about potentially dangerous drug–herb interactions.

Compounded bioidentical hormones are plant-derived hormones that are prepared by a pharmacist and can be custom made for a patient according to a physician's specifications. Most compounded products have not undergone rigorous clinical testing for safety or efficacy, and issues regarding purity, potency, and quality are a concern. Compounded hormone products have the same safety issues as those associated with HT agents approved by the FDA and may have additional risks intrinsic to compounding.

Resources

**Patient Resources**


**ACOG Professional Resources**


Other Resources


Special Populations

Pediatric Gynecology

Pediatric gynecology includes the care of prepubertal and peripubertal girls. A small percentage of this group will come to the attention of the obstetrician–gynecologist. The most common presenting problem is vulvovaginitis. Other problems include labial adhesions, prepubertal bleeding (usually not caused by precocious puberty), sexual abuse, and congenital anomalies.

The Pediatric Gynecologic Examination

Pediatric gynecologic examinations should be conducted with patience and sensitivity. The examination in prepubertal children is approached differently from that in reproductive-aged women, but it still may include examination of the vagina and internal genital organs. A speculum exami-
nation is not indicated during the office examination of a prepubertal child. Forcible restraint never is indicated, and sedation rarely is necessary.

The clinician should be familiar with state statutes regarding the need for consent by a parent or guardian for a pediatric gynecologic examination. All states require that findings in minors of signs of physical or sexual abuse be reported to state authorities.

A child can be positioned in a froglike or lithotomy position, depending on her age. Lateral and downward pressure on the labia with the examiner’s fingers will allow visualization of the external genitalia, including the hymeneal tissue. The vagina can be examined by placing the child in a knee–chest position (see Fig. 3–4). In this position, the vagina fills with air and generally can be visualized with an otoscope, which acts as a magnifying lens and light source but is not inserted into the vagina. Visualization is enhanced by lateral and superior retraction of the labia majora.

A gentle digital rectal examination can be performed, if necessary given the patient’s symptoms. It allows for assessment of the cervix, uterus, solid foreign bodies, or other masses. Cultures of the vagina can be accomplished by using small cotton-tipped swabs moistened with nonbacteriostatic saline or by using lavage systems.

Fig. 3–4. Examination of the prepubertal child in the knee–chest position. (Emans SJ, Laufer MR, Goldstein DP, editors. Pediatric and adolescent gynecology. 5th ed. Philadelphia [PA]: Lippincott Williams & Wilkins; 2005. p. 13.)
Vulvovaginitis
The most common pediatric gynecologic problem an obstetrician–gynecologist is likely to encounter is vulvovaginitis, an inflammatory process involving the vulva and vagina. Symptoms involve the vulva more than the vagina—the opposite of what is typically seen in reproductive-aged females. Girls may present with a variety of symptoms, including irritation, discomfort, pruritus, dysuria, and discharge.

Vulvovaginitis can be divided into two groups based on etiology: 1) nonspecific vulvovaginitis and 2) specific infectious vulvovaginitis. Most cases are nonspecific. Yeast is not a common cause of vulvovaginitis in this age group, because the prepubertal nonglycogenated vagina is alkaline and generally does not support fungal growth.

Nonspecific vulvovaginitis is common in prepubertal children and has been attributed to the proximity of the anus and vulva, poor hygiene, and the hypoestrogenic state. Chemical irritants such as soaps also may play a role. The vulva and vagina become irritated, and normal rectal flora contribute to inflammation. Streptococci, *Haemophilus influenzae*, pinworms, *Neisseria gonorrhoeae*, Shigella, and *Chlamydia trachomatis* have been associated with this type of vulvovaginitis.

Nonspecific vulvovaginitis is a diagnosis of exclusion after pathogens have been excluded as a cause. In a child with no history of vulvovaginitis, no purulent discharge, and no historical findings suggestive of abuse, the obstetrician–gynecologist may opt to treat the patient for nonspecific vulvovaginitis, avoiding the cost of cultures. However, many pediatric patients with symptoms of vulvovaginitis who visit gynecologists have had a previous evaluation and failed treatment, and they deserve a thorough evaluation with cultures and testing, as well as consideration of the presence of a foreign body.

Treatment is primarily aimed at improving perineal hygiene, such as careful wiping from front to back after bowel movements. Using sitz baths and avoiding chemical or traumatic irritation are also important. Regular bathing, as opposed to taking showers, is beneficial to perineal hygiene in prepubescent girls.

Labial Adhesions and Labial Agglutination
Labial adhesions result from the denudation of the labia minora, typically as a result of vulvovaginitis; the labia then fuse together. On examina-
tion, the line of agglutination can be visualized between the two labia minora. If the condition produces symptoms, the usual treatment is estrogen cream applied twice daily over the line of agglutination for several weeks. Labial adhesions should not be separated manually in the office without anesthesia, as it can be very painful and may preclude subsequent examinations because of fear of pain.

**Prepubertal Bleeding**
Most cases of prepubertal genital bleeding are not associated with precocious puberty but instead have nonendocrine causes. In children with bleeding and lack of breast development, the differential diagnosis includes vulvovaginitis, foreign objects, urethral prolapse, lichen sclerosis, friable genital warts, *Shigella* vaginitis, genital tumors, and genital trauma (including sexual abuse).

**Sexual Abuse**
Approximately one in five girls are victims of some type of sexual abuse during childhood. Most perpetrators are males known and trusted by the family (eg, fathers, male relatives, friends of the family, and babysitters). Abductions and abuse by strangers are rare.

Urgent evaluation is required for collection of forensic evidence if the reported abuse has occurred within 72 hours. It is critical to pursue vigorously the collection of clothing and linens. In one study of children evaluated for sexual abuse in the emergency department, most (64%) of the forensic evidence was obtained from linen and clothing, and almost all of the forensic evidence collected 24 hours or more after the assault was obtained from clothing and linens. If the abuse occurred more than 72 hours earlier and the child is currently not in danger and free from injuries, she can be evaluated on a nonemergent basis.

The obstetrician–gynecologist should be aware of resources in the community for the evaluation of sexual abuse. Often, departments of children’s services or local pediatric hospitals can help refer the child and her family to professionals with experience in interviewing and examining children suspected to be victims of sexual abuse.

Every state requires suspected and known sexual abuse to be reported. In situations where the gynecologist is unsure if a report should be filed, local child protective service personnel can be helpful. A goal is to
avoid filing vague, unnecessary reports that overburden the system but to file borderline reports when any child's safety is unclear. Many signs and symptoms consistent with abuse, such as nightmares or prepubertal bleeding, also have other causes. The state statutes do not imply that every observation of these signs and symptoms in a child requires a report of possible sexual abuse. The American Academy of Pediatrics has developed guidelines on appropriate filing (see Resources). Liability issues related to false reporting have not been problematic and should never impede filing.

Most children who have been sexually abused will have normal findings on examination. Findings that suggest abuse include lacerations of the vulva, posterior fourchette, or anus and transection of the hymen. However, hymen diameters are not a reliable marker of abuse. Prepubertal bleeding may be seen but usually is not present in abused children.

Approximately 5% of abused children will acquire an STD; the clinician must decide if culturing for STDs is appropriate by evaluating the individual situation and taking into account community standards. Children with gonorrhea or chlamydial infection generally have vaginal discharge. Both gonorrhea and chlamydial infection cause vaginitis (not cervicitis) in children, so if a culture is performed, it should be taken from the vagina rather than the endocervix. If testing is done, the CDC recommends culture instead of indirect or DNA testing; the latter tests may not be as accurate or admissible in courts because they are not labeled for use in children.

Psychologic support and therapy with a qualified mental health professional are often critical.

Resources


Adolescents

Adolescent Development

Adolescence is a time of psychosocial, cognitive, and physical development as young people make the transition from childhood to adulthood. Physical and cognitive development usually occur on different timetables and are rarely synchronous. Therefore, the obstetrician–gynecologist may encounter adolescents who have matured physically but not cognitively.

For example, a 13-year-old is unlikely to understand the risks involved in sexual activity. Most young adolescents (12–14-year-olds) should be expected to be concrete thinkers with poor or inconsistent abstract reasoning or problem-solving skills. Generally, but not always, older adolescents (18–21-year-olds) have acquired problem-solving abilities and have relatively consistent abstract reasoning. Middle-aged adolescents (15–17-year-olds) often assume they are invulnerable. They may assume, for example, that the risks of sexuality apply to their friends but not to themselves.

The primary health risks for adolescents are behavioral, such as a sedentary lifestyle, poor diet, smoking, alcohol and drug use, driving under the influence of drugs or alcohol, early initiation of sexual activity, and poor use of contraception and STD protection. Evidence indicates that knowledge-based education is not as successful in altering these behaviors as skill-based, communication-based, or activity-related strategies. For example, the gynecologist faced with a 15-year-old with an STD may have more success in preventing future infection by 1) role-playing teen-to-teen communication strategies or discussing avoidance strategies (such as avoiding parties serving alcohol), or 2) discussing how to acquire and use condoms if the patient plans on continuing to be sexually active. The same amount of visit time spent discussing only the hazards of sexual activity (eg, potential for pregnancy and STDs) is likely to be less effective. Health care professionals should provide the best possible care to respond to the needs of their adolescent patients. This care, at a minimum, should include comprehensive reproductive health services, such as sexuality education, counseling, mental health assessment, diagnosis and treatment regarding pubertal development, access to contraceptives and abortion, pregnancy-related care, prenatal and delivery care, and the diagnosis and treatment of STDs. Every effort should be made to include male partners in such services and counseling. If the patient is sexually active, appropriate screening should be performed (see “The Physical Examination and Screening” later in this section).
An adolescent's initial visit for reproductive health guidance, screening, and provision of preventive services should take place between the ages of 13 years and 15 years. The exact timing and scope of the initial visit will depend on the individual girl and her physical and emotional development. Gynecologic problems may necessitate a visit at an earlier age. The initial visit at ages 13–15 years primarily establishes rapport between the obstetrician–gynecologist and the young woman; it generally does not include an internal pelvic examination. A pelvic examination should be performed when indicated by the medical history (eg, pubertal aberrancy, abnormal bleeding, or pelvic pain). The timing of subsequent visits should be based on need but should include an annual visit for health guidance and assessment.

Because the primary health risks to adolescents are behavioral, screening for behavioral risk factors is critical. It is important to screen for eating disorders and other weight issues, blood pressure problems, and mental health disturbances such as anxiety, depression, and physical, sexual, and emotional abuse, to review immunization status, and to provide appropriate vaccinations. Many practices use written screening questionnaires. It may be helpful to use a questionnaire developed specifically for adolescents. The American College of Obstetricians and Gynecologists has developed one such screening questionnaire (see Appendix L).

Ideally, the adolescent preventive visit also involves a parent or guardian. Parents can be counseled on normal adolescent development issues and strategies to deal with adolescent behavioral health risks. The American College of Obstetricians and Gynecologists and the AMA’s Guidelines for Adolescent Preventive Services recommend parental counseling sessions three times during the adolescent years as part of preventive care.

Confidentiality in Adolescent Health Care
A confidential relationship can facilitate the open disclosure of health histories and risky behaviors that require medical intervention and might otherwise be hidden. Concerns about confidentiality are a major obstacle to the delivery of health care to adolescents. Adolescents are more likely to develop trusting relationships with their health care practitioners when the issue of confidentiality has been addressed satisfactorily. Table 3–8 describes the logistics of an adolescent office visit that supports confidentiality.

Physicians should address confidentiality issues with the adolescent and the parents or guardians. The clinician should encourage parental involve-
ment in the adolescent’s health and health care decisions and, when appropriate, facilitate communication between the two parties. Physicians should reassure parents that they will encourage the adolescent to include her parents in important health decisions. The National Longitudinal Study for Adolescent Health confirmed that parental involvement is important in the development of a healthy adolescent.

Confidentiality sometimes is interpreted to be a type of secrecy. This philosophy is counterproductive. Parents and physicians share a common goal—the health and well-being of the adolescent. The philosophy should be one of collaboration to maximize the likelihood of raising a healthy adolescent.

Common risk-taking behaviors and problems that adolescents may not share with their parents include eating disorders, tobacco use, substance use, sexuality, and date rape. Many parents of sexually active adolescents are aware of the fact that, or strongly suspect that, their child is sexually active. In some cases and with the adolescent’s permission, the clinician can facilitate the adolescent’s discussing this activity with her parent(s) or guardian(s). However, some sexually active adolescents would avoid a

Table 3–8. An Adolescent Office Visit That Supports Confidentiality

<table>
<thead>
<tr>
<th>In Consultation With</th>
<th>The Physician Should</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient and parent(s) or guardian(s)</td>
<td>Outline structure of visit</td>
</tr>
<tr>
<td>Patient</td>
<td>Obtain general medical and family history</td>
</tr>
<tr>
<td>Patient</td>
<td>Discuss confidentiality</td>
</tr>
<tr>
<td>Patient</td>
<td>Obtain health history, including risk-taking behaviors</td>
</tr>
<tr>
<td>Patient</td>
<td>Address patient concerns</td>
</tr>
<tr>
<td>Parent</td>
<td>Provide health guidance</td>
</tr>
<tr>
<td>Parent</td>
<td>Address billing issues</td>
</tr>
<tr>
<td>Parent</td>
<td>Address parental concerns</td>
</tr>
<tr>
<td>Parent</td>
<td>Provide guidance about adolescent development</td>
</tr>
<tr>
<td>Patient*</td>
<td>Perform physical examination, as indicated</td>
</tr>
<tr>
<td>Patient</td>
<td>Summarize findings and recommendations</td>
</tr>
<tr>
<td>Patient</td>
<td>Determine parental involvement</td>
</tr>
<tr>
<td>Patient</td>
<td>Determine method of notification of laboratory results</td>
</tr>
<tr>
<td>Patient and parent(s) or guardian(s)</td>
<td>Summarize findings and recommendations, as appropriate</td>
</tr>
<tr>
<td>Patient and parent(s) or guardian(s)</td>
<td>Address billing issues</td>
</tr>
</tbody>
</table>

*Parent may be present, at patient’s discretion.

reproductive health visit or not disclose sexual activity if the clinician did not clarify that this information was confidential.

Because the involvement of a concerned adult can contribute to the health of an adolescent, policies in health care settings should encourage and facilitate communication between a minor and her parent or parents, when appropriate. However, concerns about confidentiality, as well as economic considerations, can be significant barriers to reproductive health care for some adolescents. The potential health risks to adolescents if they are unable to obtain reproductive health services are so compelling that legal barriers and deference to parental involvement should not stand in the way of needed health care for patients who request confidentiality. Therefore, laws and regulations that are unduly restrictive of adolescents’ confidential access to reproductive health care should be revised.

Institutional procedures that safeguard the rights of adolescent patients, including confidentiality during initial and subsequent visits and in billing, should be established. Billing mechanisms for services and procedures for insurance and other third-party reimbursement should ensure adolescent confidentiality. When these mechanisms and procedures compromise a patient’s request for confidentiality, policies should be implemented allowing 1) payment alternatives such as reduced fees, sliding scales, and timed installment payments; 2) patient referral to a practice or agency where subsidized care is offered; or 3) both.

Physicians should be familiar with state and local statutes regarding the rights of minors to health care services and the federal and state laws that affect confidentiality. A listing of state laws that is updated monthly is available (www.guttmacher.org/statecenter/spibs); state medical societies also may be able to provide useful resources (www.ama-assn.org/ama/pub/category/7630.html).

The Physical Examination and Screening
Appropriate physical examination, laboratory testing, and immunizations are outlined in the periodic assessment for 13–18-year-olds in Box 3–2. Tanner staging of breast and pubic hair development should be included in the recommended physical examination. A laminated card of Tanner staging is included in the ACOG Tool Kit for Teen Care (see Resources). Evaluation of the menstrual cycle should be included with an assessment of other vital signs. Clinicians should ask at every visit for the first date of the patient’s last menstrual period.
All adolescents should be screened annually for hypertension. Hypertension in adolescence is diagnosed after three consecutive blood pressure readings are above the 95th percentile on three separate occasions. Steps for assessing classification of blood pressure are available in the ACOG publication *Health Care for Adolescents* (see Resources) and online for ACOG Fellows at www.acog.org/publications/adolescents/adol02.cfm. Body size directly affects normal blood pressure, so a blood pressure interpreted as normal in a mature reproductive female may represent hypertension in a young adolescent.

Nonfasting cholesterol measurements are recommended in adolescents whose parents have a serum cholesterol level greater than 240 mg/dL on at least one occasion. If the adolescent’s total cholesterol level is greater than 200 mg/dL, a fasting measurement of high-density lipoprotein (HDL) and low-density lipoprotein (LDL) also should be obtained. In addition, adolescents with several cardiovascular risk factors, such as smoking, hypertension, obesity, diabetes mellitus, polycystic ovary syndrome (PCOS), congenital heart disease, or excessive consumption of dietary saturated fats and cholesterol, or adolescents with an unknown family history, may undergo cholesterol screening (total nonfasting serum cholesterol level measurement) at least once at the physician’s discretion.

All adolescents should be screened annually for eating disorders and obesity by determining weight and stature, calculating a BMI for age, and asking about body image and eating patterns (see Resources). The CDC defines an adolescent as overweight if she has a BMI in or above the 95th percentile for age. A calculator that determines adolescent BMI for age percentile is available at www.acog.org/goto/teens.

Adolescents with a BMI in or above the 95th percentile for age should have an in-depth dietary and health assessment to determine psychosocial morbidity and the risk of future cardiovascular disease (CVD). Early referral to a nutrition program skilled in caring for adolescents may be warranted.

It is important to note that weight loss is recommended only for adolescents in certain circumstances. Older overweight adolescents who have completed linear growth or those with comorbidities, for example, may require weight loss. More often, the goal is to slow the rate of weight gain while achieving normal growth and development.

Substantial weight loss or preoccupation with dieting should alert the obstetrician–gynecologist to the possibility of an eating disorder. Additionally, results of vital sign testing may help to confirm the presence of
eating disorders and identify patients who need emergency hospitalization (see “Eating Disorders” later in Part 3).

Routine screening for chlamydial and gonorrheal infection is recommended for all sexually active adolescents. Urine screening should be considered when adolescents are reluctant to have pelvic examinations or are seen where pelvic examinations are not feasible.

The FDA recently licensed the first vaccine shown to be effective at preventing infection with some genotypes of HPV. The ACOG Committee on Adolescent Health Care and the ACOG Working Group on Immunization recommend the vaccination of females aged 9–26 years against HPV. Current cervical cytologic screening recommendations remain unchanged and should be followed regardless of vaccination status (see also “STDs” and “Immunizations” in Part 3).

Cervical cytologic screening should begin approximately 3 years after the onset of vaginal intercourse or no later than age 21 years. The decision about the initiation of cervical cytologic screening in an adolescent patient should be based on the clinician’s assessment of risks, including 1) age of first sexual intercourse, 2) behaviors that may place the adolescent patient at greater risk for HPV infection, and 3) risk of noncompliance with follow-up visits. The sexual history should include questions about all types of sexual behavior, including history of sexual abuse, which has been linked to HPV infection.

The management of adolescents with abnormal cervical cytologic findings differs from that for the adult population in many cases. It is important to avoid aggressive treatment of adolescents with benign lesions, because most CIN grades 1 and 2 regress. Surgical excision or destruction of cervical tissue in a nulliparous adolescent may be detrimental to future fertility and cervical competency. Care should be given to minimize destruction of normal cervical tissue whenever possible. A compliant, health-conscious adolescent may be served adequately with observation in many situations. Recommendations for care of the adolescent population that may differ from the recommendations for adults are summarized in Table 3–9. The following recommendations are unique to the adolescent population and address the clinical situations that can be managed by cytologic follow-up, HPV testing, colposcopy, or a combination of these approaches.

Atypical squamous cells of undetermined significance (ASC-US) is a cytologic abnormality that in many cases identifies a woman harboring HPV infection. The risk of invasive cancer in adolescents approaches zero,
and the likelihood of HPV clearance is very high. The preferred method of triage for patients with ASC-US who have undergone liquid-based cytologic screening is testing for high-risk HPV and, for patients with a positive test result, triage to colposcopy. Adolescents with atypical squamous cells and high-risk HPV-positive results may be monitored with cytologic

### Table 3–9. Summary of Treatment Recommendations for Cytologic and Histologic Abnormalities in Adolescent and Adult Patients

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>ACOG Recommendations for Adults</th>
<th>ACOG Alternative Recommendations for Adolescents</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASC-US with positive high-risk HPV test</td>
<td>Immediate colposcopy</td>
<td>Repeat Pap test in 6 and 12 months or high-risk HPV test alone in 12 months</td>
</tr>
<tr>
<td>ASC-US with negative high-risk HPV test</td>
<td>Repeat Pap test in 12 months</td>
<td>Repeat Pap test in 12 months</td>
</tr>
<tr>
<td>ASC-H</td>
<td>Colposcopy</td>
<td>Colposcopy</td>
</tr>
<tr>
<td>LSIL</td>
<td>Colposcopy</td>
<td>Repeat Pap test in 6 and 12 months or high-risk HPV test alone in 12 months</td>
</tr>
<tr>
<td>HSIL</td>
<td>Colposcopy</td>
<td>Colposcopy</td>
</tr>
<tr>
<td>AGC</td>
<td>Colposcopy, endocervical assessment, possible endometrial evaluation</td>
<td>Colposcopy, endocervical assessment, possible endometrial evaluation</td>
</tr>
<tr>
<td>Cancer</td>
<td>Colposcopy with endocervical assessment</td>
<td>Colposcopy with endocervical assessment</td>
</tr>
<tr>
<td>CIN 1</td>
<td>Pap test at 6 and 12 months or high-risk HPV test at 12 months, colposcopy for any abnormality</td>
<td>Pap test at 6 and 12 months or high-risk HPV test at 12 months, colposcopy for any abnormality</td>
</tr>
<tr>
<td>CIN 2</td>
<td>Ablative or excision therapy</td>
<td>Close follow-up at 4–6-month intervals (cytology or colposcopy)*</td>
</tr>
<tr>
<td>CIN 3</td>
<td>Ablative or excision therapy</td>
<td>Ablative or excision therapy</td>
</tr>
</tbody>
</table>

ACOG indicates American College of Obstetricians and Gynecologists; AGC, atypical glandular cells; ASC-H, atypical squamous cells: cannot rule out high-grade squamous intraepithelial lesions; ASC-US, atypical squamous cells of undetermined significance; CIN, cervical intraepithelial neoplasia; HPV, human papillomavirus; HSIL, high-grade squamous intraepithelial lesions; LSIL, low-grade squamous intraepithelial lesions.

*Close follow-up without therapy is not appropriate for patients with a history of proven noncompliance.

evaluation twice at 6-month intervals or a single high-risk HPV test at 12 months. If repeat cytologic test results are abnormal or there is evidence of persistent HPV infection, colposcopy should be performed. These alternatives are equally sensitive for the detection of CIN 2, CIN 3, or cervical cancer; avoid the expense of colposcopy and biopsy; and allow an opportunity for the clearance of CIN and HPV. Immediate colposcopy is an acceptable alternative for management of the adolescent with an ASC-US result who tests positive for HPV. Adolescents with ASC-US who have an HPV test result negative for high-risk HPV DNA should have a cervical cytologic test in 12 months.

Adolescents with a low-grade squamous intraepithelial lesions test finding can be monitored by repeat cytologic evaluation at 6-month intervals or by a high-risk HPV test in 12 months.

Minors undergoing a colposcopic examination might find it helpful to have parental involvement for the procedure. However, colposcopic examinations are considered evaluation for STDs, and minors generally are allowed to consent for diagnosis of STDs. For that reason, parental consent, although preferred, should not be required. If parental consent is not obtained, consent for the examination should be obtained from the minor and indicated in the medical record.

The issues regarding parental consent for biopsy or therapy for cervical dysplasia are more complicated. The need for consent depends on whether the biopsy or therapy is considered part of STD evaluation and treatment and on the specifics of state law. Even if the minor legally can consent, the law may not ensure confidentiality. Some states allow minors to consent for STD care but give the health care practitioner discretion to disclose information to parents, particularly if it is necessary to protect the minor's health.

Counseling
Counseling and guidance should be directed at the risk behaviors and issues identified by the history, screening questionnaire, and physical examination.

Calcium Intake. Most bone mass is achieved between ages 12 years and 20 years. The Institute of Medicine has determined that the adequate calcium intake in adolescents aged 9–18 years is 1,300 mg/d. The average calcium intake in adolescent girls is less than 900 mg/d. The preferred approach to meeting these recommendations is through dietary sources. Other approaches include supplements and calcium-fortified foods.
Smoking. Approximately one quarter of high school seniors currently use tobacco. Females are as likely as males to be smokers. All adolescents should be asked annually about their use of tobacco products. A cessation plan should be provided for adolescents who smoke or use any tobacco products. Because of some adolescents’ preoccupation with body image, all adolescents should be counseled on the effects of smoking and other tobacco products on their hair, skin, and breath. Appropriate pharmacologic therapy should be considered when there is strong evidence of nicotine dependence and a clear desire to quit tobacco use. Parents who smoke should be encouraged to stop for their own health benefit and their children’s.

Alcohol and Substance Abuse. Substance and alcohol use are major factors in injuries and deaths in adolescents. They contribute to accidents, homicide, and suicide, which represent the first, third, and fourth leading causes of death in this age group. In addition, adolescents using alcohol and substances are more likely to make poor decisions regarding sexuality or to be involved in date rape situations.

Screening is critical. Adolescents whose substance use endangers their health should receive substance abuse counseling and treatment. Urine screening for drug use without prior informed consent is not recommended and is illegal in many states. The American Academy of Pediatrics recommends that parents receive information on how to monitor and prevent alcohol consumption in adolescents. If parents consume alcohol themselves, they should be encouraged to do so in moderation and to restrict their children from consuming their supplies.

Body Piercing and Tattoos. Body piercing and tattoos are relatively common. Body piercing may involve the eyebrow, nipple, nasal septum, tongue, lips, navel, labia, and clitoral hood. Health risks include accidental ingestion of tongue jewelry, which could result in gastrointestinal perforation; nipple piercing leading to mastitis; and transmission of bloodborne pathogens, including HBV and possibly hepatitis C virus (HCV) and HIV. The presence of genital jewelry may increase condom breakage. Lower back tattoos may impede regional anesthesia. Tattoos and piercings in adolescents may serve as markers for other high-risk behaviors, including violence, substance abuse, and unprotected sexual activity.

Given the increasing popularity of piercings, clinicians should screen adolescents routinely for intent to undergo this procedure. Preventive counseling and relevant immunizations should be offered to adolescents interested in piercings.
**Depression and Suicide.** Depression and suicide are common in adolescents; suicide is the fourth leading cause of death in this age group. Risk factors for suicide are listed in Box 3–12. If an adolescent has any of these risk factors, the follow-up questions noted in Box 3–13 are appropriate. Adolescents who are suicidal require emergency referral to a mental health care professional. Parents should be counseled that children and adolescents should not have access to weapons or firearms.

Nonsuicidal adolescents with severe or recurrent depression should be referred to a mental health professional for therapy. Depression in adolescents is serious in terms of both morbidity and mortality. It never should be assumed to be part of normal adolescent moodiness.

**Accidents.** Parents and adolescents should be counseled on the prevention of motor vehicle accidents and related injuries, including use of seat belts and avoiding riding with a driver who is under the influence of drugs or alcohol.

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**Box 3–12. Risk Factors for Suicide or Suicide Attempts**

- Presence of mental disorder
- Family history of psychiatric disorder
- Substance abuse
- Previous suicide attempt
- Certain physical disorders that cause functional impairment
- History of sexual or physical abuse
- Easy access to lethal weapons
- Living in nontraditional setting
- Being gay, lesbian, or bisexual
- Stressful life events
- Being a parent or pregnant (especially those with a history of abuse and those under stress)
- Divorce
- Exposure to a recent suicide or suicide attempt in a family, community, or friends, or through media coverage

alcohol. A form developed by Students Against Destructive Decisions formalizes an agreement on how adolescents would deal with difficult situations and fosters a discussion with parents on this subject. This form is available through the organization’s web site at www.sadd.org/contract.htm.

Violence. Approximately one third of adolescent murder victims are female, and of them, one third are killed with a firearm. Nearly half of all violent juvenile rapes, robberies, and assaults occur between noon and 6 PM. Violence perpetrated by girls is increasing. Excessive exposure to the media can cause increased violent behavior and callousness toward violence. Some advocates advise that parents and families reduce the risk by using violence rating systems for television and games and limiting access to media violence. Limiting firearm access and closely supervising adolescents are critical, and encouraging involvement in family activities, clubs, sports, and school also is recommended.

Lesbian Adolescents. Children as young as 10 years can recognize their sexual orientation as attraction to a particular sex. By high school, approximately 10% of Minnesota youth responding to a statewide health questionnaire said they were unsure about their orientation, with 4.5% reporting

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**Box 3–13. Sample Follow-up Questions to Assess Suicidal Risk of Adolescents With Risk Factors for Suicide**

Questions should be asked in a nonjudgmental, direct, and nonthreatening manner:

"Sometimes patients I’ve seen dealing with similar issues or problems get very down and start to question life itself. Does this happen to you?"

If the answer is positive, it should be followed up with questions such as the following:

1. "Have you ever thought about suicide?"
2. "Are you thinking about suicide now?"
3. "Do you have a plan for committing suicide?" If yes, "What is your plan for committing suicide?"
4. "Have you ever attempted suicide?"

A positive response indicates the need for further questioning and an assessment of risk factors that could increase the suicide potential, such as easy access to a lethal weapon.

lesbian attraction and 1% reporting lesbian behavior. Lesbian adolescents must navigate the same developmental tasks as heterosexual peers. These tasks include accepting their sexual identity and deciding about sexual behaviors.

Clinicians should word questions regarding sexuality carefully to include same-sex relationships. Referring to a partner rather than a boyfriend is one strategy. The screening questionnaire may include queries on sexual orientation (see Appendix L). Clinicians should be aware that the suicide risk is twofold to sixfold greater in gay and lesbian youth, and these adolescents account for almost one third of all completed adolescent suicides. Youth who self-identify as lesbian or gay during high school are also at higher risk for victimization and substance abuse at an earlier age. In addition, they are more likely to engage in sexual risk behaviors than their heterosexual peers. Screening for STDs is therefore important (see also “Lesbians and Bisexual Women” later in Part 3).

Sexual Assault and Abuse

Sexual assaults are widespread in the adolescent population (see also “Abuse” later in Part 3). In the National Survey of Family Growth, 16% of women whose age at first coitus was younger than 16 years reported that their first coitus was not voluntary. Approximately one eighth of all high school students have reported rape. On college campuses, 80% of rapes occur by someone known by the victim, and half occur on a date. Alcohol and substance use increases vulnerability to sexual assault. Some date rape drugs are now colored, and adolescents should avoid consuming drinks that have turned blue. Laws requiring the reporting of child abuse, including sexual abuse, exist in every state. The American College of Obstetricians and Gynecologists, along with the American Academy of Family Physicians, the American Academy of Pediatrics, and the Society for Adolescent Medicine, supports the following guidance:

- Sexual activity and sexual abuse are not synonymous. It should not be assumed that adolescents who are sexually active are, by definition, being abused. Many adolescents have consensual sexual relationships.

- It is critical that adolescents who are sexually active receive appropriate confidential health care and counseling.

- Open and confidential communication between the health professional and the adolescent patient, together with careful clinical assessment, can identify most sexual abuse cases.
• Physicians and other health professionals must know their state laws and report cases of sexual abuse to the proper authority, in accordance with those laws, after discussion with the adolescent and parent, as appropriate.

It is critical to empower adolescents with preventive strategies to avoid future violence. Many adolescents have not developed the skills to recognize and avoid potentially dangerous dating or social situations. Some adolescents have distorted perceptions of violence and fail to recognize a partner’s behavior as violent.

Sexuality: Risk of Pregnancy and Disease
According to the 2005 Youth Risk Behavioral Survey, 46% of high school females and 62% of female high school seniors have had sexual intercourse. Data show that the likelihood of having had sexual intercourse increases steadily with age.

Sexual initiation does not vary much by family income. However, higher-income girls are more likely than their low-income counterparts to use contraception at first coitus. In addition, higher-income girls are more likely to abort their pregnancy than low-income adolescents. The combination of these factors results in fewer pregnant adolescents in affluent schools compared with schools in lower socioeconomic areas, sometimes giving the erroneous impression that coital activity is significantly less common in adolescents from higher socioeconomic backgrounds.

Each year in the United States, an estimated 800,000–900,000 adolescents become pregnant. Approximately half of these pregnancies end in a live birth, one third end by abortion, and the remainder end by miscarriage or stillbirth. Few adolescents choose to place their children for adoption; most choose to parent their babies, a decision that has lifelong consequences. Although U.S. adolescent pregnancy rates have declined from a previous high of more than 1 million per year, rates still are the highest of any developed nation.

The decline in adolescent pregnancy can be attributed to slight declines in sexual activity and increased use of contraception. The percentage of high school students who reported sexual intercourse was 54% in 1991, 49.9% in 1997, and 46.8% in 2005. Condom use at last coitus increased from approximately 46% in 1991 to 58% in 1999 and 63% in 2005 in sexually active adolescents. The percentage of high school students who have
had sexual intercourse with four or more partners during their lifetime also decreased from 18.7% in 1991 to 16.2% in 1999 and 14.3% in 2005.

Almost half of the approximately 19 million cases of STDs are in persons aged 15–24 years. The CDC estimates that more than 1 in 10 sexually active female adolescents have chlamydial infections. It also is estimated that at least half of all new HIV infections in the United States are among individuals younger than 25 years. Adolescent females are at greatest risk for STDs, because they frequently have unprotected intercourse, are biologically more susceptible to infection, frequently have several sexual partners, and face many obstacles to the use of health care.

**Unintended Pregnancy Options Counseling**

In the event of an unintended pregnancy, the adolescent, like any patient, should be counseled about her options: 1) continuing the pregnancy to term and raising the infant, 2) continuing the pregnancy to term and placing the infant for legal adoption, or 3) terminating the pregnancy. The discussion with the patient also should determine her wishes as to what counseling should be offered to her partner or what information given to her parents (if she is a dependent adolescent). Some states require parental notification or consent before a minor can obtain an abortion. In some states, pregnancy in individuals younger than a certain age is considered child abuse and must be reported. All health care professionals should be aware of their state laws in this regard. Rates of unintended pregnancy are higher for adolescents than for any other age group.

**Sex Education and Prevention of Adolescent Pregnancy**

The American College of Obstetricians and Gynecologists strongly encourages parents to be involved actively in educating their children about sexuality and employing strategies that reduce the likelihood of adolescent pregnancy. Providing supervision and encouraging family and community activities are excellent strategies.

The American College of Obstetricians and Gynecologists supports the inclusion of comprehensive, medically accurate, age-appropriate sexuality education from kindergarten through 12th grade as an integral part of health education in schools and communities. Sexuality education should encourage young people to delay becoming sexually active and, if sexually active, to use contraception and barrier protection to prevent unintended pregnancy
and STDs. These twin goals are essential in all sexuality education programs. The American College of Obstetricians and Gynecologists encourages its members to advocate for, and participate in, sexuality education.

Over the past 15 years, sexuality education in the United States increasingly has emphasized sexual abstinence and restricted information about contraception and risk reduction. Federal support for abstinence-only education, along with other factors, has contributed to a growing emphasis on limiting sexuality education so as to exclude accurate instruction about contraception, abortion, and sexual orientation. Surveys of teachers in 1989 and 1999 and of students in 1995 and 2002 provide evidence of the increasing restriction of contraceptive education. Abstinence-only education has been criticized for withholding information on contraception and other aspects of human sexuality and for providing information that is not medically accurate. Comprehensive sexuality educational curricula, by contrast, not only promote abstinence but also incorporate reproductive health information, including both the risks and benefits of various methods of contraception, STD prevention, and forms of sexual expression that provide alternatives to intercourse.

A 2006 review finds increasing evidence that comprehensive sexuality curricula can delay initiation of sexual intercourse, improve condom and contraceptive use, and reduce behaviors that lead to HIV infection and other STDs. The small number of well-conducted evaluations of abstinence-only programs as yet have failed to document a delay in sexual initiation.

The American College of Obstetricians and Gynecologists supports the efforts of communities to implement comprehensive sexuality education for adolescents that includes the following components:

- Parental involvement in their children’s sexuality education
- Abstinence from sexual intercourse as a healthy choice for adolescents, particularly young adolescents
- Efforts to increase effective use of contraceptives, including latex condoms, by sexually active adolescents
- Scientifically accurate information about sexuality, STDs, contraception, and preventive health care
- Ongoing rigorous evaluation of the effectiveness of a variety of forms of sexuality education in terms of their effect on sexual behavior, as well as unintended pregnancy and abortion rates
Sexuality education is an important component of efforts to decrease unintended pregnancy and STDs. In addition, increased availability of confidential reproductive health services, including family planning and abortion and services for the prevention, diagnosis, and treatment of STDs, is critical.

**Resources**

**ACOG Patient Resources**


**ACOG Professional Resources**


Other Resources


Female Genital Cutting

Female genital cutting, also known as female circumcision or female genital mutilation, is genital alteration performed on girls and young women for nontherapeutic reasons. Although opposition has increased, the practice is still widespread. According to the World Health Organization, more than 130 million women worldwide have undergone these procedures. Although practiced primarily in Africa, variations of female genital cutting have been found in the Middle East and Southeast Asia. In the United States, it is a federal crime to perform any medically unnecessary surgery on the genitalia of a girl younger than 18 years; however, women who have undergone the procedure may immigrate to this country. The African Women's Health Center at Brigham and Women's Hospital estimates that 228,000 women and girls in the United States have undergone or are at risk for female genital cutting.

Many different phrases have been used to describe female genital cutting. When talking with any woman who has undergone female genital cutting, it is important to determine how she refers to the procedure and adopt that terminology. The intent of this practice is circumcision, the cutting of genitals, based on cultural beliefs. The term mutilation emphasizes the degree of damage caused by this practice. It is important to recognize that most women who have undergone female genital cutting do not consider themselves to be mutilated and may be offended by such a suggestion.

There is no scientific basis for the practice of female genital cutting. Reasons given by families for the performance of female genital cutting include the following:

- **Psychosexual reasons**—attenuation of sexual desire in the female, insurance of chastity and virginity before marriage and fidelity within marriage, and increased male sexual pleasure

- **Sociologic and cultural reasons**—identification with the cultural heritage, initiation of girls into womanhood, social integration, and maintenance of social cohesion; removal of external genitals, which some cultures consider dirty and unsightly

- **Myths**—enhancement of fertility and promotion of child survival
• Religious reasons—mistaken belief that female genital cutting is required by the Islamic faith (the practice predates Islam and is practiced by Jews, Christians, Muslims, and followers of indigenous religions)

Many forms of female genital cutting are practiced, but the procedures performed most often have been classified by the World Health Organization on the basis of the extent of genital excision:

• Type I—excision of the prepuce, with or without excision of part or all of the clitoris

• Type II—excision of the clitoris with partial or total excision of the labia minora

• Type III—excision of part or all of the external genitalia and stitching or narrowing of the vaginal opening (infibulation)

• Type IV—pricking, piercing, or incising of the clitoris or labia; stretching of the clitoris, labia, or both; cauterization by burning of the clitoris and surrounding tissue; scraping of tissue surrounding the vaginal orifice (angurya cuts) or cutting of the vagina (gishiri cuts); introduction of corrosive substances or herbs into the vagina to cause bleeding or to tighten or narrow it; and any other manipulation of the external genitalia

The most common type of female genital cutting, which accounts for up to 80% of cases, involves the removal of the clitoris and partial or total excision of the labia minora. The most extreme form, infibulation, constitutes about 15% of all procedures.

Female genital cutting predominantly is performed on girls aged 8–12 years by medically untrained persons under high risk, unsterile conditions using crude instruments and no anesthetics. Immediate complications may include infection (including HIV), tetanus, shock, hemorrhage, oliguria, genital ulceration, injury to adjacent tissue, and death.

Long-term complications may include the following:

• Chronic infection of the genital or urinary tracts

• Menstrual abnormalities

• Keloids and other scarring abnormalities

• Vulvar abscesses

• Fistulae
• Sterility
• Urinary incontinence
• Depression, anxiety, and posttraumatic stress disorder
• Sexual dysfunction and dyspareunia
• Obstetric complications
  – Extensive lacerations
  – Hemorrhage
  – Fetal asphyxia
  – Prolonged labor
  – Sepsis

The American College of Obstetricians and Gynecologists joins many other organizations (the World Health Organization, United Nations International Children’s Emergency Fund, International Federation of Gynecology and Obstetrics, American Academy of Pediatrics, and the AMA) in opposing all forms of medically unnecessary surgical modification of the female genitalia. The American College of Obstetricians and Gynecologists further recommends that the issue be addressed by doing the following:

• Treating patients who have undergone female genital cutting with sensitivity and compassion
• Tailoring obstetric and gynecologic care to the special physical and psychosocial needs of these patients
• Promoting awareness among the public
• Promoting awareness among health care workers
• Developing methods for educating physicians regarding the gynecologic and obstetric care of women who have undergone this procedure

Any general health care practitioner should do the following:

• Know the demographics of the local patient population to determine if female genital cutting is a medical issue that is likely to arise.
• Communicate effectively with this patient population with awareness and sensitivity.
• Work with interpreters and social workers, as necessary, to address the special needs of immigrants and refugees within this patient population.
• Review with patients the basics of female anatomy and reproductive function.

• Provide health education about female genital cutting and its physical and psychosexual consequences.

• Review with the patient any special gynecologic issues, including menstrual, urinary, and sexual functions; family planning; and cancer screening.

• Offer alternatives to vaginal treatments or medications because the patient may not be comfortable with inserting, or able to insert, anything in the vagina.

• Understand techniques for performing a pelvic examination on a woman who has had female genital cutting, including alternative procedures, as necessary:
  – Small or narrow speculum
  – Single-digit bimanual examination
  – Rectal examination to assess pelvic organs
  – Ultrasonographic evaluation

Specialized care of the patient who has undergone female genital cutting may include the following:

• A physician with special interest in pelvic or vaginal reconstructive surgery or a clinician practicing in an area of high prevalence of female genital cutting

• Familiarity with the types of female genital cutting and ensuing complications of each type

• Understanding of surgical therapies available, including the following:
  – Excision of cysts
  – Revision of introital or urethral scarring
  – Defibulation (opening the area that has been surgically closed)
  – Repair of fistulae
  – Procedures for correcting vaginal stenosis

• Counseling the patient before and after surgical correction about the new appearance of her anatomy and the expected changes in her urinary, menstrual, and sexual function
• Eliciting the help of social workers and psychiatric professionals
• Communication with policy makers, community groups, and women's groups about this issue
• Awareness of the current research on female genital cutting and on the safest timing and techniques for repair and reconstruction

Resources


Lesbians and Bisexual Women

Lesbians and bisexual women are as diverse as the general population of all women. They are represented among all ages, racial and ethnic groups, and socioeconomic strata. Given this diversity, obstetrician–gynecologists will encounter lesbian and bisexual patients, although not all will disclose their sexual orientation. Practitioners have the responsibility to provide quality care to all women regardless of sexual orientation.

Finding accepting, supportive, and culturally competent health and mental health practitioners may be difficult for lesbians and bisexual women. For this reason, lesbians may forgo needed health care or may not disclose their sexual identity to health care professionals. To address more
fully the health care needs of lesbians, clinicians should educate themselves and examine their own biases, developing responses to disclosure that are positive, respectful, and therapeutic.

Providers of reproductive health care and family planning services should not assume that patients, even if pregnant, are heterosexual. Likewise, they should not assume that women who say they are lesbians or bisexual are not in need of routine gynecologic care, including family planning and STD services. Standard comprehensive obstetric and gynecologic care is recommended for lesbians and bisexual women.

Lesbians and bisexual women may experience barriers to health care, including the following:

- Confidentiality and disclosure concerns, especially in the adolescent population
- Lack of insurance coverage, because many are not able to participate in their partners’ employment benefits package, as would a married spouse
- Caregiver attitudes that cause them to hesitate in obtaining health care

Being a lesbian or bisexual woman does not inherently affect an individual’s health status. There are no known physiologic differences between lesbians and heterosexual women. However, the following health behaviors or risk factors may be more common among lesbians and bisexual women:

- Nulliparity or low parity
- Lower rates of oral contraceptive use
- Higher rates of alcohol and tobacco use
- Increased rates of obesity
- Less frequent health screening

The health behaviors and risk factors of lesbians and bisexual women should be considered when determining appropriate medical intervention because lesbians and bisexual women may be at increased risk for breast, endometrial, lung, and colorectal cancer; type 2 diabetes; and CVD.

Many practitioners incorrectly presume that lesbian patients do not require screening for cervical cancer because they are at low risk. However, most lesbians have been sexually active with men at some point in their
lives, and HPV transmission and cervical dysplasia may occur even with sexual contact exclusively among lesbians. The usual ACOG recommendations should be followed to determine the onset and interval for cervical cancer screening (see “The Women's Health Examination” earlier in Part 3).

Lesbians and bisexual women should be screened for STDs based on the same risk factors as other women (see “Sexually Transmitted Diseases” earlier in Part 3). Again, because most lesbians have been sexually active with men at some point in their lives and because some STDs can be transmitted by sexual activity exclusively among lesbians, it should not be assumed that STD screening is unnecessary. All patients, regardless of their sexual orientation, should be encouraged to practice safer sex. Safer sex practices for lesbians include using gloves and dental dams, using condoms on sex toys, avoiding sharing of sex toys, and avoiding contact with a partner's menstrual blood and any visible genital lesions.

Clinicians should be alert to the signs and symptoms of depression, substance abuse, and violence in all patients. Lesbians and bisexual women may be at greater risk for depressive disorders and drug or alcohol dependency. Just as with heterosexual couples, intimate partner and domestic violence among lesbians is correlated with abuse of alcohol and drugs. Violence and fear of violence because of sexual orientation can confer emotional sequelae, including depression, diminished self-esteem, and suicidal thoughts.

Adolescents who are lesbians face additional challenges in development as they learn to accept their sexual identity. They may find it difficult to ask for, or they may not get, understanding and acceptance from their parents, family, and friends. Lesbian youth are at greater risk for suicide, victimization, risky sexual behaviors, and substance abuse at an earlier age than their peers. Appropriate referrals for counseling and support groups for the young lesbian and her family should be considered.

More than 60% of lesbians are in long-term relationships. Lesbians and their partners would be well advised to contact an attorney to keep abreast of legal decisions in their state regarding health care powers of attorney for each other. Sexual orientation should not be a barrier to receiving fertility services to achieve a pregnancy. Lesbians should have equal access to co-parenting and second parent adoption rights. This view also is supported by the American Academy of Pediatrics and the AMA. Lesbians in same-sex-parent families should be encouraged to confer with an attorney because the laws on adoption vary by state and continue to evolve.
Obstetrician–gynecologists can make their practices more receptive to lesbian and bisexual patients in several ways:

- Education and appropriate training of office staff to ensure a welcoming and respectful environment
- Registration forms and questionnaires that give patients the opportunity to identify sexual relationships and behaviors (see Box 3–14 and Appendix J)
- Posted nondiscrimination policies, such as “This office appreciates the diversity of women and does not discriminate based on race, age, religion, disability, marital status, sexual orientation, or perceived gender.”
- Use of inclusive language such as partner or spouse until the patient’s circumstances are known
- Use of nonjudgmental methods for inquiring about sexual orientation and behavior:
  - “Are you single, partnered, married, widowed, or divorced?”
  - “Do you have a primary relationship?”
  - “Who is in your immediate family?”
  - “Do you have any questions about your sexual activity?”

**Box 3–14. Sexual History Questions From the ACOG Woman’s Health Record (see Appendix J):**

- Are you sexually active? ___
- Number of sexual partners (lifetime): __
- Sexual partners are: _men _women _both
- Have you been sexually abused, threatened, or hurt by anyone? ___
- Sexual orientation: _heterosexual _homosexual _bisexual
- Marital status: _married _living with partner _single _widowed _divorced
- Number of people in household: __

The form also includes open-ended questions and ample space for the patient to record other areas of concern.
• Reassurances regarding confidentiality, including the offer not to record information about sexual orientation in writing in the patient’s records or to code the information

• Display of educational materials about sexual orientation and gender issues for patients and their families (see Resources)

• Referrals to counseling and support groups for patients and their families (see Resources)

Resources

Patient Resources


Parents, Family, and Friends of Lesbians and Gays (PFLAG)
1726 M Street NW, Suite 400, Washington, DC 20036
(202) 467-8180
http://www.pflag.org

ACOG Professional Resources


Other Resources

Gay and Lesbian Medical Association
459 Fulton Street, Suite 107, San Francisco, CA 94102
(415) 255-4527
http://www.glma.org


Transgendered Individuals

Transgendered is an umbrella term used to describe the full range of individuals who have a strong belief, often from childhood onward, that they were born into a body with the wrong physical gender and who incorporate one or more aspects, traits, social roles, or characteristics of the other gender. Transgendered individuals have a strong desire to be the opposite sex and have significant discomfort with their assigned gender. This issue is not one of choice for them.

Transgendered individuals include the following:

- **Transsexuals**—individuals who have had sex-reassignment surgery
- **Androgynes**—individuals with an androgynous presentation and whose behavior combines both genders or is gender neutral
- **Intersexuals**—individuals who are born with sex chromosomes, external genitalia, or an internal reproductive system that is not considered standard for either male or female
- **Cross-dressers (transvestites)**—individuals who, as a fetish, use the clothing of the opposite gender for purposes of emotional satisfaction or erotic arousal

Transgendered individuals can live full-time or part-time as members of the opposite gender. Regardless, all transgendered individuals should be referred to consistently by the pronouns of their self-identified gender.

Health care practitioners should treat transgendered individuals with respect and dignity. Office and support staff should develop and maintain sensitive attitudes and practices for all patients, their families, and their significant others including transgendered individuals. Nondiscriminatory attitudes and communication styles should be developed in policies and practices for providing health care to all who seek services. Care of transgendered individuals often requires special considerations that can be addressed best by physicians with expertise and experience in this area. Health care practitioners who are morally opposed to providing care to this population should refer them elsewhere for care.

Maintaining confidentiality and obtaining informed consent are critical when treating transgendered patients. These individuals often cite the potential for breaches in privacy and confidentiality as a barrier to care.

As with all patients, the obstetrician–gynecologist should provide routine health maintenance and preventive care to transgendered patients. In addition, some health risks are increased in the transgendered popu-
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lation. Some transgendered people are involved in high-risk sexual behaviors and activities as a means of providing income, which places them at greater risk for HIV infection and AIDS. Hormone therapy to maintain acquired gender characteristics can place transgendered individuals at risk for health problems, including cancer and heart and liver disease.

Resources


Women With Disabilities

Disability, as defined by the Americans With Disabilities Act of 1990, is a “physical or mental impairment that substantially limits one or more of the major life activities of an individual, a record of such impairment, or being regarded as having such an impairment.” Physical, developmental, sensory, cognitive, and psychiatric impairments may affect both the quality and availability of health care services for women. Women with disabilities have unique gynecologic needs requiring practitioner awareness, sensitivity, and skill. As for all women, the optimal health care of women with disabilities is comprehensive, affirms the patient’s dignity, maximizes the patient’s interests, and avoids harm.

Health care practitioners have a societal and professional ethical responsibility to accommodate and individualize the care of women with special needs. In addition, Title III of the Americans With Disabilities Act requires that a public accommodation operated by a private entity, including professional offices of health care practitioners, take steps to ensure that no individual with a disability is discriminated against on the basis of the disabling limitation (see Appendix F). Physical limitations and communication difficulties that might hinder the health care of women with
disabilities can be overcome by alternative positioning, modification of examinations, knowledge of the issues, technology, sensitivity, and patience (see Box 3–15).

In addition to physical barriers, a woman with disabilities may experience knowledge and attitudinal barriers in her physician’s office. In the health care setting, not infrequently, women with disabilities report feeling that they are viewed as asexual and unlikely to be lovers, wives, or mothers. Sexuality issues that women with disabilities face need to be addressed; these issues include the desire and ability for consensual sexual relationships and childbearing. Pregnancy and parenting for women with physical disabilities may have unique medical and social aspects but rarely are precluded by the disability itself.

Before examination and treatment of a woman with developmental disabilities, it should be determined who will give consent (see “Informed Consent” in Part 1). It is important to ascertain if the patient is competent to understand findings and recommendations or whether this information needs to be transmitted to an identified guardian or caregiver.

Women with developmental disabilities may present with a broad range of health concerns, including difficulty maintaining preventive care, poor hygiene, unanticipated pubertal development, pregnancy, abnormal uterine bleeding, menopausal issues, or the need for contraception. They may have unidentified sexual activity and need to be screened routinely for STDs. Psychosocial factors must be considered to determine an appropriate treatment plan that offers individualized reproductive health care and education to this group of women and their caregivers.

Health care practitioners should familiarize themselves with the nature of the woman’s disability because the conditions may affect directly the decisions made in her reproductive health care. An understanding of the medications used for conditions common to women with physical or developmental disabilities such as spasms and seizures, possible interactions, and their effects on gynecologic issues also is important.

Women with disabilities often undergo screening for cervical and breast cancer less frequently than recommended. If possible, screening for cancer should be performed according to standard ACOG recommendations. In women with developmental disabilities, it may be necessary to perform the pelvic examination under general anesthesia. Pelvic ultrasonography may be considered as an alternative, if appropriate.
Box 3–15. Suggestions for Office Practice for Women With Disabilities

Before scheduling an appointment for the patient:

- Become familiar with provider responsibilities stipulated in the Americans with Disabilities Act. Assess the medical practice environment and make appropriate modifications in layout, equipment, and staff training. If possible, include women with disabilities in the assessment and development of service delivery plans.
- Identify a point person within the practice to research local disability resources and be responsible for assuring the development and documentation of a plan of care for each woman with disabilities.

Scheduling an appointment for the patient:

- Ask about the special needs of the patient, including extra time, access considerations, and communication requirements, when scheduling appointments.
- Determine at the time the appointment is made whether or not the patient usually gives consent for examination or treatment. If the patient is not able, the legal guardian or authorized (documented) caregiver is asked to accompany the patient to the appointment.
- Contact, with consent, the primary care physician to ascertain medical history and gain advice or direction concerning:
  1. Psychosocial factors, such as living arrangements and reliability of patient and caretakers to follow through with advice and medical treatment; the most effective methods of health education and community resources available to the patient.
  2. Physical factors, such as patient’s ability to use a standard examination table, method of transfer (for patients with physical disabilities), best position for examination, person to best accompany patient during examination, the extent of examination available without sedation, history of examination under sedation or anesthesia.
- Determine the patient’s mode of transportation to the office and, if dependent on a public disability transport system, allow for some time flexibility.
- Scan the office or clinic to determine the accessibility of the reception areas, restroom, examination room, consultation room, X-ray and laboratory area, and other equipment for this patient.
- Determine the need for assistants to aid in transferring, positioning, and supporting the woman.

(continued)
Women with disabilities are at greater risk for abuse by attendants and health care practitioners. This abuse may include withholding of assistance or assistive devices. Women who rely on others for their personal and household needs may be reluctant to disclose concerns about abuse or vio-
lence for fear of retaliation or loss of these essential services performed by
the abusive care provider.

Numerous safe, effective, and easy-to-use contraceptive methods are
available for women with disabilities. Of particular value are methods
that are not administered frequently or that have a relatively long dura-
tion. Menstrual suppression through use of hormonal contraception may
be useful for women with developmental or physical disabilities that
make menstrual hygiene problematic. In most cases, the chosen method
of contraception should be the least restrictive in preserving future repro-
ductive options. It is imperative that physicians adhere to the highest
ethical standards—as well as to federal, state, and local laws and regula-
tions—when considering sterilization for women with developmental
disabilities.

Resources

ACOG Resources

American College of Obstetricians and Gynecologists. Access to reproductive health care

Sterilization of women, including those with mental disabilities. American College of
Obstetricians and Gynecologists. ACOG Committee Opinion No. 371. Obstet Gynecol

Other Resources

Breast Health Access for Women with Disabilities. Table manners and beyond: the gyneco-
logic exam for women with developmental disabilities and other functional limitations.

DeForge D, Blackmer J, Moher D, Garritty C, Cronin V, Yazdi F, et al. Sexuality and repro-
ductive health following spinal cord injury. Evidence Report/Technology Assessment No.
Publication No. 05-E003-2.

Welner SL. Gynecologic care of the disabled woman. Contemp Ob Gyn 1993;

Women Older Than 65 Years

By 2010, 13% of the U.S. population will be older than 65 years. By 2030,
individuals older than 65 years will make up fully 20% of the population.
Obstetrician–gynecologists and other clinicians who care for older women
can play an important role in promoting health and preventing disease by
ensuring that the recommended preventive screening is performed (see Box 3–2) and by addressing the special needs of older women.

**Communication Issues**

Communication can present special challenges. Visual and hearing deficits may influence communication with the elderly. It is important to ask early in the visit whether the patient can hear adequately and to make appropriate adjustments in volume and pace.

Although their memory for short, logically associated material usually is good, the elderly learn more complex and logically unassociated material less easily. Comprehension can be improved by screening out distractions and by alerting the patient to changes of subject. Memory can be aided by stating clearly the important information to be learned, keeping new information brief and relevant, providing written instructions (in a print size that easily is seen by the elderly person), and using repetition.

**Functional Assessment**

Although there is a wide variation in the mental, social, and physical status of older women, they often have several medical problems made more complex by the physiologic changes in almost every organ system that accompany aging. These changes manifest as altered height, weight, and posture; changes in common laboratory values; and altered regulation of homeostasis. These changes can affect a woman's metabolism of drugs; susceptibility to, and visible signs of, infection; and ability to recover from surgery.

In the elderly woman, multiple chronic conditions may interact in ways that affect her ability to manage independently. The assessment of the woman's ability to function in everyday life is critical. Evaluation of functional assessment findings, coupled with appropriate management or referrals, can assist the elderly woman to maintain health. For the patient approaching a medical intervention or surgery, functional assessment is critical.

Functional assessment includes an evaluation of the following:

- Cognitive and affective mental function
- Vision
- Hearing
- Motor function
• Gait and balance
• Bowel and bladder function
• Activities of daily living
• Environmental risks and support systems

Numerous screening and assessment tools for functional assessment have been developed and tested.

The cognitive changes in aging women are subject to significant variation. Some changes may be age related, whereas others may be related to underlying, often unidentified, illnesses or medications. The two most common dementias are Alzheimer’s disease and dementia associated with previously documented cerebrovascular disease. There also are a number of noncortical dementias, including those related to drug toxicity and interaction; alcohol and other substance abuse; systemic infections; renal failure; heart failure; or metabolic diseases, such as malnutrition, iron deficiency, hypothyroidism, and vitamin B₁₂ and folate deficiencies. Dementia also can be related to social and family isolation, inactivity, elder abuse, and neglect.

Delirium, although often confused with dementia, is a transient condition that usually is associated with a treatable medical condition. The risk factors for development of delirium include disturbance of consciousness caused by recent anesthesia or surgery, sleep medication or change in environment, or an underlying medical condition. Delirium is characterized by an acute and fluctuating course and is an impairment of cognition that is not attributable to prior or progressive dementia.

Hearing disorders afflict more than one third of women older than 65 years, and 19% of women of this age have trouble seeing, even when wearing glasses or contacts. Early identification and management can reduce the resulting emotional and physical morbidity. Hearing difficulties may appear as tinnitus, difficulty understanding women and children (high-frequency hearing loss), difficulty locating the source of sounds, and vertigo. Primary visual signs and symptoms common in the elderly include night blindness, reading difficulty, eye pain, blurred central vision, and diminished awareness of peripheral objects.

Loss of the ability to perform the activities of daily living is one of the greatest fears of older people. Identification, prevention, and minimization of disorders associated with decreased mobility can help greatly in addressing these problems.

Incontinence is one of the most common disorders for aging women. In addition to causes intrinsic to the lower urinary tract, the following can be
involved: delirium, infection, atrophic urethritis or vaginitis, medications, depression, excessive urine output (eg, from congestive heart failure or hyperglycemia), restricted mobility, and stool impaction. Bacteriuria in the elderly is common and does not require treatment if asymptomatic.

Approximately 20% of elderly people are affected by increasing dissatisfaction with bowel function. Normal bowel habits include formed stools every 1–3 days. Constipation can be related to a low-fiber diet, medications, low fluid intake, colorectal dysmotility, irritable bowel syndrome, obstruction, hypothyroidism, or inadequate toilet facilities. Diarrhea may result from infection, medications, laxative abuse, irritable bowel syndrome, or interventions to alleviate bowel impaction.

**Common Medical Conditions**

Certain medical conditions are more common in the elderly. These include CVD, fracture, cancer, and infections. In addition, nutrition deficiencies may be present.

Cardiovascular disease is the leading cause of death among women. Symptoms of CVD in women may be subtler than those in men, and recognition requires a high index of suspicion. Late onset of hypertension, especially isolated systolic hypertension, has an influence on stroke and myocardial infarction; therefore, detection and treatment are important.

Fracture is a major health hazard in women 65 years and older. Vertebral and hip fractures are common and are associated with morbidity and mortality. These complications often lead to placement in a long-term care facility. Osteoporosis increases the risk of fractures; several types of medication are available for therapy. Frequent falling is another risk, and older women should be counseled about the need to take precautions to reduce their risk of falls and injuries and to make their homes as safe as possible.

Cancer is the second leading cause of death in women 65 years or older. Screening and preventive counseling should take place (see Box 3–2 and “Routine Screening and Prevention of Disease” later in Part 3). Screening for breast cancer has been particularly controversial. Although there are insufficient data regarding women aged 70 years and older to make a definitive recommendation about screening for breast cancer, the incidence of this condition does increase with age. Therefore, ACOG continues to recommend annual screening in this age group.

Infections account for about one third of mortality in older women. The most commonly encountered infections in the elderly include urinary tract infections, pneumonia, influenza, herpes zoster infections, and tuberculo-
sis, especially in institutionalized women. Clinicians should recommend appropriate immunizations as indicated (see Box 3–2 and “Immunizations” later in Part 3).

Alterations in nutrient requirements and changes in metabolism, as well as medical problems, can lead to nutrition deficiencies in elderly women. Because many foods containing complex carbohydrates (ie, starches such as grains, legumes, potatoes, and fruit) also contain large amounts of vitamins and minerals, elderly individuals should consume a larger proportion of complex carbohydrates (55–60%) to increase their nutrient intake. Aging women should be evaluated for a decline in their need for caloric intake, and their diet should be adjusted accordingly. Women should be encouraged to maintain weight in the normal range and to follow a regular exercise program for weight regulation and other health benefits. Often, a dietary history or serial measures of weight will reveal problems, and additional diagnostic testing may be warranted. Management includes an evaluation of financial and support resources with social service referrals as necessary, nutrition counseling, and correction of any underlying medical conditions (see also “Nutrition” later in Part 3).

Common Psychosocial Concerns
In addition to variations in cognitive function, many older women are at increased risk for psychosocial problems. Depression is very common in elderly women and often is unrecognized and untreated. Women should be screened for suicide risk factors, symptoms of depression, abnormal bereavement, and changes in cognitive function and be offered treatment as indicated. Sleep disorders in aging women are associated with dementia, depression, sleep apnea, daytime medication use, and pain syndromes.

Alcoholism, sexual dysfunction, and complications arising from multiple medication use increase and often are undiagnosed in this age group. Signs of physical or emotional abuse and of neglect should be sought. The woman’s social support system is critical for her health, recovery, and functioning. Patients should be asked about family and other support systems, as well as whether they have formal or informal help at home.

Medication Use
Older women experience adverse events relating to drug therapy more frequently and in more unexpected ways than do younger women. Polypharmacy, or the administration of many drugs from many sources, is
not uncommon. Over-the-counter medications often are not included by women in their recall of medications. Asking a patient or a family member to bring to the clinical visit a bag containing everything the woman takes, including vitamins and over-the-counter medications, is one method for determining medication use.

Often, older women have poor medication adherence because of multiple medications, misunderstanding of instructions, diminished hearing, impaired vision, or poor short-term memory. Additional difficulties may result from a lack of access to a pharmacy, inability to pay for medications, or difficulty opening medications. Additionally, borrowed medication can make up a substantial percentage of medication taken by older women.

The physiologic changes that accompany aging result in alterations in the processes of drug absorption, distribution, metabolism, and elimination (pharmacokinetics), and they can alter drug bioavailability. Additionally, the biochemical and physiologic effects of drugs and their mechanisms of action (pharmacodynamics) appear to change in aging women. The elderly often are more sensitive or responsive to the effects of a drug and require smaller doses. This altered responsiveness ranges from increased therapeutic effects to serious adverse drug reactions. Adverse effects in the elderly may present atypically as subtle changes in mental status or an acute decline in functional status. Serious drug reactions in the elderly most commonly are caused by psychotropic drugs, diuretics, and cardiovascular agents.

An attempt to minimize the number of drugs prescribed may minimize adverse drug reactions. Medical conditions should be managed without medications whenever appropriate. It is critical to monitor for multiple medications prescribed by different physicians and to develop a coordinated medication plan for elderly patients. The cornerstone of a medication plan is an accurate list of everything the patient is taking, including over-the-counter and borrowed medications. This list requires frequent updating and an evaluation of adherence and drug-taking patterns. Many new drugs have not been evaluated thoroughly in elderly women and may need to be used with caution.

A variety of techniques may improve a patient’s adherence to medication regimens. They include actively involving the patient in the decision to use a medication, simplifying the dosing regimen as much as possible, eliminating unnecessary medications, evaluating the woman’s functional ability to take the medications, using assistance devices such as easy-to-open bottles and prefilled medication boxes, and encouraging the woman to report any adverse reactions immediately.
Resources

ACOG Patient Resources


ACOG Professional Resources


Other Resources


End-of-Life Considerations

Medical advances have made it possible to keep patients alive by sustaining the vital functions of people who are terminally ill or who exist in a permanent vegetative state. Regardless of a patient’s age, the opportunity to formulate advance directives allows her to express her choices about the treatment she would like to receive in the event she becomes unable to participate in decisions concerning her care and to identify the person she wishes to have act as her surrogate.
As the aging population increases, clinicians will be caring for more and more patients who are at the end of their lives. Familiarity with the ethical, legal, and emotional aspects of providing end-of-life care will assist clinicians in providing the most appropriate care to their patients.

The first step in caring for a terminally ill patient is to identify her management goals through shared and ongoing communication between the patient and clinician. Explicit discussion about the goals of care is important for a number of reasons:

- Assumptions about the objectives of care shape perceptions about appropriate treatment.
- These objectives may be understood differently by the patient and her caregivers.
- Unarticulated commitments to certain goals may lead to misunderstanding and conflict.
- The goals of care may evolve and change in response to clinical or other factors.

Comprehensive and ongoing communication not only advances patient self-determination but also helps establish a moral common ground that may prevent ethical conflict and crisis. Clinicians should be especially careful not to impose their own conception of benefits and risks on a patient or coerce her to achieve goals that she does not share. The harms associated with prolonged attempts at cure may not be acceptable to some patients. From an ethical and practical viewpoint, it is preferable to provide or restrict life-sustaining interventions with the agreement of the patient and family rather than trying to provide or limit interventions against their wishes.

Many clinicians are uncomfortable with the prospect of providing care for a patient at the end of her life. The ethos that has shaped U.S. medical research and practice for the past half century regards the use of interventions to promote cure and prolong life as the clinician’s primary obligation. But palliative strategies such as pain relief, attentive and responsive communication with the patient about her health status, and the facilitation of communication with the patient’s family also are essential components of care. It is important to note that neither the presence of a “do not attempt resuscitation” order nor specific directives regarding limitation of other treatments remove the responsibility for providing palliative care. For the generalist whose patient is, or has been, under the care of a specialist, pal-
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liative care often is the most valuable service that can be offered. The idea that “nothing more can be done” improperly equates care with cure and should be avoided. It undervalues the considerable importance of the clinician in providing comfort to the terminally ill patient.

Legal Rights

The federal Patient Self-Determination Act of 1990 requires, as of December 1991, that all hospitals and other medical programs receiving federal Medicare and Medicaid money create a formal procedure to inform patients, on admission to the facility or at the time of enrollment, about their rights under state law regarding health care decision making. This information includes the rights to refuse treatment and to formulate advance directives. Facilities also are required to document in the patient's record whether or not an advance directive was executed. Noncompliance with these requirements can mean the loss of eligibility to receive Medicaid and Medicare funds. Every state and the District of Columbia also have laws allowing for advance directives. State law will determine what an advance directive may contain and how and when it is followed.

A living will and a health care power of attorney are the two most common types of advance directives. Depending on the laws in a particular state, a patient may decide that either a living will or a health care power of attorney is better suited to her needs. She also may have both types of directives or a single document that combines the aspects of both. Clinicians and patients should be familiar with the laws in their states. Although legal advice to prepare an advance directive is not necessary, patients may want to consult with an attorney for guidance.

A living will is a written statement that tells the health care team and family in advance what types of health care the patient would accept or refuse if she were unable to express her wishes. The laws about living wills vary from state to state, but in general, living wills address the following issues:

- Life-sustaining treatments, including cardiopulmonary resuscitation and respirator use
- Artificial nutrition and hydration if required as the main treatment to keep patients alive
- The degree and type of pain relief
- Major surgery and other major interventions such as renal dialysis
Laws in some states are more restrictive than in others regarding when a living will can be used. Most states limit the rights of pregnant patients to refuse certain treatments through a living will because of the need to protect the developing fetus. A knowledge of local regulations is important, even though such limitations on the rights of pregnant women are ethically suspect. Additionally, although physicians are legally obligated to honor a patient’s living will, they may not be required to do so if they believe in good faith that under particular concrete circumstances, the request is not sound.

A living will goes into effect only if the patient is unable to make decisions for herself. Until this time, the patient can change her mind at any time about what she has written.

Forms for living wills are simple to fill out and usually are available from hospitals, insurance companies, physician offices, and health departments. Many forms also allow the patient to express her wishes regarding organ donation if she is a suitable candidate. When using a standard form, it is important to confirm that the form is valid under state law and to follow the instructions, including those requiring witnesses or notarization.

In a health care power of attorney, the patient authorizes a health care agent to make medical decisions for her when she no longer is able to do so. A patient may indicate in her health care power of attorney her wishes about her medical care, and she should discuss them with her agent, who will be expected to make decisions consistent with the patient’s wishes. In a health care power of attorney, the patient might specify what powers she is giving her agent. These powers may include the power to choose physicians, the right to decide whether to hospitalize the patient, and the right to accept or refuse treatment. The patient also may give her agent instructions as to whether she wishes to be an organ donor, if eligible. The health care power of attorney generally is considered more flexible than a living will and hence may be preferable.

After a living will, health care power of attorney, or both are completed, several copies should be made to provide to physicians, an attorney, and someone such as a family member or a friend. If the patient has designated a health care power of attorney, this individual should have copies of all advance directives. Patients should keep the originals in a secure place and provide a copy to the hospital when admitted. Patients also might want to keep in their wallet or purse a small card indicating that they have an
advance directive, where the advance directive can be found, and the name and address of their health care agent, if any.

Unfortunately, only a small number of adults have prepared advance directives. Most patients do not want to think about becoming ill and being unable to care for themselves. It is best to prepare an advance directive when healthy. No one knows when a serious accident will happen. For these reasons, it is important that the medical team make the options of advance directives known and available to patients. A good opportunity to initiate the discussion of end-of-life caregiving goals is during well-woman care at the time of the periodic examination. To facilitate these discussions, the patient history form could contain questions about a patient's execution of an advance directive.

Because a patient's wishes regarding care might change over time or under different conditions of illness, these discussions should include occasional reevaluation of values and goals and, if necessary, updating of the advance directive. Decision making should be treated as a process rather than as an event.

Terminal Care

**Provisions for Care (Hospital, Hospice, Home).** Several options for the provision of terminal care commonly exist for dying patients and their families. Among the levels of care available are care in the hospital, care in a residential hospice, and care in the home with or without hospice support.

Seriously ill people generally seek out hospital care in the hope of avoiding death. However, when death is imminent, the anticipation of death in a hospital may be accompanied by the fear that medical care is less focused on human suffering and dignity than on medical logic and vital functions. In 1989, the Study to Understand Prognosis and Preferences for Outcomes and Risks of Treatment was undertaken in an effort to understand the characteristics of dying in U.S. hospitals. The baseline study showed that much terminal care in the United States is inappropriate. Many patients died after prolonged hospitalization or intensive care; many suffered from unrelieved pain. Several reasons exist for these problems. Clinicians may be uncertain about patient prognosis, do not know the patient's preferences regarding life-sustaining interventions, or have failed to discuss care options with patients and families.
Hospitalized patients and their families should be granted real decision-making powers concerning terminal care. Recommendations to grant patients more powers in these decisions include the following suggestions:

- Patients and families should be provided with explicit prognostic information.
- Discussions about life-sustaining care need to occur frequently. Typically, patients want physicians to take the lead in these discussions.
- The quality of discussions about life-sustaining interventions should be improved. These discussions should include information about providing or withholding therapy, with special attention to the patient’s values and concerns.

_Hospice_ refers to a concept of care rather than a specific place for care. Hospice care provides support for people in the last phases of incurable diseases in the hope that they will live as fully or comfortably as possible. Care is provided in both home-based and facility-based settings. No specific supportive therapy is excluded from consideration, and treatments generally are based on agreements among the patient, physician, and hospice team. The expected outcome is relief from symptoms and enhancement of quality of life. The patient’s and family’s needs should be considered when deciding between home-based and residential hospice care.

The core team providing hospice care typically consists of the patient’s attending and hospice physicians, registered nurses, social workers, spiritual counselors, family members, and trained volunteers. Hospice care also uses specialized team members to meet specific patient care needs. These team members may include allied therapists, art and music therapists, dietitians, pharmacists, nurses, and nursing assistants.

The hospice interdisciplinary team collaborates with the patient’s attending physician to develop a patient-directed, individualized plan of care. The plan of care is based on team assessments that recognize the patient’s and family’s psychologic and social values. At a minimum, the plan generally includes the following parameters:

- Problems and needs of the patient and her family
- Realistic and achievable goals and objectives
- Agreed-on outcomes
• Required medical equipment
• The use of advance directives in care plan development

Medicare coverage includes hospice benefits. Today, many private insurers and Medicaid also offer hospice benefits, recognizing the compassion associated with hospice care and its cost-effective delivery.

**Pain Management.** Pain often is undertreated, particularly at the end of life. Current protocols often specify principles such as the idea that no terminally ill patient should be in pain. Studies indicate that concerned family members generally are satisfied with life-sustaining treatment decisions, but their primary concerns are with failures in communication and pain control. Pain relief is one of the primary goals of terminal care—goals of the family and the patient (see “Pain Management” later in Part 3).

**Resources**

**ACOG Resources**


**Other Resources**


Hospice Foundation of America.
1621 Connecticut Ave. NW, Suite 300
Washington DC 20009
800-854-3402
(202) 638-5312 (fax)
http://www.hospicefoundation.org
E-mail: info@hospicefoundation.org


National Hospice and Palliative Care Organization
1700 Diagonal Rd., Suite 625
Alexandria VA 22314
(703) 837-1500
(703) 837-1233
http://www.nhpco.org
E-mail: nhpco_info@nhpco.org


Psychosocial Issues

A woman’s health and well-being is affected by psychosocial factors. In many cases, early detection of unhealthy situations and therapeutic intervention can improve quality of life; in some situations, early detection and intervention can prevent harm as well. Clinicians and patients often are uncomfortable discussing these topics. Communication and counseling skills are an important aspect of women’s health care; psychosocial well-being is an important element of overall health. Some of the more important psychosocial issues are discussed here.

Eating Disorders

More than 5 million people in the United States are affected by eating disorders each year. Anorexia nervosa, bulimia nervosa, and binge eating dis-
order are characterized by severe disturbances in eating behavior. The diagnostic criteria for anorexia nervosa include the following:

1. Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of normal weight for age and height or failure to make recommended weight gain during periods of growth, leading to body weight less than 85% of that expected)
2. Intense fear of gaining weight or becoming fat, even though underweight
3. Disturbance in the way the body weight or shape is experienced, undue influence of body weight or shape on self-image, or denial of the seriousness of the current low body weight
4. Amenorrhea in postmenarcheal females

Subtypes of anorexia nervosa are shown in Box 3–16.

Bulimia is defined as recurrent, secretive episodes of binge eating accompanied by 1) the sense of lack of control over the amount being eaten or the ability to stop and 2) purging behaviors such as vomiting or exercise to compensate for binge eating.

Eating disorders can have life-threatening consequences. Anorexia nervosa ranks third among common chronic disorders in adolescents, surpassed only by asthma and obesity. It is a disorder of self-starvation that manifests itself in an extreme aversion to food, and it can cause psycho-

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**Box 3–16. Subtypes of Anorexia**

**Binge eating and purging**—An individual who is regularly engaged in binge eating or purging (or both) behavior through self-induced vomiting or the misuse of laxatives, diuretics, or enemas during the current episode of anorexia nervosa.

**Restricting**—An individual who is not engaged in binge-eating or purging behavior during the current episode of anorexia nervosa. Weight loss is accomplished through dieting, fasting, or excessive exercise.

Some patients engage in cycles of binge eating and purging in addition to frequent fasting.

logic, physiologic, endocrine, and gynecologic problems (see Box 3–17). The overwhelming majority (95%) of patients with diagnosed anorexia are female. Ages most frequently affected are 12–18 years, but anorexia does occur in older women and has been reported in young children. Morbidity may reach 10–15%. Deaths are from causes such as starvation, cardiac arrhythmias, cardiac failure, and suicide.

**Box 3–17. Common Presentations of Eating Disorders**

**Gynecologic presentations**
- Amenorrhea
- Menstrual irregularity
- Constipation or abdominal pain
- Sexually transmitted disease
- Contraceptive needs
- Pelvic pain
- Atrophic vaginitis
- Breast atrophy

**Other presentations**
- Depression
- Weakness
- Sports injuries and fractures
- Mouth sores
- Pharyngeal trauma
- Dental caries
- Heartburn
- Chest pain
- Muscle cramps
- Bloody diarrhea
- Bleeding or easy bruising
- Fainting
- Routine medical care

Patients with bulimia also have a negative self-image, depression, and other psychologic problems. These individuals do not deny themselves food but rather indulge in excess food consumption and then purge it out of their systems using laxatives, self-induced vomiting, and other behaviors. Bulimics may be of average weight, underweight, or overweight.

Binge eating (also called *compulsive eating*) involves eating large amounts of food. In this way, it is a variant of bulimia. However, binge eaters do not routinely engage in purging behaviors.

The American College of Obstetricians and Gynecologists recommends that all women be counseled on dietary and nutrition issues, yearly or as appropriate. All adolescents should be screened annually for eating disorders and obesity by determining weight and stature, calculating BMI, and asking about body image and eating patterns (see Resources and Appendix L). Vital sign abnormalities, including abnormal blood pressure or pulse rate, may be the initial finding that alerts a clinician to a potential eating disorder.

Adolescents should be assessed for organic disease, anorexia nervosa, or bulimia if any of the following conditions or behaviors are found:

- Amenorrhea or abnormal menses
- Refusal to maintain body weight at or above a normal weight for age and height
- Recurrent dieting when not overweight
- Use of self-induced emesis, laxatives, starvation, or diuretics to lose weight
- Distorted body image
- Body mass index below the 5th percentile (see Resources)
- Hypotension, bradycardia, cardiac arrhythmia, or hypothermia
- Excessive exercising
- Recurrent constipation or unexplained pelvic abdominal pain
- Marked perianal erythema (may be secondary to laxative abuse)

Treatment for anorexia and bulimia may include hospitalization, nutritional rehabilitation, psychosocial treatment, medications, the use of the addiction model, or a combination of psychosocial and medication strategies. Patients with anorexia have concurrent hypoestrogenism. Merely providing the adolescent who has anorexia with hormones does not treat the
complex disease of anorexia nervosa adequately. Other interventions are much more critical to prevent mortality and morbidity. Binge eating often results in obesity and its attendant complications.

The clinician who finds indications of an eating disorder in a patient should consider the following diagnostic studies:

- Complete blood count (usually normal; white blood cell count possibly low)
- Thyroid function tests (thyroxine and triiodothyronine low in anorexia)
- Electrocardiography (cardiac abnormalities: slow heart rate, disturbances of heart rhythm)
- Electrolyte evaluation (abnormal findings related to purging)
- Follicle-stimulating hormone and luteinizing hormone tests

Medical complications of anorexia nervosa include cardiac abnormalities, dangerously low blood pressure and body temperature, low white blood cell count, chronic constipation, osteoporosis, slowed adolescent growth or development, short stature, loss of menstrual periods, infertility, hair loss, and fingernail destruction. The medical complications of bulimia nervosa include electrolyte abnormalities that can lead to heart rhythm disturbances, dehydration, dangerously low blood pressure, menstrual cycle abnormalities, enlarged parotid glands, destruction of dental enamel, dental cavities, and bowel abnormalities.

Once an eating disorder has been suspected or diagnosed, the clinician should assess his or her ability to identify and manage continuing problems and refer the patient to another practitioner when needed. The treatment team may consist of a medical practitioner, a mental health therapist, and a nutritionist or dietitian. Supporting services may include psychiatric or eating disorder programs or facilities, if available. Clinicians should be familiar with any state regulations regarding confidentiality and parental consent for treatment.

Resources

Patient Resources


National Eating Disorders Association
603 Stewart Street—Suite 803
Seattle, WA 98101
800-931-2337
http://www.nationaleatingdisorders.org
E-mail: info@nationaleatingdisorders.org

Emergency Care Research Institute Bulimia Nervosa Resource Guide
Bulimia Nervosa Resource Guide for Family and Friends
http://www.bulimiaguide.org

**ACOG Professional Resources**


**Other Resources**


Abuse

Violence and abuse are important problems affecting women, and they often have serious short- and long-term health consequences. Abuse can take the form of intimate partner violence, child abuse, rape, sexual assault, or elder abuse or neglect. Clinicians should be alert to signs of exposure to violence or abuse. However, because patients may be asymptomatic, it is important that physicians conduct screening for past and present abuse with all patients. Universal screening can be conducted while obtaining a woman's health history. Practitioners should ask patients directly about current or past intimate partner or domestic violence, rape or sexual assault, and childhood physical and sexual abuse. Screening should be done in a comfortable and private environment. Arrangements should be made for referral to appropriate community services as needed. Clinicians should be familiar with any local and state requirements to report intimate partner violence, domestic violence, child abuse or assault (physical or sexual), and elder neglect or abuse.

Intimate Partner Violence and Domestic Violence

Although there is no single definition of intimate partner violence that satisfies all medical, social, and criminal justice purposes, the term typically refers to violence perpetrated against adolescent and adult women within the context of past or current intimate relationships. The term domestic violence also is used by many people to describe intimate partner violence. The term domestic violence, however, encompasses other forms of violence, including abuse of older individuals and children.

Domestic violence is a widespread social and public health problem that disproportionately affects women of all age, racial, educational, and socio-economic groups and covers a broad spectrum of behaviors. It encompasses a pattern of actual or threatened physical, sexual, or psychologic abuse between family members or intimate partners and can range from intimidating behaviors to life-threatening actions.

Although the true extent of intimate partner violence and domestic violence is difficult to ascertain, prevalence studies estimate that each year in the United States, 2 million adult women are abused by someone they know. According to the U.S. Department of Justice, violence by an intimate partner accounts for approximately 22% of all the violent crime experienced by women. Among female murder victims, approximately 30% are killed by an intimate partner.
There is no typical victim, nor is there a typical abuser. No one is immune from intimate partner or domestic violence, regardless of age, socioeconomic status, profession, religion, ethnicity, education, or sexual orientation. Most frequently, the abuse is directed at a woman by a man. Often, perpetrators are violent only with family members and have different public and private images. They minimize the seriousness of the violence and refuse to take responsibility for their behavior, accusing the woman of provoking them. The hallmark of their behavior is coercive control.

Violence between intimate partners may be the most important risk factor for child abuse. Child abuse occurs at a rate 15 times higher in families with intimate partner violence than in families without violence. Witnessing or experiencing abuse in the home is associated with higher levels of behavioral and emotional problems, as well as poor social interaction and school performance. Adolescents are at risk for physical and sexual abuse by parents, family members, and dating partners. Adolescent exposure to violence is associated with anger, depression, anxiety, and posttraumatic stress. Growing up in an abusive household increases a woman’s risk of abuse in adulthood.

Women with disabilities are vulnerable to physical, sexual, or emotional abuse, neglect, and exploitation. The abuse can include withholding necessary assistive devices, care, or treatment. Immigrant and refugee women are at risk for violence and abuse because of isolation and manipulation by their partners, language and cultural differences, and lack of awareness of their rights and legal and social resources.

Elder abuse, or elder mistreatment, refers to 1) intentional acts that result in harm or create a risk of harm and 2) failure by a caregiver to satisfy the elder’s basic needs or protect the elder from harm. The National Elder Abuse Survey estimates that approximately 450,000 older individuals in domestic settings are abused or neglected annually in the United States. However, it is acknowledged that these findings represent the most overt cases, and elder abuse is underreported.

Clinicians who provide care to older women should conduct universal screening for elder abuse. Screening questions for domestic violence or intimate partner violence are applicable to the older female patient. When elder abuse is suspected or identified, physicians should assess mistreatment according to accepted guidelines for domestic violence. Referrals to legal and social services agencies are appropriate. Currently, state laws that define elder abuse vary considerably from one jurisdiction to another. Mandates for reporting generally apply to the incapacitated elderly individ-
In addition to the long-term physical harm that violence may cause, a growing body of research that links violence with a wide range of emotional and behavioral sequelae. These responses, in turn, may lead to additional health care problems and frequently are associated with overutilization of health care resources. The costs of intimate partner violence against women exceed an estimated $5.8 billion each year.

There may be no pathognomonic signs or symptoms of intimate partner violence or domestic violence; hence, universal screening is warranted. Patients, however, may present with diagnostic clues that may include non-specific stress-related symptoms (eg, depression and chronic pain) or with injuries in various stages of healing for which the explanation is inconsistent with the findings. A physical examination may reveal bruises, burns, and injuries, particularly on the head, neck, breasts, abdomen, and groin.

Because of the prevalence of violence, being female is a significant enough risk factor to warrant screening every patient at periodic intervals, such as annual examinations and new patient visits. In the office setting, the most effective and efficient strategy for providing assistance to a woman who has disclosed abuse involves acknowledging the trauma, providing education and support, and offering referrals to community support services. The clinician must remain caring and supportive of the patient as she works through these crises, even if she chooses to remain in the abusive relationship. Clinician responsibilities in addressing intimate partner violence and domestic violence include the following:

- Implement universal screening.
- Acknowledge the trauma.
- Assess immediate safety.
- Help establish a safety plan.
- Review options.
- Offer educational materials.
- Offer a list of community and local resources.
- Provide referrals.
- Document interactions.
- Provide ongoing support at subsequent visits.
Although patients may be reluctant to bring up their abuse, they often are responsive to direct inquiry. Questions must be asked in privacy and in a nonjudgmental manner. The following four questions are easily incorporated routinely into the review of systems:

1. “Has anyone close to you ever threatened to hurt you?”
2. “Has anyone ever hit, slapped, kicked, or hurt you physically?”
3. “Has anyone, including your partner or a family member, pressured or forced you to do something sexually that you did not want to do?”
4. “Are you ever afraid of your partner or anyone at home?”

When there are injuries, it is appropriate to ask the direct question: “Did someone cause these injuries?” The patient’s answer will provide directions to pursue a series of questions relating to issues of safety for both the woman and her children, the role of friends and family, and the range of available options. If the patient will be returning to an unsafe home, safety planning should be conducted, and referrals to service agencies in the community should be provided. (See Box 3–18 for suggested steps for patients to take when they are ready to leave an abusive situation.)

When a patient confides that she has been abused, it is useful to have a protocol for responding that is implemented easily and uses available resources. The physician must be prepared to discuss the abuse with the woman and establish a plan to deal with medical needs, psychosocial needs, and emergent issues. When past or ongoing victimization is identified, an important step is to acknowledge the trauma and reinforce the fact that the patient is not to blame.

The clinician’s role is 1) to know the signs and symptoms of intimate partner violence, 2) to ask all patients about past or present exposure to violence, 3) to intervene and refer as appropriate, and 4) to assess the patient’s risk of danger (see Box 3–19). Community resources include emergency housing (usually in shelters), peer group and individual counseling, and legal and social services advocacy. Most communities have agencies and programs to help abused women and families seek viable alternatives. The clinician should reinforce that the patient has done nothing to deserve the abuse and that intimate partner and domestic violence is a crime. Clinicians should remember that a woman is always the best judge of her safety. Respect must be given for a decision to stay or leave the abuser. Clinicians should remind the patient that they remain resources.
Once intimate partner and domestic violence has been identified and acknowledged, the next step is to assess immediate safety. If the violence in the woman's home has escalated to the point where she is afraid for her safety, she should be offered shelter by directly contacting or referring her to social work services, women's shelters, or community services for battered women. If the patient is not in need of immediate shelter, she should be advised that shelter is available if needed in the future. She should be provided with information on community resources and referred for continued assistance and support.

In particularly distressed women, an assessment for suicide risk may be indicated. Obviously, in acute crisis situations that involve serious risks to the life of the victim, her children, or others, crisis intervention resources should be used.

### Box 3–18. Making an Exit Plan to Leave an Abusive Relationship

Making a decision to leave an abusive relationship can be difficult. Clinicians can assist by providing concrete, practical guidance. Women can be encouraged to call a woman's shelter for more help with a safety plan and be assured that such calls would be anonymous. If the woman is ready to leave, the following tips may be helpful:

- Pack a bag in advance, and leave it at a neighbor's or friend's house. Include cash or credit cards and extra clothes for yourself and your children. Take each child's favorite toy or plaything.
- Hide an extra set of car and house keys outside of the house in case you have to leave quickly.
- Take important papers, such as the following:
  - Birth certificate (including children's)
  - Health insurance cards and medicine
  - Deed or lease to the house or apartment
  - Checkbook and extra checks
  - Social Security number or green card/work permit
  - Court papers or orders
  - Driver's license or photo identification
  - Pay stubs

Psychologic and social assistance are best provided by services that are “trauma specific,” meaning the practitioners are experienced in treating victims of intimate partner abuse. Most agencies for battered women and rape crisis centers are expert in dealing with all forms of violence against women.

Perpetrators often retaliate when they suspect disclosure of abuse. Thus, every effort should be made to maintain confidentiality, especially regarding telephone calls and mailing materials, such as bills, to the patient. Office staff must be informed about the importance of confidentiality in any contact with the patient’s home.

Laws regarding reporting obligations vary widely among states; therefore, familiarity with local laws and policies is critical. In all states, physicians are required by law to report suspected child abuse. Mandatory reporting of intimate partner or domestic violence is required by some states, but it remains a controversial issue, especially with regard to issues of patient safety and confidentiality. Information regarding state reporting requirements is available through state medical associations, local violence prevention or service programs, or the state attorney general’s office.

**Sexual Assault or Rape**

Most victims of sexual assault or rape do not file police reports, making these acts the most underreported violent crimes. Consequently, the true prevalence of rape or sexual assault is unknown. However, a 2000 U.S.

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**Box 3–19. The RADAR Model of the Physician’s Approach to Domestic Violence**

**R:** Remember to ask routinely about partner violence in your own practice.

**A:** Ask directly about violence with such questions as “At any time, has a partner hit, kicked, or otherwise hurt or frightened you?” Interview your patient in private at all times.

**D:** Document information about “suspected domestic violence” or “partner violence” in the patient’s chart, and file reports when required by law.

**A:** Assess your patient’s safety. Is it safe to return home? Find out if any weapons are kept in the house, if the children are in danger, and if the violence is escalating.

**R:** Review options with your patients. Know about the types of referral options (eg, shelters, support groups, legal advocates).
Department of Justice study found that nearly 18% of the women surveyed reported experiencing attempted or completed rape at some time in their lives. Most rape victims are children and adolescents. More than half of the female rape victims were younger than 18 years; 22% were younger than 12 years when they were first raped, and 32% were aged 12–17 years when they were first raped. The overwhelming majority of rapes are perpetrated by someone known to the victim. Of the women who reported a rape before age 18 years, only 10.8% of victims younger than 12 years and 15.8% of victims between the ages of 12 and 17 years were raped by a stranger.

The medical and health consequences of sexual assault are both short- and long-term. Clinicians should be aware that their practices will include women with a history of sexual assault, and they should be familiar with both the short- and long-term sequelae. All patients should be screened for a history of sexual assault. Most women with a history of sexual assault will not have reported it to a nonpsychiatric physician. Yet women with a history of assault are more likely to present with chronic pelvic pain, dysmenorrhea, menstrual cycle disturbances, and sexual dysfunction than women without such a history.

Clinicians evaluating a victim of sexual assault in the acute phase have a number of responsibilities, both medical and legal (see Box 3–20). They should be familiar with state rape and assault laws and comply with any legal requirements regarding reporting and the collection of evidence. They also must be aware that every state and the District of Columbia require physicians to report child abuse, including sexual assault against children and adolescents. Physicians should be familiar with any state laws requiring the reporting of statutory rape. Additionally, physicians should be aware of local protocols regarding the use of specially trained sexual assault forensic examiners or sexual assault nurse examiners. Specific responsibilities are determined by the patient’s needs and by state law.

The clinician should provide medical and counseling services, inform the victim of her rights, refer her to legal assistance, and help her develop prevention strategies to avoid future victimization. Many jurisdictions and several clinics have developed a sexual assault assessment kit, which lists the steps necessary and the items to be obtained so that as much information as possible can be prepared for forensic purposes. Many clinics have nurses who are trained to collect needed samples and information. If these individuals are available, it is appropriate to request their assistance. Rape crisis counselors and centers also can provide valuable support. In addition, the clinician must assess and treat all injuries, perform STD screen-
Box 3–20. Physician’s Role in Evaluation of Sexual Assault Victims

Medical Issues

- Ensure that informed consent is obtained from patient.
- Assess and treat physical injuries or triage and refer.
- Obtain pertinent past gynecologic history.
- Perform physical examination, including pelvic examination (with appropriate chaperone or support person present).
- Obtain appropriate specimens for sexually transmitted disease testing.
- Obtain baseline serologic tests for hepatitis B virus, human immunodeficiency virus, and syphilis.
- Provide appropriate infectious disease prophylaxis as indicated.
- Provide or arrange for provision of emergency contraception as indicated.
- Provide counseling regarding findings, recommendations, and prognosis.
- Arrange follow-up medical care and referrals for psychosocial needs.

Legal Issues*

- Provide accurate recording of events.
- Document injuries.
- Collect samples (pubic hair, fingernail scrapings, vaginal secretion and discharge samples, saliva, blood-stained clothing or other personal articles) as indicated by local protocol or regulation.
- Identify the presence or absence of sperm in the vaginal fluids, and make appropriate slides.
- Report to authorities as required.
- Ensure security of chain of evidence.

*Many jurisdictions have prepackaged “rape kits” for the initial forensic examination that provide specific containers and instructions for the collection of physical evidence and for written and pictorial documentation of the subjective and objective findings. Hospital emergency rooms or the police themselves may supply the kits when called to respond or when bringing a patient to the hospital. Most often the emergency physician or specially trained nurse response team will perform the examination, but all physicians should be familiar with the forensic examination procedure. If called to perform this examination and the physician has no or limited experience, it may be judicious to call for assistance, because any break in the technique in collecting evidence, or break in the chain of custody of evidence, including improper handling of samples or mislabeling, will virtually eliminate any effort to prosecute in the future.

ing, and provide prophylaxis against infectious diseases and unintended pregnancy (see Table 3–10).

Alcohol and other intoxicants increase the risk of sexual assault among adolescents and college students. Recently, several drugs of a group known as club drugs have been implicated in what is known as drug-facilitated sex-

**Table 3–10. CDC Recommendations for Testing and Medical Prophylaxis for Sexual Assault Victims**

<table>
<thead>
<tr>
<th>Sexually Transmitted Disease Infections</th>
<th>Prophylaxis</th>
</tr>
</thead>
</table>
| Gonococcal infection, **Chlamydia trachomatis** infection, trichomoniasis, and bacterial vaginosis | Ceftriaxone, 125 mg intramuscularly in a single dose  
PLUS Metronidazole, 2 g orally in a single dose,  
PLUS Azithromycin, 1 g orally single dose;  
OR Doxycycline, 100 mg twice daily orally for 7 days  
(Testing for gonorrhea, chlamydia, and *Trichomonas vaginalis* should be done at initial examination. If vaginal discharge, mal-odor, and itching are present, examination for bacterial vaginosis and candidiasis should be conducted.) |
| Syphilis                               | Routine prophylaxis is not currently recommended. (Serologic tests should be conducted at initial evaluation, and repeated 6, 12, and 24 weeks after the assault.) |
| Hepatitis B                            | Postexposure hepatitis B vaccination (without hepatitis B immune globulin) administered at time of initial examination if not previously vaccinated. Follow-up doses should be administered at 1–2 months and 4–6 months after first dose. (Serologic tests should be conducted at initial evaluation.) |
| Human immunodeficiency virus infection (HIV) | Within 72 hours of sexual assault assess risk of HIV transmission. If survivor appears to be at risk, discuss antiretroviral prophylaxis, including toxicity and lack of proven benefit. Consultation with an HIV specialist is recommended if postexposure prophylaxis is being considered. (Serologic tests should be conducted at initial evaluation, and repeated 6, 12, and 24 weeks after the assault.) |
| Herpes simplex virus infection and human papillomavirus infection | There is no preventive treatment recommended at this time. |
| Pregnancy                              | Emergency contraception should be offered. |

ual assault. Although it is not known how often these drugs are used, they often are administered to a victim without her knowledge or consent. They produce amnesia, muscle relaxation, and loss of consciousness. Some are highly toxic.

Child Abuse, Child Sexual Abuse, and the Adult Manifestations of Childhood Sexual Abuse

Child abuse generally is categorized in four ways: 1) physical abuse, 2) emotional or psychologic abuse, 3) sexual abuse, and 4) neglect. In 1996, child protective services identified almost 1 million children as victims of substantiated or indicated abuse or neglect, nearly a 20% increase since 1990. It is believed that these figures significantly underestimate the extent of the problem. Every state and the District of Columbia require physicians to report suspected child abuse.

Most child physical abuse cases involve boys; girls are sexually abused three times more often than boys. Young single mothers who were themselves abused are at risk for abusing children; they most often are involved in cases of physical abuse and neglect. Most perpetrators of child sexual assault are males, and it is estimated that the risk of a child's being abused is 15 times greater in families experiencing partner violence.

Childhood sexual abuse may be defined as any exposure to sexual acts imposed on children, who inherently lack the emotional, maturational, and cognitive development to understand or to consent to such acts. These acts do not always involve sexual intercourse or physical force. Instead, they may involve manipulation and trickery.

The actual incidence of childhood sexual abuse in the United States is unknown. However, studies consistently find that approximately 20% of women have such a history. About 200,000 children are sexually assaulted annually, which is a prevalence rate of 54 cases per 100,000 children.

Although there is no single syndrome that is universally present in adult survivors of childhood sexual abuse, a growing body of research links such history with a wide range of long-lasting emotional and behavioral responses that represent a woman's attempt to cope with her traumatic experience. These responses, in turn, may lead to additional health care problems and frequently are associated with an overuse of health care resources.

Clinical presentations frequently include depression; anxiety; posttraumatic stress symptoms; eating disorders; alcohol, drug, and tobacco use and abuse; suicide attempts or ideation; poor self-care; and somatic disor-
ders (eg, chronic pelvic pain, migraine, and gastrointestinal disorders). Adolescents and adult women with such histories are at increased risk of STDs (including HIV infection). These patients are less likely to have regular cervical cytology screening. Adult survivors of childhood sexual abuse also may have histories that include early, unplanned pregnancy; abortions; and little or no prenatal care (see Box 3–21).

**Box 3–21. Common Symptoms in Adult Survivors of Childhood Sexual Abuse**

**Physical Presentations**
- Chronic pelvic pain
- Gastrointestinal symptoms/distress
- Musculoskeletal symptoms
- Obesity, eating disorders
- Insomnia, sleep disorders
- Pseudocyesis
- Sexual dysfunction
- Asthma, respiratory ailments
- Addiction
- Chronic headache
- Chronic back pain

**Psychologic and Behavioral Presentations**
- Depression and anxiety
- Posttraumatic stress disorder symptoms
- Dissociative states
- Repeated self-injury
- Suicide attempts
- Lying, stealing, truancy, running away
- Poor contraceptive practices
- Compulsive sexual behaviors
- Sexual dysfunction

(continued)
**Box 3–21. Common Symptoms in Adult Survivors of Childhood Sexual Abuse (continued)**

**Psychologic and Behavioral Presentations (continued)**

- Somatizing disorders
- Eating disorders
- Poor adherence to medical recommendations
- Intolerance of, or constant search for, intimacy
- Expectation of early death

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**Resources**

**Patient Resources**


National Domestic Violence Hotline
800-799-SAFE (7233) and 800-787-3224 (TTY)
http://www.ndvh.org

**ACOG Professional Resources**


**Other Resources**


**Depression**

Major depressive disorders may begin at any age, with the average age of onset in the mid 20s. In one half of women, the onset of depression occurs between 20 and 50 years of age. Depression can be overdiagnosed in women who have experienced grief reactions or who are undergoing situational stress. However, it can be underdiagnosed if clinicians do not maintain a high level of suspicion.

Mood disorders, especially depression, are among the most common psychiatric illnesses in women. Thus, it can be assumed that many patients treated by obstetrician–gynecologists will have a depressive illness. The risk of developing depression during a woman's lifetime is approximately 20%, in contrast with 10% for men; the risk is higher in women in their reproductive years, when the prevalence is 8–10%. The reasons for this disparity are multidimensional and may include biologic, social, and economic issues that are specific to women.

The economic cost of depressive illnesses is $30 billion to $44 billion per year; the human costs cannot be estimated. The lives of 17.6 million adults and millions more family members and friends are affected.

Health care professionals working with women have a unique advantage in identifying and diagnosing depression. If depression is identified, it can
be effectively treated in up to 85% of cases. It is estimated that nearly two thirds of individuals affected do not get the help they need. Treatment may include medication, psychotherapy, or both. Clinicians will need to provide follow-up care for any patients that have not been referred elsewhere. The likelihood of a recurrence is 50% after a major episode of depression, and it continues to increase with each occurrence.

**Symptoms**

Sample questions that are appropriate in screening for depression in women are outlined in Box 3–22. They may be included on a written screening questionnaire or asked if other risk factors are present. The presenting symptoms of depressive disorders are frequently somatic or behavioral and sometimes can be attributed to an organic condition. In some cases, depression may be related to a condition for which a woman is receiving care, such as infertility, or to perinatal loss or postpartum depression. Psychologic symptoms, such as depressed mood, crying spells, loss of interest in usual activities, or suicidal thoughts, are obvious, but a high index of suspicion is needed in the differential diagnosis, regardless of symptoms. Diagnostic criteria, such as those provided in the American Psychiatric Association’s *Diagnostic and Statistical Manual of Mental Disorders*, can be useful (see Box 3–23).

The clinician should be alert for additional symptoms of depression. Symptoms may include, but are not limited to, the following:

- Loss of interest or pleasure in normally enjoyable activities, including sex
- Persistent physical symptoms that do not respond to treatment, such as headaches, digestive disorders, or chronic pain
- Exaggerated or prolonged depressive symptoms following common reproductive events, conditions, or procedures, such as miscarriage,

**Box 3–22. Sample Questions Appropriate for Depression Screening**

Over the past 2 weeks, have you felt down, depressed, or hopeless?
Over the past 2 weeks, have you felt little interest or pleasure in doing things?

Box 3–23. Criteria for Major Depressive Episode

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either 1) depressed mood or 2) loss of interest or pleasure. Note: Do not include symptoms that are clearly due to a general medical condition, or mood-incongruent delusions or hallucinations.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (eg, feels sad or empty) or observation made by others (eg, appears tearful). Note: In children and adolescents, can be irritable mood.

2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).

3. Significant weight loss when not dieting or weight gain (eg, a change of more than 5% of body weight in a month) or decrease or increase in appetite nearly every day. Note: In children, consider failure to make expected weight gains.

4. Insomnia or hypersomnia nearly every day.

5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

6. Fatigue or loss of energy nearly every day.

7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).

8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).

9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or suicide attempt or a specific plan for committing suicide.

B. The symptoms do not meet criteria for a Mixed Episode.

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiologic effects of a substance (eg, a drug of abuse, a medication) or a general medical condition (eg, hypothyroidism).

E. The symptoms are not better accounted for by Bereavement; ie, after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

stillbirth, prematurity, infertility, hysterectomy, mastectomy, childbirth, or menopause

- Multiple somatic problems that may include dysmenorrhea, dyspareunia, and sexual dysfunction
  - Chronic, clinically unconfirmed vulvovaginitis, idiopathic vulvodynia, or chronic vaginal pain and burning
  - Chronic pelvic or genitourinary tract pain
  - Severe, incapacitating premenstrual syndrome (PMS)

Patients should be screened for psychosocial stressors, as described earlier in this section. The history should include previous psychologic problems, including consultations with a mental health professional, previous psychiatric illness, or contemplation of suicide. The family history should include a question concerning depression in relatives, especially first-degree relatives. When the initial screening suggests a depressive disorder, a more comprehensive history is in order.

All depressed patients should be evaluated for suicidal thinking and impulses. This evaluation is best done by direct questioning. If a woman has specific plans or significant risk of suicide, such as prior attempts or hopelessness, a mental health specialist should be consulted immediately. Of all people hospitalized for depression, 15% will eventually take their own lives.

The obstetrician–gynecologist may elect to treat depression in some individuals. Selection of an appropriate agent may be affected by safety, adverse effect profiles, and cost. Currently, tricyclics are less expensive than SSRIs, but SSRIs may have a more favorable safety profile. An example in which the adverse effect profile may be important in selecting an agent is avoidance of drugs that may cause sexual dysfunction. Agents such as bupropion, nefazodone, mirtazapine, and duloxetine may be associated with less sexual dysfunction than other antidepressants.

**Differential Diagnosis**

The clinician must keep in mind other conditions and distinguish them from depression; these conditions include bipolar disorder, grief, substance abuse, schizophrenia, dementia, medical illness, and medication effects. Patients who report symptoms of mania may have a bipolar disorder, and medical treatment will be different from the treatment for depression. Antidepressant medications can induce mania and should be used with caution in a patient previously treated for mania. In such cases, referral to a psychiatrist is recommended.
Treatment

Selection of treatment, whenever possible, should be a collaborative decision between practitioner and patient. Such shared decision making is likely to increase adherence and, therefore, treatment effectiveness. Medications should be considered for patients with moderate or severe depression, prior positive response to medication, or recurrent depression, as well as for patients who prefer medication to psychotherapy. Obstetrician–gynecologists should be aware of several drugs in different categories that they would feel knowledgeable prescribing. Psychotherapy alone often is effective in treating patients with mild or moderate depression, and a psychotherapy referral should be considered for patients with relatively mild depression when it is the patient’s preference. Combined treatment with psychotherapy and medication should be considered when the depression is more severe, there is an important psychosocial issue that would respond to therapy, or the patient has a history of treatment noncompliance or recurrent depression.

The major categories of antidepressant medication are tricyclic agents, SSRIs, heterocyclic agents, and monoamine oxidase inhibitors. No one antidepressant is clearly more effective than another. Choices often are made on the basis of adverse effects. Safety of the medication and lack of significant adverse side effects make SSRIs a first choice in antidepressants. Tricyclic agents often are used because of lower initial cost and greater experience with their use. However, several studies indicate that SSRIs are as cost-effective as tricyclic agents because they have fewer adverse effects, require less frequent medication changes, and have a higher rate of compliance. Like the SSRIs, the heterocyclics bupropion and trazodone appear safer than tricyclics in cases of potential overdose. Clinicians should be aware that bupropion is marketed under the name Zyban for smoking cessation. Note that monoamine oxidase inhibitors can have adverse effects and fatal interactions with other medications. Only practitioners with substantial experience with monoamine oxidase inhibitors should prescribe them.

Referral generally is recommended for the following situations:

- Depression with suicide risk
- Bipolar disorder
- Depression with psychotic symptoms (hallucinations, delusions)
- Depression in a pediatric or adolescent patient (some medications may increase suicidal risk in this age group) (see Resources)
- Failure to respond to previous interventions
• Substance abuse (such patients are at higher risk for suicide and require additional therapeutic interventions)
• Practitioner’s lack of comfort with treating the patient

Resources

Patient Resources


ACOG Professional Resources


Other Resources


National Mental Health Association
2001 N. Beauregard Street, 12th Floor
Alexandria, VA 22311
800-969-NMHA (6642)
http://www.nmha.org

Routine Screening and Prevention of Disease

The obstetrician–gynecologist is often the physician women access for routine screening and preventive care, especially during the reproductive years. Routine visits are opportunities for health care professionals to educate and counsel patients regarding risk factors and lifestyle issues identified by the screening history or physical examination that place them at risk for illness or injury. This section provides recommendations for the routine screening and prevention of diseases and conditions that affect women’s health. These recommendations are for nonpregnant women.

Immunizations

In the United States, vaccination programs that focus on infants and children have decreased the occurrence of many childhood, vaccine-preventable diseases. However, many adolescents and adults continue to be affected adversely by vaccine-preventable diseases (eg, influenza, varicella, hepatitis A, hepatitis B, measles, rubella, and pneumococcal pneumonia), partially because vaccine programs have not focused on improving vaccination coverage. Each year it is estimated that pneumococcal infection, influenza, and hepatitis B result in as many as 45,000 deaths in adults. Factors that have contributed to the low level of immunization in adults include 1) a general disinterest by the general public and physicians in the concept of adult immunization because of the attitude that immunization is for children, 2) misconceptions about the safety and efficacy of vaccines compared with the consequences of the diseases, 3) concerns about liability, and 4) a poorly developed immunization system.

Obstetrician–gynecologists and other clinicians who provide general well-woman examinations and preconception care have opportunities in which to counsel women on the need for immunizations. They also can provide vaccinations or referrals to vaccination clinics or services, when indicated.

It may be helpful to ask new patients who are scheduling well-woman examinations or preconception counseling to bring previous vaccination records. The ACOG patient education brochure Immunizations for Women can be used as a checklist by patients regarding their immunization needs (see Resources). Clinicians should attempt to gather a complete immunization history from each woman, including risk factors indicating the need
for immunization; they also should attempt to obtain previous records. If there are doubts about past immunizations, it is safest to assume that a woman has not been immunized and to initiate the appropriate vaccination series.

The American College of Obstetricians and Gynecologists recommends the following routine immunizations for women without risk factors by age group:

Age 13–18 years:
- Tetanus–diphtheria–pertussis booster (once between 11 and 16 years of age)
- HPV vaccine (one series for individuals not previously immunized)
- Hepatitis B vaccine (one series for individuals not previously immunized)
- Meningococcal conjugate vaccine (before entry into high school for individuals not previously immunized)

Age 19–64 years:
- Tetanus–diphtheria–pertussis booster every 10 years
- HPV vaccine (one series for individuals 26 years old and younger and not previously immunized)
- Influenza vaccine, annually (beginning at age 50 years)

Age 65 years and older:
- Tetanus–diphtheria booster every 10 years
- Influenza vaccine, annually
- Pneumococcal vaccine (once)

Additional or earlier immunizations are recommended for women with certain high-risk factors (see Table 3–1). Immunization recommendations can change quickly, as was seen in 2004 during an influenza vaccine shortage. The obstetrician–gynecologist can refer to the CDC’s National Immunization Program web page (www.cdc.gov/nip) for the most current recommendations (see also Resources). The current CDC adult immunization schedule can be found at www.cdc.gov/nip/recs/adult-schedule.pdf. The FDA recently approved a quadrivalent HPV vaccine for females 9–26 years of age. The American College of Obstetricians and Gynecologists...
recommends the vaccination of women in this age group (see “Sexually Transmitted Diseases” earlier in Part 3 and Resources). The Advisory Committee on Immunization Practices recommends as the initial vaccination target females aged 11–12 years. Although obstetrician–gynecologists are not likely to care for many girls in this initial vaccination target group, they are critical to the widespread use of the vaccine for females aged 13–26. During a health care visit with a girl or woman in the age range for vaccination, an assessment of the patient’s HPV vaccine status should be conducted and documented in the patient record. The quadrivalent HPV vaccine is most effective if given before any exposure to HPV infection, but sexually active women can receive and benefit from the quadrivalent vaccination. The currently approved quadrivalent vaccine protects against acquisition of HPV types that account for only 70% of HPV-related cervical cancer and 90% of genital warts cases. The vaccine is a preventive tool and is not a substitute for cancer screening. Current cervical cytologic screening recommendations remain unchanged and should be followed regardless of vaccination status.

The clinician should read vaccine package inserts thoroughly. The storage temperature, body site for injection (usually the deltoid), route of injection (eg, intramuscular, subcutaneous, or intradermal), and length of needle are critical items in maximizing efficacy.

Severe hypersensitivity reactions following immunizations, including anaphylaxis, are rare. The reactions almost always are caused by hypersensitivity to one or more of the vaccine components (residual animal proteins, antibiotics, preservatives, or stabilizers). On rare occasions, an anaphylactic reaction will be caused by trace amounts of an antibiotic such as neomycin or streptomycin (eg, neomycin in measles–mumps–rubella vaccine). Vaccination is contraindicated in women with a previous anaphylactic reaction. It is important to note that none of the current licensed vaccines contain penicillin; therefore, a history of penicillin hypersensitivity is not a contraindication to vaccination.

There are many misconceptions concerning contraindications to vaccination. The following are not contraindications to vaccination:

- Reaction to a previous vaccination that consisted of only mild to moderate local erythema or edema and temperature lower than 40.5°C (104.9°F)
- Mild upper respiratory or gastrointestinal tract illness with a temperature lower than 38.0°C (100.4°F)
• Current antimicrobial therapy or convalescence from a recent illness
• Pregnancy in a household contact
• Recent exposure to an infectious disease
• Breastfeeding
• Personal history of allergies
• Family history of allergies, adverse reactions to vaccination, or seizures

Federal law requires that a vaccine information statement developed by the CDC be given to all patients, regardless of age, before the administration of every dose of certain vaccines. State health departments or the CDC should be consulted to determine which vaccines are currently covered by this federal law. Vaccine information statements are available on the Internet at www.cdc.gov/nip/ or by contacting the National Immunization Information Hotline at 800-232-2522. The federal requirement to provide relevant vaccine information statements is in addition to any applicable state laws, and no state law can negate that requirement. In addition, some states may have informed consent laws regarding immunization.

The following information must be recorded in the patient’s permanent medical record (or a permanent office log):

• The name, address, and title of the person who administered the vaccine
• The date of administration
• The vaccine manufacturer
• The lot number of the vaccine used

Resources

Patient Resources


ACOG Professional Resources


Other Resources


Centers for Disease Control and Prevention International Travelers Information 877-394-8747 (877-FYI-TRIP) http://www.cdc.gov/travel

Centers for Disease Control and Prevention National Immunization Program http://www.cdc.gov/nip


Immunization Action Coalition http://www.immunize.org


Vaccine Adverse Event Reporting System
http://vaers.hhs.gov

Fitness

Patients should be assessed for general fitness and encouraged to exercise and eat a healthy diet. Adjustments to these assessments may be necessary based on the presence of risk factors and the woman’s current lifestyle and condition. Efforts should focus on weight control, cardiovascular fitness, and reduction of risk factors associated with CVD and diabetes. Fitness has a positive effect on longevity and quality of life.

Obstetrician–gynecologists should evaluate all women for obesity by calculating a BMI and should offer appropriate interventions or referrals to promote a healthy weight and lifestyle. Recommendations for the evaluation and management of the overweight adolescent can be found in the “Adolescents” section earlier in Part 3.

Body Mass Index

The BMI is an indirect measure of body fat and is used to determine obesity. It is computed as follows:

\[
\text{Weight in kilograms} \div (\text{Height in meters})^2
\]
To use pounds and inches to calculate BMI, multiply the division results by 700:

\[
\text{Weight in pounds} \div (\text{Height in inches})^2 \times 700
\]

Charts and computer and PDA programs are available to eliminate the need to calculate BMI (see Table 3–11 and Resources). Charts also have been developed to calculate BMI and BMI percentile for adolescents; an adolescent BMI calculator is available at www.acog.org/goto/teens (see “Adolescents” earlier in Part 3 and Resources). In recent clinical guidelines from the National Heart, Lung, and Blood Institute, BMI cutoff values to determine weight classification are as follows:

- **Underweight**—lower than 18.5
- **Normal weight**—18.5–24.9
- **Overweight**—25.0–29.9
- **Obesity, class I**—30.0–34.9
- **Obesity, class II**—35.0–39.9
- **Obesity, class III**—40.0 or higher

**Obesity**

Obesity, defined as a BMI of 30 or greater, is the fastest-growing health problem in the United States, and its prevalence has increased sharply during the past 20 years. Approximately one third of all U.S. women are obese. Obesity is more prevalent in lower-income and minority women; 49% of African-American women and 38% of Mexican-American women are obese, compared with 31% of white women.

Obesity has been associated with increased morbidity, including type 2 diabetes; hypertension; infertility; heart disease; gallbladder disease; osteoarthritis; and a variety of cancers, including breast, uterine, and colon cancers. Endometrial cancer is the most common gynecologic malignancy, and obese women are almost five times more likely than nonobese women to develop endometrial cancer. Obesity and overweight are associated with an increased risk of heart disease, the leading cause of death of women in the United States. An estimated 112,000 individuals die annually of obesity-associated causes.
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If a woman's BMI is 30 or greater, the severity of obesity (class I, II, or III) should be noted. Central adiposity, defined in women as a waist circumference greater than 35 in. (greater than 88 cm), may further identify women at risk for obesity-related morbidity. However, waist circumference adds little predictive power to determinations of disease risk for women with a BMI of 35 or higher. Waist circumference is measured at the end of a normal expiration of breath by placing a measuring tape around the abdomen at the level of the iliac crest.

Blood pressure measurements, fasting lipid panels, and fasting blood glucose measurements may be appropriate for identifying comorbidities. However, no single laboratory test or diagnostic evaluation is indicated for all obese patients, and the tests and evaluations performed should be based on the patient's symptoms and risk factors and the clinician's index of suspicion for specific comorbidities.

Weight management is a challenge for patients and their physicians. For many women, achieving and maintaining a healthy weight is a difficult and lifelong process. Improved health through weight loss and appropriate increased physical activity should be the goal. Counseling to support improvements in diet and physical activity are considered first-line interventions, although pharmacotherapy and surgery may be appropriate for some women. If available, referral for further evaluation and treatment should be considered whenever the resources of the clinician are insufficient to meet the patient's current needs, a woman has a BMI of 40 or higher, or a woman with a BMI of 35 or higher has comorbidities or has failed appropriate prior interventions.

The initial approach should involve reinforcing the importance of weight loss and exercise and assessing the patient's readiness to make behavioral changes. Setting an initial goal of losing 5–10% of total body weight during a 6-month period is realistic and achievable, and doing so can decrease the severity of obesity-associated risk factors.

Orlistat and sibutramine hydrochloride monohydrate have been approved by the FDA for patients with a BMI of 30 or higher and for patients with a BMI of 27 or higher and other risk factors (eg, hypertension, diabetes, or dyslipidemia) when used in combination with lifestyle changes. These agents are the two most studied pharmacologic treatments for obesity, although efficacy and safety beyond 12 months have not been investigated in randomized, controlled trials.

In some patients with severe obesity (BMI higher than 40) or patients with a BMI of 35 or higher with comorbid conditions, surgical intervention
may be an option if nonsurgical methods of weight loss have failed. Surgical options can promote substantial, long-term weight loss. These patients should be evaluated by a comprehensive bariatric treatment team.

**Nutrition**

Calculating BMI can give valuable information about the patient’s nutrition status. Patients who are above or below the normal range require more extensive evaluation and counseling and should be assessed for systemic disease or an eating disorder (see “Eating Disorders” earlier in Part 3).

The Institute of Medicine suggests that dietary planning should involve developing a nutritionally adequate diet using tools such as the food pyramid. The food pyramid (see Fig. 3–5) developed by the U.S. Department of Agriculture was revised recently and now provides an opportunity to individualize its recommendations through an interactive web-based program (www.mypyramid.gov). Primary care practitioners should furnish patients with general nutrition information and question them about their diet and lifestyle (see Box 3–24). If they cannot provide indicated long-term therapy, appropriate consultation should be arranged. Current Institute of Medicine dietary reference intakes and recommended dietary allowances are outlined in Table 3–12.

Fat intake is excessive in traditional U.S. diets. Excessive fat intake has been associated with elevated plasma lipid levels and an increase in coronary artery disease. It also is suspected of increasing the risk of certain malignancies, especially of the breast and colon. Fats should make up no more than 20–30% of the total calories in an adult diet, and most should come from sources of polyunsaturated fatty acids. Intake of saturated and trans-fatty acids should be limited.

Daily sodium requirements will vary with an individual’s size and physical activity—factors that affect sodium loss. The average recommended intake of sodium is in the range of 2,300 mg or less per day for normal individuals who do not have a need for sodium restriction. Patients should be advised about the value of limiting sodium intake, and efforts should focus on education and eliminating barriers to compliance.

Fiber content of the diet is being studied for its potential role in the prevention of several disorders, particularly colon cancer. Currently, it is recommended that the average diet contain 20–30 g of fiber per day. Foods high in dietary fiber include whole-grain breads and cereals, green and yellow vegetables, citrus fruits, and some legumes.
One size does not fit all
U.S. Department of Agriculture's new MyPyramid symbolizes a personalized approach to healthy eating and physical activity. The symbol has been designed to be simple. It has been developed to remind consumers to make healthy food choices and to be active every day. The different parts of the symbol are described below.

Activity
Activity is represented by the steps and the person climbing them as a reminder of the importance of daily physical activity.

Moderation
Moderation is represented by the narrowing of each food group from bottom to top. The wider base stands for foods with little or no solid fats or added sugars. These should be selected more often. The narrower top area stands for foods containing more added sugars and solid fats. The more active you are, the more of these foods can fit into your diet.

Personalization
Personalization is shown by the person on the steps, the slogan, and the URL. Find the kinds and amounts of food to eat each day at MyPyramid.gov.

Proportionality
Proportionality is shown by the different widths of the food group bands. The widths suggest how much food a person should choose from each group. The widths are just a general guide, not exact proportions. Check the website for how much is right for you.

Variety
Variety is symbolized by the six screened bands representing the five food groups of the pyramid and oils. This illustrates that foods from all groups are needed each day for good health.

Gradual Improvement
Gradual improvement is encouraged by the slogan. It suggests that individuals can benefit from taking small steps to improve their diet and lifestyle each day.
### GRAINS
Make half your grains whole

* Eat at least 3 oz of whole-grain cereals, breads, crackers, rice, or pasta every day.
* One ounce is about one slice of bread, about 1 cup of breakfast cereal, or \( \frac{1}{2} \) cup of cooked rice, cereal, or pasta.

### VEGETABLES
Vary your veggies

* Eat more dark-green veggies like broccoli, spinach, and other dark leafy greens.
* Eat more orange veggies like carrots and sweet potatoes.
* Eat more dry beans and peas like pinto beans, kidney beans, and lentils.

### FRUITS
Focus on fruits

* Eat a variety of fruit.
* Choose fresh, frozen, canned, or dried fruit.
* Go easy on fruit juices.

### MILK
Get your calcium-rich foods

* Go low-fat or fat-free when you choose milk, yogurt, and other milk products.
* If you don’t or can’t consume milk, choose lactose-free products or other calcium sources such as fortified foods and beverages.

### MEAT AND BEANS
Go lean with protein

* Choose low-fat or lean meats and poultry.
* Bake it, broil it, or grill it.
* Vary your protein routine—choose more fish, beans, peas, nuts, and seeds.

---

**For a 2,000-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.**

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Amounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grains</td>
<td>Eat 6 oz every day.</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Eat 2 ( \frac{1}{2} ) cups every day.</td>
</tr>
<tr>
<td>Fruits</td>
<td>Eat 2 cups every day.</td>
</tr>
<tr>
<td>Milk</td>
<td>Get 3 cups every day; for kids aged 2 to 8, it’s 2.</td>
</tr>
<tr>
<td>Meat and Beans</td>
<td>Eat 5 ( \frac{1}{2} ) oz every day.</td>
</tr>
</tbody>
</table>

---

**Find your balance between food and physical activity.**

- Be sure to stay within your daily caloric needs.
- Be physically active for at least 30 minutes most days of the week.
- About 60 minutes a day of physical activity may be needed to prevent weight gain.
- For sustaining weight loss, at least 60 to 90 minutes a day of physical activity may be required.
- Children and teenagers should be physically active for 60 minutes every day, or most days.

**Know the limits on fats, sugars, and salt (sodium).**

- Make most of your choices from fats, nuts, and vegetable oils.
- Limit solid fats like butter, stick margarine, shortening, and lard, as well as foods that contain these.
- Check the Nutrition Facts label to keep saturated fats, trans fats, and sodium low.
- Choose food and beverages low in added sugar. Added sugars contribute calories with few, if any, nutrients.

---

Box 3–24. Sample Questions for Basic Nutrition and Lifestyle History

- What did you eat and drink yesterday?
- Do you avoid any foods for religious reasons? For health reasons? Which ones?
- Do you drink alcoholic beverages? How often? How much?
- How many cigarettes or other tobacco products have you used in the past month?
- Are you taking any medication?
- Have you used any street drugs in the past month?
- Do you exercise? What kind? How often?
- Do you take any vitamin, mineral, or food supplements? What kind? How much?
- Has your weight changed in the past 5 years? How?
- Do you have a decreased sense of smell or taste?
- Are you trying to lose (or gain) weight? How? Why?
- How often do you skip meals?
- Do you eat breakfast?
- Does it bother you to know that you are going to be weighed?
- Do you ever force yourself to vomit? Use laxatives or diuretics to lose weight?
- Do you have unusual food or other cravings?
- Are you on a special diet? What kind? Why?
- Do you have problems with planning and preparing meals for yourself or your family? If so, for what reasons?
  - Too little time?
  - Poor access to shopping?
  - Financial constraints?
  - Lack of equipment and space for storing food or preparing meals?
  - Lack of appetite?
  - Physical problems with preparing or eating food?
  - Anything else?
Table 3–12. Dietary Reference Intakes and Recommended Dietary Allowances for Adolescent and Adult Nonpregnant Women*

<table>
<thead>
<tr>
<th>Nutrient (unit)†</th>
<th>14–18 y</th>
<th>19–30 y</th>
<th>31–50 y</th>
<th>51–70 y</th>
<th>More Than 70 y</th>
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<tbody>
<tr>
<td>Biotin (mcg/d)</td>
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<td>30</td>
<td>30</td>
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<tr>
<td>Calcium (mg/d)‡</td>
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<tr>
<td>Choline (mg/d)</td>
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<tr>
<td>Copper (mcg/d)</td>
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<td>Folate (mcg/d)</td>
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<td>Iron (mg/d)</td>
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<td>Magnesium (mg/d)</td>
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<td>Molybdenum (mcg/d)</td>
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<td>Pantothenic acid (mg/d) (no established UL)</td>
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<td>Phosphorus (mg/d)</td>
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(continued)
Table 3–12. Dietary Reference Intakes and Recommended Dietary Allowances for Adolescent and Adult Nonpregnant Women* (continued)

<table>
<thead>
<tr>
<th>Nutrient (unit)</th>
<th>14–18 y</th>
<th>19–30 y</th>
<th>31–50 y</th>
<th>51–70 y</th>
<th>More Than 70 y</th>
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<tr>
<td>Potassium (g/d)</td>
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<td>Riboflavin (mg/d)</td>
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<tr>
<td>Selenium (mcg/d)</td>
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<td>UL 400 400 400 400 400</td>
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<td>Sodium (g/d)</td>
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<tr>
<td>Thiamin (mg/d)</td>
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<td>1.1</td>
<td>1.1</td>
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</tr>
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<td>Vitamin A (mcg/d)</td>
<td>700</td>
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<td>700</td>
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</tr>
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<td>UL 2,800 3,000 3,000 3,000 3,000</td>
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</tr>
<tr>
<td>Vitamin B₆ (mg/d)</td>
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<td>1.3</td>
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<td>Vitamin C (mg/d)</td>
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<td>75</td>
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</tr>
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<td>Vitamin D (mcg/d)</td>
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<td>5</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>UL 50 50 50 50 50</td>
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<td></td>
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<td>Vitamin E (mg/d)</td>
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<tr>
<td>Vitamin K (mcg/d)</td>
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<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>(no established UL)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zinc (mg/d)</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>UL 34 40 40 40 40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(continued)
Lifelong adequate calcium intake is important in the prevention of osteoporosis. Adult women should receive 1,000 mg/d from diet or supplements, and adolescents should receive 1,300 mg/d. A postmenopausal woman who is not taking estrogen should receive 1,500 mg/d. There is no evidence that moderate caffeine intake causes osteoporosis when calcium intake is adequate. However, excessive intake of carbonated beverages may limit the bioavailability of calcium supplements. Because it is difficult to ingest 1,500 mg of calcium daily in an average diet, the use of supplements may be required.

A daily dose of 0.4 mg of folic acid, taken before conception and for the early part of pregnancy, has been shown to aid in the prevention of neural tube defects. In the United States, however, approximately 50% of pregnancies are unplanned, making the preconception intake of sufficient folic acid difficult to achieve. Few women will be able to obtain the equivalent of 0.4 mg of folic acid from dietary sources of folate. Most grains currently are being fortified at a level of 140 mcg of folic acid per 100 g of grain, but fortification alone has not yet been shown to meet the requirements for 0.4 mg/d. Therefore, daily supplementation with 0.4 mg of folic acid is recommended for all women of reproductive age to prevent fetal neural tube defects.
defects (see “Preconception Care” earlier in Part 3). For women taking anti-convulsants, women who have a history of neural tube defects, and women who have had previous children with neural tube defects, 4 mg/d is recommended.

**Exercise**

Properly conducted exercise can have a positive influence on promoting health and well-being by controlling or preventing disease in women of all ages. It also can be a mechanism for relieving stress. Before beginning an exercise program, it is advisable for patients to have a complete history and physical examination.

Patients should receive information on the benefits of physical activity and assistance in developing an exercise program. Factors that should be considered include medical limitations, such as obesity or arthritis and activities that promote health and enhance compliance. Women should be counseled about safety guidelines for exercise (see Box 3–25). Individuals who require additional direction or supervision may be referred to a fitness center or exercise specialist.

Emphasis should be placed on regular physical activity (eg, 30 min/d) rather than episodic vigorous exercise, especially for individuals with sedentary lifestyles. A 30-minute program of exercise should be continuous and sufficient to increase heart rate. For some people, 60 minutes of physical activity per day may be needed to prevent weight gain. Individuals who have lost weight may need to exercise 60–90 min/d to maintain their weight. A variety of self-directed, moderate-level physical activities (eg, gardening, raking leaves, walking, and taking the stairs) can be incorporated easily into an individual’s daily routine. High-impact exercise is not necessary to achieve benefits, and it may be harmful. Regular low-impact or moderate aerobic exercise has been associated with improved long-term compliance and with adequate health maintenance benefits. High-intensity weight training should be discouraged in adolescents to avoid injuries.

Measurement of heart rate during exercise is an excellent method by which to evaluate cardiovascular fitness. As conditioning improves, the heart rate stabilizes at a fixed level. The heart rate at which conditioning will develop is called the **target heart rate**. The formula for calculating the target heart rate is 220 minus the patient’s age, multiplied by 60–80%. For example, a 35-year-old woman will have a target heart rate of 111–148 beats per minute. Exceeding this target may be dangerous and should be done only under supervision.
Box 3–25. Safety Guidelines for Exercise

The following guidelines are useful for counseling the average woman seeking to improve her physical fitness through exercise without incurring excessive risk of injury.

Guidelines for Aerobic Dance and Similar Exercise

1. It is recommended that exercise routines involving repeated foot impacts be limited to 30 minutes in duration at intensities not exceeding 75% of maximal heart rate. There should be a day of rest between such sessions.

2. A resilient floor should be selected for exercise that involves repeated foot impacts. If such a surface is not available, the exercise routines should be modified to ensure that the feet remain close to the floor throughout the program.

3. Aerobic exercise should be preceded by a gentle warm-up routine that uses the full range of motion of the joints. This increases the elasticity of the muscles and will help prevent potentially injurious movements.

4. Muscles that are used repeatedly during aerobic exercise must be stretched carefully before and afterward.

5. To reduce the severity of impact shock on the lower extremities, repetitive jumping on the same foot should not exceed four consecutive jumps.

6. Extremes of joint flexion and extension (such as deep knee bends and ballistic [rapid or jerky] hyperextension of the knee) should be avoided.

7. The feet should be moved repeatedly to prevent cramping in the intrinsic muscles of the foot.

8. Trunk rotation should be avoided while on the feet with hips or lower spine flexed. Rotational activity in this position subjects the intervertebral disks to very high mechanical stress.

9. Intense physical activity always should be followed by a cool-down period of at least 10 minutes of lighter activity to prevent pooling of blood in the extremities. Hot showers and baths should be avoided immediately after intense physical activity.

10. Participants should be given a specific means of assessing physical status and progress. Working heart rate should be measured during peak levels of exercise to ensure that the intensity of activity is within the desired range. Regular measurement of the recovery heart rate will motivate participants by documenting their progress. Failure to progress as measured by this method may indicate the need for more intense activity during the aerobic phase or may signal the presence of other problems.
Postmenopausal women may partially retard bone loss with a moderate exercise program coupled with adequate calcium supplementation. In addition, exercise has been shown to help prevent falls and improve balance and gait.

Prolonged forms of strenuous exercise can be associated with hypoestrogenic chronic anovulation and low bone mineral density. Proper counseling is in order for women with amenorrhea. The interaction of

**Box 3–25. Safety Guidelines for Exercise (continued)**

**Guidelines for Strengthening Exercises**

1. Strengthening exercises should not be performed on the same muscles on consecutive days.

2. Exercises should be preceded and followed by stretching exercises that are specific for the muscles that are made to work against resistance.

3. All strengthening exercises should be performed in a slow and controlled manner. Ballistic (rapid or jerky) movements increase the risk of injury.

4. The most efficient way to improve strength is to allow brief rest periods between bouts of vigorous exercise. Repetitions should be limited to short sets (10 or fewer) that are repeated later.

5. When the strength of one muscle or muscle group is disproportionate to that of the antagonist(s) for that muscle or group, the weaker muscle should be strengthened to restore balance around the joint.

6. Participants should not hold their breath during strength-training exercises. Exhalation should take place during the exertion phase of each repetition.

**Guidelines for Stretching Exercises**

1. Stretching exercises may be performed as often as desired, preferably at least once a day.

2. A general warm-up routine should be performed before muscles are stretched.

3. Stretching routines should be performed statically, without holding the breath. Rapid, jerky movements should be avoided.

4. Each stretch should be held long enough so that relaxation will occur sufficiently to achieve the maximum benefit of the stretch. This can vary from as little as 6 seconds in some individuals to 20 seconds in others.

5. Muscles should be stretched only to the point of tension. Pain should be regarded as a signal that a stretch has gone too far.

exercise and emotional status should be recognized not only from the perspective of benefit but also from the perspective of counseling when exercise is excessive.

Resources

Patient Resources


ACOG Professional Resources


Other Resources

Cardiovascular Disorders

Patients should be counseled about factors that increase their risk of CVD: family history of CVD, dyslipidemia, hypertension, obesity, PCOS, lack of exercise, and smoking. Women at risk should be encouraged to modify their lifestyle to reduce these risks by eating a low-fat, low-salt diet; controlling hypertension; exercising to promote weight loss and cardiovascular fitness; and cessation of smoking. For patients with risk factors, such as obesity or hyperlipidemia, diet and exercise help prevent CVD at any age and constitute the first line of management before initiating drug therapy (see “Fitness” earlier in Part 3).

Cardiovascular disease is the leading cause of death in U.S. women. Cardiovascular disease often presents differently and has a higher mortality rate in women than in men. The obstetrician–gynecologist can educate, screen, monitor, and treat women to reduce their risk of morbidity and mortality from CVD such as myocardial infarction and stroke.

Nonmodifiable risk factors for CVD include age more than 55 years, a first-degree male relative with CHD before age 55 years or a first-degree female relative with CHD before age 65 years, and African-American ancestry. Risk factors that can be modified include cigarette smoking; lack of exercise; obesity; a high-fat diet; excessive alcohol consumption; excessive stress; and medical conditions such as diabetes, hypertension, hyperlipidemia, and hypertriglyceridemia.

The clinician should address the following issues with patients as indicated, depending on age, risk factors, and medical history:

- Educate patients regarding risk factors for, and symptoms of, CVD.
• Educate patients regarding heart attack symptoms: sudden, intense pressure or pain in the chest; shortness of breath; chest pain that spreads to the shoulders, neck, or arms; and feelings of lightheadedness, fainting, sweating, or nausea.

• Counsel patients regarding lifestyle modifications.
  – Diet low in saturated fat
  – Moderate exercise (five times per week for 30 minutes)
  – Smoking cessation
  – Weight control (maintain BMI lower than 25)
  – Benefits and risks of small to moderate alcohol intake

• Screen for hypertension.

• Screen for levels of total cholesterol and HDL cholesterol.

• Counsel patients with diabetes on the need to maintain normoglycemia.

• Treat or refer when risk factors are identified.

**Hypertension**

Hypertension affects 50 million people in the United States, including one of every four adults. The incidence of hypertension increases with each decade of life. Beginning soon after menopause, half of the U.S. female population is hypertensive, and the prevalence continues to increase thereafter. At every age, African-American women have a higher prevalence of hypertension than do white women.

Hypertension increases the risk of cardiovascular events, including CHD, congestive heart failure, stroke, peripheral vascular disease, and renal failure. Untreated hypertension is a major cause of mortality, with risk directly proportional to the degree of hypertension.

In 2004, the National Heart, Lung, and Blood Institute published its “Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure,” endorsing an optimal blood pressure as being less than 120/80 mm Hg and calling for more aggressive treatment of patients with high-normal blood pressure, especially when complicated by other conditions (Table 3–13). The report also included guidelines classifying patients by blood pressure level
and the presence of risk factors (eg, organ damage or high blood cholesterol levels), which were intended to identify which patients need medication or other treatment. A new category, called **prehypertension**, was added. Patients in this category are identified as being at increased risk for developing hypertension. Guidelines for blood pressure screening in adolescents have been developed by the National Heart, Lung, and Blood Task Force on High Blood Pressure in Children and Adolescents (www.nhlbi.nih.gov/health/prof/heart/hbp/hbp_ped.pdf).

Most patients with hypertension have **primary hypertension**, defined as elevated blood pressure with no demonstrable cause. High-risk groups for hypertension include African-American women, older women, women with prehypertension, women with a family history of hypertension, and women with lifestyle factors associated with hypertension (eg, obesity and excessive alcohol use).

Obstetrician–gynecologists can assume a pivotal role in the prevention of hypertension-related morbidity and mortality. They can incorporate suggestions for modifying lifestyle into patient counseling to prevent the development of chronic hypertension. Identification of women with prehypertension and treatment for stage 1 hypertension (see Table 3–13) are within the capabilities of the obstetrician–gynecologist. More advanced stages should be referred for specialist consultation.

**Hypertension** generally is defined as blood pressure higher than 140/90 mm Hg. Blood pressure readings higher than 120/80 mm Hg should alert the physician to begin counseling for lifestyle modifications to prevent the development of chronic hypertension. Most affected individuals have primary hypertension; perhaps 5% of affected patients have secondary hypertension (hypertension associated with other diseases) or malignant

<table>
<thead>
<tr>
<th>BP Classification</th>
<th>Systolic BP (mm Hg)</th>
<th>Diastolic BP (mm Hg)</th>
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<td>Less than 80</td>
</tr>
<tr>
<td>Prehypertension</td>
<td>120–139 or</td>
<td>80–89</td>
</tr>
<tr>
<td>Stage 1 hypertension</td>
<td>140–159 or</td>
<td>90–99</td>
</tr>
<tr>
<td>Stage 2 hypertension</td>
<td>160 or more or</td>
<td>100 or more</td>
</tr>
</tbody>
</table>

BP indicates blood pressure.

hypertension (severe hypertensive state, with diastolic pressure as high as 130 mm Hg or more and a poor prognosis).

A single blood pressure measurement is insufficient for diagnosis. Therapeutic intervention normally should be based on elevated readings taken from the average of two or more readings measured at each of two or more visits after an initial screening. “White coat” hypertension, associated with the stress sometimes experienced during a visit to a health care practitioner, is common. Initially elevated blood pressure returns to normal during the visit in 23% of patients.

Proper technique is crucial to measuring blood pressure accurately. The method recommended by the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure is shown in Box 3–26. Particularly important is proper assessment of Korotkoff sounds. Phase I Korotkoff sounds usually are identified easily as the time when sound becomes audible. Phase IV and V sounds are more difficult to identify. Phase IV Korotkoff sounds are defined as the point when muffling occurs, and phase V sounds are defined by sound disappearance. Phase I and phase V Korotkoff sounds should be used when possible.

**Box 3–26. Recommended Techniques of Blood Pressure Measurement**

- A properly calibrated and validated instrument should be used for blood pressure measurement.
- Patients should be seated in a chair with their feet on the floor, their backs supported, and their arms bared and supported at the level of their hearts. Patients should refrain from smoking or ingesting caffeine for at least 30 minutes before the blood pressure measurement.
- Blood pressure measurement should be taken after 5 minutes of rest.
- The appropriate-sized cuff should be used to ensure accuracy. The bladder of the blood pressure cuff should encircle at least 80% of the arm.
- Both systolic and diastolic blood pressures should be recorded. Systolic blood pressure is defined by the first appearance of heart sounds (phase I), and diastolic blood pressure is defined by the disappearance of heart sounds (phase V).

Laboratory assessments in women with hypertension include urinalysis, complete blood count, serum chemistries (eg, potassium, sodium, creatinine, and fasting glucose measurements), lipid profile, and electrocardiography. If electrocardiography indicates ventricular hypertrophy, echocardiography should be considered.

The goal of managing hypertension is to achieve a systolic blood pressure below 120 mm Hg and a diastolic blood pressure less than 80 mm Hg. Lifestyle modifications for both prevention and management of hypertension include weight loss (in overweight patients); limiting alcohol intake to less than 1 ounce of absolute alcohol daily; increasing aerobic physical activity; reducing sodium intake; ensuring adequate dietary intake of potassium, calcium, and magnesium; quitting smoking; and reducing dietary intake of saturated fat and cholesterol.

A variety of pharmacologic therapies are available for managing hypertension, including thiazide diuretics, adrenergic blockers, angiotensin-converting enzyme (ACE) inhibitors, and calcium channel blockers. (See Table 3-14 and Fig. 3–6 for the treatment of hypertension that does not respond to lifestyle modifications.) Note that ACE inhibitors should be used with caution in women who may become pregnant.

Table 3–14. Compelling Indications for Individual Drug Classes of Blood Pressure Medication

<table>
<thead>
<tr>
<th>Compelling Indication*</th>
<th>Diuretic</th>
<th>BB</th>
<th>ACEI</th>
<th>ARB</th>
<th>CCB</th>
<th>Aldo ANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart failure</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>–</td>
<td>x</td>
</tr>
<tr>
<td>Postmyocardial infarction</td>
<td>–</td>
<td>x</td>
<td>x</td>
<td>–</td>
<td>–</td>
<td>x</td>
</tr>
<tr>
<td>High coronary disease risk</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>–</td>
<td>x</td>
<td>–</td>
</tr>
<tr>
<td>Diabetes</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>–</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>–</td>
<td>–</td>
<td>x</td>
<td>x</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Recurrent stroke prevention</td>
<td>x</td>
<td>–</td>
<td>–</td>
<td>x</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

ACEI indicates angiotensin converting enzyme inhibitor; Aldo ANT, aldosterone antagonist; ARB, angiotensin receptor blocker; BB, beta blocker; CCB, calcium channel blocker.

* Compelling indications for antihypertensive drugs are based on benefits from outcome studies or existing clinical guidelines; the compelling indication is managed in parallel with the blood pressure.

Lifestyle modifications

Not at goal blood pressure (less than 140/90 mm Hg)
(Less than 130/80 mm Hg for patients with diabetes or chronic kidney disease)

Initial drug choices

Without compelling indications

Stage 1 Hypertension
(SBP 140–159 mm Hg or DBP 90–99 mm Hg)
Thiazide-type diuretics for most. May consider ACEI, ARB, BB, CCB, or combination

Stage 2 Hypertension
(SBP 160 mm Hg or higher or DBP 100 mm Hg or higher).
Two-drug combination for most (usually thiazide-type diuretic and ACEI, or ARB, or BB, or CCB)

With compelling indications

Drug(s) for the compelling indications
(see Table 3–14)
Other antihypertensive drugs (diuretics, ACEI, ARB, BB, CCB) as needed

Not at goal blood pressure

Optimize dosages or add drugs until goal blood pressure is achieved. Consider consultation with hypertension specialist.

Resources

ACOG Resources


Other Resources


National Heart, Lung, and Blood Institute
National High Blood Pressure Education Program


Lipids

Coronary heart disease is the leading cause of death for both men and women in the United States and accounts for approximately 500,000 deaths each year. Clinical trials have shown that a 1% reduction in serum cholesterol levels results in a 2% reduction in CHD rates. Approximately one quarter to one third of individuals who have a first coronary event will die as a result. Although a short-term benefit of cholesterol level reduction is anticipated in patients at high risk for future CHD, the near-term benefit of decreasing cholesterol levels is greater among patients with established CHD. Thus, primary prevention (ie, prevention for patients without established CHD) and secondary prevention (ie, prevention for patients with established CHD) are both important health issues.

Abnormal cholesterol levels have been firmly linked to atherosclerosis and cardiovascular and cerebrovascular disease. However, standards as to
the identification of candidates for testing and frequency of testing differ among organizations. Furthermore, the value of lipid screening in women without definite risk factors (eg, tobacco use, hypertension, diabetes, or a family history of CVD) remains disputed. Current ACOG guidelines recommend that women without risk factors have a lipid profile assessment every 5 years, beginning at age 45 years. Earlier screening may be appropriate in women with risk factors (see Table 3–1).

The National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) recommends screening for high blood cholesterol levels (available at www.nhlbi.nih.gov/guidelines/cholesterol/index.htm; see Resources). The panel recommends that a fasting lipoprotein profile (total cholesterol, LDL cholesterol, HDL cholesterol, and triglycerides) be obtained for all adults 20 years or older, once every 5 years. Optimal levels are less than 100 mg/dL for LDL cholesterol, less than 200 mg/dL for total cholesterol, and 60 mg/dL or higher for HDL cholesterol (see Box 3–27). The recommended level of LDL cholesterol is based on risk factors. If the only testing opportunity is nonfasting, only the total cholesterol and the HDL measurements will be usable.

**Box 3–27. Classification of Low-Density Lipoprotein (LDL), Total, and High-Density Lipoprotein (HDL) Cholesterol**

<table>
<thead>
<tr>
<th>LDL Cholesterol (mg/dL)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100</td>
<td>Optimal</td>
</tr>
<tr>
<td>100–129</td>
<td>Near optimal/above optimal</td>
</tr>
<tr>
<td>130–159</td>
<td>Borderline high</td>
</tr>
<tr>
<td>160–189</td>
<td>High</td>
</tr>
<tr>
<td>190 or higher</td>
<td>Very high</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total Cholesterol (mg/dL)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 200</td>
<td>Desirable</td>
</tr>
<tr>
<td>200–239</td>
<td>Borderline high</td>
</tr>
<tr>
<td>240 or higher</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HDL Cholesterol (mg/dL)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 40</td>
<td>Low</td>
</tr>
<tr>
<td>60 or more</td>
<td>High</td>
</tr>
</tbody>
</table>

The U.S. Preventive Services Task Force strongly recommends that clinicians routinely screen women 45 years and older for lipid disorders and treat women with abnormal lipids who are at increased risk of CHD (see Resources). The task force recommends routinely screening younger women (aged 20–45 years) for lipid disorders if they have other risk factors for CHD. Although the task force recommends that screening for lipid disorders include measurement of total cholesterol and HDL cholesterol, it concludes that evidence is insufficient to recommend for or against triglyceride measurement as a part of routine screening for lipid disorders. The task force finds that nonfasting or fasting samples can be used.

Complicating the issue of cholesterol screening are both individual and laboratory variations. Blood lipid measurements in one person may vary by 4–11%; cholesterol trends over time rather than a single measurement are probably a more accurate indicator of a woman’s condition. Laboratory variations exist for cholesterol readings as well. Even well-maintained laboratory services do not always meet national standards. Office laboratory analyzers are so difficult to maintain that their use is not recommended. Recommendations effective in limiting individual and laboratory variance are shown in Box 3–28.

The National Cholesterol Education Program Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult

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**Box 3–28. Recommendations for Obtaining and Processing Lipid Specimens**

- A normal diet should be consumed in the days before sampling is performed.
- The patient should fast for 9–12 hours before the specimen is drawn.
- The patient should not engage in any exercise during the fasting period and before venipuncture.
- Tobacco and caffeine should not be ingested on the day of sampling.
- The patient should sit quietly for 15 minutes before the sample is collected.
- The sample should be obtained within 2 minutes of tourniquet time.

Treatment Panel III) also recommends treatment of patients with high blood cholesterol levels (available at www.nhlbi.nih.gov/guidelines/cholesterol/index.htm). Research indicates that elevated LDL cholesterol is a major cause of CHD. In addition, recent clinical trials show that LDL cholesterol-lowering therapy reduces the risk of CHD. For these reasons, the panel considers elevated LDL cholesterol as the primary target of cholesterol-lowering therapy. A secondary target of cholesterol-lowering therapy also was introduced for patients with elevated triglycerides (200 mg/dL or higher).

Recommended levels of LDL cholesterol are based on risk assessment. Factors to be considered in determining a patient's level of risk include the presence or absence of CHD, diabetes mellitus, and other clinical forms of atherosclerotic disease; cigarette smoking; hypertension; low HDL cholesterol levels; family history of premature CHD; and age. The panel recommends the use of a risk assessment tool that predicts 10-year risk of developing CHD (available at hp2010.nhlbihin.net/atpiii/calculator.asp?user-type=prof). Decisions regarding treatment are based on this risk measure.

Patients with major medical risk factors, life–habit risk factors, and emerging risk factors are characterized by a condition called the metabolic syndrome. The National Heart, Lung, and Blood Institute and the American Heart Association define metabolic syndrome in women as the presence of three or more of these components:

- Waist circumference equal to or greater than 35 inches
- Triglyceride level 150 mg/dL or higher
- HDL cholesterol less than 50 mg/dL
- Blood pressure 130/85 mm Hg or higher
- Fasting glucose level 100 mg/dL or higher

Among patients served by obstetricians and gynecologists, individuals with PCOS may be at increased risk for CHD because of underlying chronic anovulation and hyperandrogenism (see also “Polycystic Ovary Syndrome” later in Part 3). These patients exhibit hyperinsulinemia, insulin resistance, type 2 diabetes, and lipid abnormalities. Patients with PCOS often are identified at the time they present for infertility evaluation. Preconception counseling is the ideal setting in which to discuss lifestyle modifications such as moderate exercise for 30 minutes a day, 5 days a week; a change to a low-fat and low-cholesterol diet; and weight reduction, if needed, which may reduce complications of pregnancy in the short term.
and the risk of CHD in the long term. Initial therapy aimed at lowering LDL cholesterol, such as weight reduction and increased physical activity, also may improve the clinical features of the metabolic syndrome.

Treatment for high LDL cholesterol levels can include therapeutic lifestyle changes, drug therapy, or both, depending on the risk category of the patient. Therapeutic lifestyle changes include dietary changes to reduce intake of saturated fats and cholesterol and enhance intake of plant stanols and sterols and soluble fiber, weight reduction, and increased physical activity. Drug therapy options include statins, bile acid sequestrants, and nicotinic acids. To assist clinicians in the evaluation and treatment of high blood cholesterol levels, the National Heart, Lung, and Blood Institute has developed a quick desk reference for clinicians based on the recommendations of the panel (see Resources).

Resources

**ACOG Resources**


**Other Resources**


Well-Woman Care


Thromboembolic Disease

Venous thromboembolic disease represents a spectrum of conditions ranging from peripheral thrombosis to pulmonary embolism and stroke. Risk factors for venous thromboembolic disease include age, prolonged immobility (eg, due to stroke or paralysis), surgery, trauma, malignancy, pregnancy, estrogenic medications (eg, hormonal contraceptives, HT, raloxifene, and tamoxifen), congestive heart failure, hyperhomocysteinemia, diseases that increase blood viscosity (eg, polycythemia, sickle cell disease, and multiple myeloma), and inherited thrombophilia. Risk factors are categorized in Table 3–15. Patients with inheritable causes of thrombosis usually do not have spontaneous venous thrombosis until they have been exposed to another environmental risk factor such as pregnancy, trauma, surgery, or immobilization.

Venous thromboembolism is a leading cause of morbidity and mortality in hospitalized patients in the United States. The presence of an asymptomatic deep vein thromboembolism is strongly linked to the development of a clinically significant pulmonary embolism. Most patients who die from
a pulmonary embolism do so within 30 minutes of the event, leaving little
time for therapeutic interventions. Thus, it is important to assess patient
risk and adopt appropriate preventive measures before surgery or hospital-
ization (see “Ambulatory Gynecologic Surgery”). Evidence-based risk
assessment classifications and recommended prophylaxis strategies based
on risk have been published (see Resources).

Table 3–15. Risk Factors for Venous Thromboembolic Disease

<table>
<thead>
<tr>
<th>Stasis/Endothelial Injury</th>
<th>Thrombophilias</th>
<th>Medical Conditions</th>
<th>Drugs</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indwelling venous device</td>
<td>Activated protein C resistance</td>
<td>Malignancy (Solid-tumor and myeloproliferative disorders)</td>
<td>Hormonal contraceptives</td>
<td>Age</td>
</tr>
<tr>
<td>Surgery (most commonly pelvic and orthopedic)</td>
<td>Factor V Leiden</td>
<td>Pregnancy</td>
<td>Hormone therapy</td>
<td></td>
</tr>
<tr>
<td>Major trauma, fracture</td>
<td>Prothrombin gene mutation G20210A</td>
<td>Myocardial infarction</td>
<td>Chemotherapy (including tamoxifen)</td>
<td></td>
</tr>
<tr>
<td>Prolonged travel</td>
<td>Hyperhomocysteinemia</td>
<td>Congestive heart failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paralysis (including anesthesia for more than 30 min)</td>
<td>Anticardiolipin antibodies</td>
<td>Stroke</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicose veins</td>
<td>Lupus anticoagulant Elevated factor VIII level</td>
<td>Obesity Inflammatory bowel disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protein C deficiency</td>
<td>Nephrotic syndrome</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protein S deficiency</td>
<td>History of deep vein thrombosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dysfibrinogenemia</td>
<td>Heparin-induced thrombocytopenia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dysplasminogenemia</td>
<td>Paroxysmal nocturnal hemoglobinuria</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Resources


Diabetes

Diabetes mellitus is a group of disorders that share hyperglycemia as a common feature. Even when symptoms are not present, the disease can cause long-term complications. Ideally, it should be detected and treated in its early stages. The American Diabetes Association and ACOG recommend that all individuals be screened every 3 years beginning at age 45 years. Screening should begin at a younger age or be more frequent in individuals with risk factors (see Table 3–1).

Diabetes can be diagnosed on the basis of several criteria (see Box 3–29). Although the oral glucose tolerance test and fasting plasma glucose test are both suitable, the fasting plasma glucose test is recommended in most situations because it is easier and faster to perform, more convenient and acceptable to patients, more reproducible, and less expensive. The American Diabetes Association also recognizes an intermediate group of individuals (“impaired”) whose glucose levels, although not meeting the criteria for diabetes, are nevertheless too high to be considered altogether normal.

Previously, persons with diabetes were classified as being insulin dependent (type I) or non–insulin dependent (type II). In 1997, however, the American Diabetes Association changed the system of nomenclature to type 1 and type 2 and dropped the terms insulin dependent and non–insulin dependent. In either type, the goal of management is to ensure adequate glucose control. If symptoms are present, immediate drug therapy may be necessary; otherwise, dietary control, weight loss, and active exercise programs should be instituted, and the patient should be educated about her
Because of the greater risk of coronary problems, the target blood pressure for diabetic patients is lower. The American Diabetes Association recommends a target blood pressure of less than 130/80 mm Hg for people with diabetes. The patient's condition should be assessed to detect complications of the disease, such as organ damage from vascular changes.

**Nutrition control is an integral component of care for women with diabetes or impaired fasting glucose. Patients should be educated about the importance of sufficient fiber and of limiting their intake of saturated fats and refined sugars. Women with diabetes need thorough dietary counseling and may need the services of a dietitian to help with planning their diet.**

---

**Box 3–29. Diagnosis of Diabetes Mellitus**

**Categories of Fasting Plasma Glucose Values**

- Fasting plasma glucose less than 100 mg/dL = normal fasting glucose.
- Fasting plasma glucose 100 mg/dL or more and less than 126 mg/dL = impaired fasting glucose.
- Fasting plasma glucose 126 mg/dL or more = provisional diagnosis of diabetes mellitus (the diagnosis must be confirmed).

**Criteria for the Diagnosis of Diabetes Mellitus**

1. Symptoms of diabetes plus casual plasma glucose concentration 200 mg/dL or more (11.1 mmol/L). Casual is defined as any time of day without regard to time since last meal. The classic symptoms of diabetes include polyuria, polydipsia, and unexplained weight loss.

**OR**

2. Fasting plasma glucose 126 mg/dL or more (7.0 mmol/L). Fasting is defined as no caloric intake for at least 8 h.

**OR**

3. 2-h postload glucose 200 mg/dL or more during an oral glucose tolerance test. The test should be performed as described by the World Health Organization, using a glucose load containing the equivalent of 75 g of anhydrous glucose dissolved in water.

In the absence of unequivocal hyperglycemia, these criteria should be confirmed by repeat testing on a different day. The third measure (oral glucose tolerance test) is not recommended for routine clinical use.

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Resources

ACOG Resources


Other Resources


Osteoporosis

Approximately 13–18% of U.S. women aged 50 years and older have osteoporosis, and another 37–50% have low bone mass (osteopenia). Both osteopenia and osteoporosis increase the risk of fracture. Although hip fracture has been emphasized properly as a significant source of morbidity and mortality (15–20%), the more common thoracic spine fracture also is a source of marked morbidity, including pain; deformity; loss of independence; and reduced cardiovascular, respiratory, and even digestive function. Osteoporosis is a largely preventable complication of menopause. Screening strategies and pharmacologic interventions are available to prevent and treat osteoporosis.

The risk of postmenopausal osteoporosis is a function of both the peak bone mass acquired during adolescent growth and the rate of bone loss in adulthood. Risk factors for osteoporotic fracture are outlined in Box 3–30. Certain diseases or medical conditions and certain drugs are known to be associated with bone loss (see Boxes 3–31 and 3–32).

Several tests—either radiation based or radiation-free—to measure bone mineral density are available. Dual energy X-ray absorptiometry is the technical standard for measuring bone mineral density. Most of the recent large, randomized, controlled clinical trials have used DXA of the hip and spine to determine therapeutic efficacy. Dual energy X-ray absorptiometry is preferred because it measures bone mineral density at the important sites of osteoporotic fractures (especially the hip), is relatively inexpensive, has high precision and accuracy, and has modest radiation exposure.
Because the amount of emitted radiation of DXA machines is below regulated thresholds, no national standard for DXA exists. This technology commonly is regulated by local and state agencies. Check hospital, local, and state regulatory standards that apply in your area. Usually the manufacturer of the DXA equipment provides training and continuing education for technical and professional staff.

Women should be counseled on the risks of osteoporosis and related fragility fractures. Such counseling should be part of the annual gynecologic examination. Women should be counseled about the following preventive measures:

- Adequate calcium consumption (at least 1,000–1,500 mg/d) using dietary supplements if dietary sources are not adequate
- Adequate vitamin D consumption (400–800 international units daily) and exposure to the natural sources of this nutrient
- Regular weight-bearing and muscle-strengthening exercises to reduce falls and prevent fractures

**Box 3–30. Risk Factors for Osteoporotic Fracture in Postmenopausal Women**

- History of prior fracture
- Family history of osteoporosis
- Caucasian race
- Dementia
- Poor nutrition
- Smoking
- Low weight and body mass index
- Estrogen deficiency*
  - Early menopause (younger than 45 years) or bilateral oophorectomy
  - Prolonged premenopausal amenorrhea (more than 1 year)
- Long-term low calcium intake
- Alcoholism
- Impaired eyesight despite adequate correction
- History of falls
- Inadequate physical activity

*A patient’s current use of hormone therapy does not preclude estrogen deficiency.

• Smoking cessation (see “Substance Use and Abuse” later in Part 3)
• Moderation of alcohol intake
• Fall prevention strategies, including removal of throw rugs, and use of hip protectors

The following are ACOG screening recommendations:
• Bone mineral density testing should be recommended to all postmenopausal women 65 years or older.

**Box 3–31. Medical Conditions That May Be Associated With an Increased Risk of Osteoporosis in Adults**

- Acquired immunodeficiency syndrome or human immunodeficiency virus (HIV)
- Amyloidosis
- Ankylosing spondylitis
- Chronic obstructive pulmonary disease
- Congenital porphyria
- Cushing’s syndrome
- Eating disorders
- Female athlete triad
- Gastrectomy
- Gaucher’s disease
- Hemochromatosis
- Hemophilia
- Hyperparathyroidism
- Hypogonadism, primary and secondary
- Hypophosphatasia
- Idiopathic scoliosis
- Inadequate diet
- Inflammatory bowel disease
- Insulin-dependent diabetes mellitus
- Lymphoma and leukemia
- Malabsorption syndromes
- Mastocytosis
- Multiple myeloma
- Multiple sclerosis
- Pernicious anemia
- Rheumatoid arthritis
- Severe liver disease, especially primary biliary cirrhosis
- Spinal cord transsection
- Sprue
- Stroke (cerebrovascular accident)
- Thalassemia
- Thyrotoxicosis
- Tumor secretion of parathyroid hormone-related peptide
- Weight loss

Bone mineral density testing may be recommended to postmenopausal women younger than 65 years who have one or more risk factors for osteoporosis.

Bone mineral density testing should be performed on all postmenopausal women with fractures to confirm the diagnosis of osteoporosis and determine disease severity.

In the absence of new risk factors, screening should not be performed more frequently than every 2 years.

First-line pharmacologic options determined by the FDA to be safe and effective for osteoporosis prevention (bisphosphonates [alendronate and risedronate], raloxifene, and estrogen) should be used. Therapy should be instituted in postmenopausal women with bone mineral density T-scores lower than −2 determined by central DXA in the absence of risk factors and in women with T-scores lower than −1.5 in the presence of one or more risk factors.

Treatment for osteoporosis should be initiated to reduce fracture risk in postmenopausal women who have experienced a fragility or low-impact fracture. First-line pharmacologic options determined by the FDA to be

**Box 3–32. Drugs Associated With an Increased Risk of Generalized Osteoporosis in Adults**

- Aluminum
- Anticonvulsants (phenobarbital, phenytoin)
- Cytotoxic drugs
- Glucocorticosteroids and adrenocorticotropin
- Gonadotropin-releasing hormone agonists
- Immunosuppressants
- Lithium
- Long-term heparin use
- Progesterone, parenteral, long-acting
- Supraphysiologic thyroxine doses
- Tamoxifen (premenopausal use)
- Total parenteral nutrition

safe and effective for osteoporosis treatment include bisphosphonates, raloxifene, calcitonin, and parathyroid hormone.

**Resources**

**ACOG Patient Resources**


**ACOG Professional Resources**


**Other Resources**


**Hereditary Disorders**

Identification and management of genetic risk factors have the potential to affect the quality and length of a woman’s life. Some investigators estimate that 60% of all sick individuals have diseases influenced by genetic factors. Genetic risk factors that may be identified include the more common ones of cancer and heart disease and more specific ones discovered through
family history or medical history. Relatively common conditions that have, or are suspected to have, a genetic contribution include the following:

- Atherosclerotic heart disease
- Bleeding disorders (hemophilia, von Willebrand’s disease)
- Cancer, including breast, ovarian, endometrial, and colon cancer
- Clotting disorders (antithrombin III, protein C or S, or Factor V Leiden deficiencies)
- Cystic fibrosis
- Diabetes mellitus
- Familial hypercholesterolemia
- Fragile X syndrome
- Glaucoma
- Glucose-6-phosphate dehydrogenase deficiency
- Hemoglobinopathies (eg, sickle cell disease and thalassemias)
- Huntington’s disease
- Hypertension
- Marfan syndrome
- Muscular dystrophy
- Myotonic dystrophy
- Neural tube defects
- Neurofibromatosis
- Polycystic kidney disease
- Seizure disorders

A family history that may identify genetic risks should be gathered. Lifestyle changes and medical interventions may affect overall health as risk factors are determined. Women should be informed of genetic risks and offered appropriate counseling and testing. Specific counseling is need for testing that may have medical or psychosocial consequences. Both pretest and posttest counseling facilitate women’s access to appropriate health care. Referral may be needed for comprehensive counseling. Personnel capable of offering and delivering genetic services are specially trained. Most clinicians are capable of basic genetic risk identification and
counseling. Personnel with more advanced training, such as genetic counselors and medical geneticists, are appropriate for patients with both common and more unusual abnormalities.

Genetic services also may play a role in assisted reproductive technology. Gamete donors should be screened for heritable disorders through evaluation of pedigree, counseling, and—when appropriate—testing procedures. In some circumstances it is possible to identify embryos affected by certain diseases before implantation, in which case the affected embryos are not transferred.

Concerns about the impact of information about genetic conditions on such factors as employability and insurability have been raised. Patients should be encouraged to consider the importance of relatives’ being made aware of genetic disorders in the family, and confidentiality issues must be considered carefully (see also “Human Resources” in Part 1). The patient should be informed prospectively about policies regarding the use of information and legal requirements. Ordinarily, information may not be revealed without the patient’s express consent. However, there may be situations in which the information may not be protected. The health care professional should be familiar with state or federal requirements regarding genetic screening, reporting, disclosure, breach of confidentiality, and discrimination based on genetic information.

Resources

Patient Resources


March of Dimes
1275 Mamaroneck Avenue, White Plains, NY 10605
http://www.marchofdimes.com
**ACOG Professional Resources**


**Other Resources**


**Cancer Screening and Prevention**

Cancer is currently the second leading cause of death in women, after CVD. Many treatments are available, but early detection significantly improves treatment outcomes and reduces mortality. Because the obstetrician–gynecologist may be the only physician providing routine care, every obstetrician–gynecologist should be able to provide recommendations for routine cancer screenings, including screening for nongynecologic cancers.
The obstetrician–gynecologist should discuss both the benefits and limitations of screening tests with the patient. Evaluation of the risk of cancer includes assessment of high-risk behaviors and family history.

The estimated number of women in the United States who would develop various malignancies and the number expected to die of these cancers in 2007 is shown in Table 3–16. Even though breast cancer is the most frequent cancer in women, with more than 178,000 new cases expected in 2007, lung and bronchus cancer is the most common cause of cancer deaths in women in the United States, with more than 70,000 deaths estimated in 2007.

According to currently available information, the most important factors in the development of cancer appear to be tobacco use, diet, infectious agents, alcohol consumption, and geographic location. The most well understood of these factors is tobacco use, which is thought to cause approximately 30% of cancer deaths in developed countries. The second major cause of cancer is the more complex aspects of diet and nutrition, with 35% of cancer deaths associated with dietary practices. Recent research has identified clear associations between cancer risk and certain infectious agents, such as the association of some types of HPV with cervical and vulvar cancer. In addition, striking associations also exist between hepatitis viruses and liver cancer and between Epstein-Barr virus and nasopharyngeal cancer. Current estimates suggest that at least 10% of human cancers may be the result of infection, and it is expected that fur-

**Table 3–16. Estimated Number and Lifetime Risk of Women Who Will Develop or Die From Various Types of Cancer in 2007**

<table>
<thead>
<tr>
<th>Type of Cancer</th>
<th>Number of New Cases</th>
<th>Lifetime Risk of Developing, 1 in</th>
<th>Number of Deaths</th>
<th>Lifetime Risk of Dying from, 1 in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>178,480</td>
<td>8</td>
<td>40,460</td>
<td>34</td>
</tr>
<tr>
<td>Lung</td>
<td>98,620</td>
<td>17</td>
<td>70,880</td>
<td>20</td>
</tr>
<tr>
<td>Colorectal</td>
<td>74,630</td>
<td>18</td>
<td>26,180</td>
<td>45</td>
</tr>
<tr>
<td>Endometrial</td>
<td>39,086</td>
<td>38</td>
<td>7,400</td>
<td>196</td>
</tr>
<tr>
<td>Skin</td>
<td>27,980</td>
<td>77</td>
<td>3,710</td>
<td>500</td>
</tr>
<tr>
<td>Ovarian</td>
<td>22,430</td>
<td>68</td>
<td>15,280</td>
<td>95</td>
</tr>
<tr>
<td>Cervical</td>
<td>11,150</td>
<td>135</td>
<td>3,670</td>
<td>385</td>
</tr>
</tbody>
</table>

ther research in this area will increase this estimate significantly. Most of the other proposed causes of cancer, including alcohol consumption, industrial by-products, food additives, and other constitutional and geographic factors, account for much smaller proportions of cancer deaths.

The American College of Obstetricians and Gynecologists recommends that every woman have a general health evaluation annually or as appropriate, including evaluation for cancer and examination, as indicated, to detect signs of premalignant or malignant conditions (see Table 3–17). This examination should include annual pelvic and breast examinations and also may include evaluation of the skin, lymph nodes, thyroid gland, oral cavity, anus, and rectum.

Lung cancer is a leading cause of death from malignancy for women aged 40–64 years. The only effective way to reduce mortality is to promote smoking cessation. Health care practitioners can make a major contribution to the long-term health of women who smoke by identifying all women who smoke and counseling them to stop (see Resources and “Substance Use and Abuse” later in Part 3). A concrete smoking cessation plan—coupled with the use of pharmacotherapy aids when indicated—as well as proper follow-up care can help women quit smoking and avoid relapse. Legislative and voluntary measures to reduce the risk of secondary exposure to smoke also are important current efforts to reduce the incidence of lung cancer.

The incidence of breast cancer increases with age. Factors that increase the risk of breast cancer are outlined in Table 3–18.

Mammography may be used as either a screening device or an adjunct in the diagnosis of a palpable mass. A palpable mass, in the presence of normal findings on mammography, requires tissue assessment. At present, mammography is the only screening method available to detect subclinical or occult breast cancer, the stage least likely to have spread to regional lymph nodes and beyond. The American College of Obstetricians and Gynecologists recommends mammography screening every 1–2 years for women aged 40–49 years and annually for women 50 years and older. Despite a lack of definitive data for or against breast self-examination, this technique has the potential to detect palpable breast cancer and can be recommended.

Consideration should be given to tamoxifen chemopreventive therapy for women at high risk for developing breast cancer. Individualized risk assessment should be performed to determine whether a patient is a candidate for breast cancer risk reduction by chemoprevention unless she has
### Table 3–17. Suggested Routine Cancer Screening Guidelines

<table>
<thead>
<tr>
<th>Topic</th>
<th>Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>General health counseling and cancer evaluation</td>
<td>All women should have a general health evaluation annually or as appropriate that should include evaluation for cancer and examination, as indicated, to detect signs of premalignant or malignant conditions.</td>
</tr>
<tr>
<td>Breast cancer</td>
<td>Mammography should be performed every 1–2 years beginning at age 40 years and yearly beginning at age 50 years. All women should have an annual clinical breast examination as part of the physical examination. Despite a lack of definitive data for or against breast self-examination, breast self-examination has the potential to detect palpable breast cancer and can be recommended.</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>Cervical cytology should be performed annually beginning at approximately three years after initiation of sexual intercourse but no later than age 21 years. Cervical cytology screening can be performed every 2–3 years after three consecutive negative test results if the patient is aged 30 years or older with no history of cervical intraepithelial neoplasia 2 or 3, immunosuppression, HIV infection, or diethylstilbestrol exposure in utero. Annual cervical cytology is also an option for women 30 years and older. The use of a combination of cervical cytology and HPV DNA screening is appropriate for women 30 years and older. If this combination is used, women who receive negative results on both tests should be rescreened no more frequently than every 3 years.</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>Beginning at age 50 years, one of five screening options should be selected: 1) Yearly patient-collected FOBT or FIT,* or 2) Flexible sigmoidoscopy every 5 years, or 3) Yearly patient-collected FOBT or FIT* plus flexible sigmoidoscopy every 5 years, or 4) Double-contrast barium enema every 5 years, or 5) Colonoscopy every 10 years</td>
</tr>
<tr>
<td>Endometrial cancer</td>
<td>Screening asymptomatic women for endometrial cancer and its precursors is not recommended at this time.</td>
</tr>
<tr>
<td>Lung cancer</td>
<td>Available screening techniques are not cost-effective and have not been shown to reduce mortality from lung cancer. Accordingly, routine lung cancer screening is not recommended.</td>
</tr>
<tr>
<td>Ovarian cancer</td>
<td>Currently, there are no effective techniques for the routine screening of asymptomatic, low-risk women for ovarian cancer. It appears that the best way to detect early ovarian cancer is for</td>
</tr>
</tbody>
</table>

(continued)
ductal carcinoma in situ or lobular carcinoma in situ, in which case the benefit of chemoprevention already has been documented. The National Cancer Institute provides a risk assessment tool at www.cancer.gov/bcrisktool/default.aspx. The use of tamoxifen for chemoprevention should be limited to 5 years.

Endometrial cancer is the most common female gynecologic malignancy; more than 439,000 cases were estimated to be diagnosed in 2007 in the United States. Routine screening of asymptomatic women for endometrial cancer and its precursors is not cost-effective. Women with a history or evidence of abnormal vaginal bleeding and women taking unopposed estrogen are at increased risk for endometrial cancer and should be evaluated.

Ovarian cancer is the leading cause of death from gynecologic pelvic malignancies. More women die from ovarian cancer than from cervical and endometrial cancers combined. Currently, there are no techniques that have proved to be effective in the routine screening of asymptomatic low-risk women for ovarian cancer. It appears that the best way to detect early ovarian cancer is for both the patient and her clinician to have a high index of suspicion for the diagnosis in the symptomatic woman. This strategy requires education of both physicians and patients as to the symptoms commonly associated with ovarian cancer. The following persistent symp-

Table 3–17. Suggested Routine Cancer Screening Guidelines (continued)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin cancer</td>
<td>Evaluate and counsel regarding exposure to ultraviolet rays.</td>
</tr>
</tbody>
</table>

FIT indicates fecal immunochemical testing; FOBT, fecal occult blood testing; HIV, human immunodeficiency virus.

*Both FOBT and FIT require 2 or 3 samples of stool collected by the patient at home and returned for analysis. A single stool sample for FOBT or FIT obtained by digital rectal examination is not adequate for the detection of colorectal cancer.

toms should be evaluated and ovarian cancer included in the differential diagnosis:

- Increase in abdominal size
- Abdominal bloating
- Fatigue

**Table 3–18. Factors That Increase the Relative Risk for Breast Cancer in Women**

<table>
<thead>
<tr>
<th>Relative Risk</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative risk greater than 4</td>
<td>Certain inherited genetic mutations for breast cancer</td>
</tr>
<tr>
<td></td>
<td>Two or more first-degree relatives with breast cancer diagnosed at an early age</td>
</tr>
<tr>
<td></td>
<td>Personal history of breast cancer</td>
</tr>
<tr>
<td></td>
<td>Age (65 or older vs less than 65 years, although risk increases across all ages until age 80 years)</td>
</tr>
<tr>
<td>Relative risk 2.1–4</td>
<td>One first-degree relative with breast cancer</td>
</tr>
<tr>
<td></td>
<td>Nodular densities on mammogram (more than 75% of breast volume)</td>
</tr>
<tr>
<td></td>
<td>Atypical hyperplasia</td>
</tr>
<tr>
<td></td>
<td>High-dose ionizing radiation to the chest</td>
</tr>
<tr>
<td></td>
<td>Ovaries not surgically removed (age less than 40 years)</td>
</tr>
<tr>
<td>Relative risk 1.1–2</td>
<td>High socioeconomic status</td>
</tr>
<tr>
<td></td>
<td>Urban residence</td>
</tr>
<tr>
<td></td>
<td>Northern U.S. residence</td>
</tr>
<tr>
<td>Reproductive factors</td>
<td>Early menarche (age less than 12 years)</td>
</tr>
<tr>
<td></td>
<td>Late menopause (age 55 years or older)</td>
</tr>
<tr>
<td></td>
<td>No term pregnancies (for breast cancer diagnosed at age 40 years or older)</td>
</tr>
<tr>
<td></td>
<td>Late age at first term pregnancy (30 years or older)</td>
</tr>
<tr>
<td></td>
<td>Never breastfed a child</td>
</tr>
<tr>
<td>Other factors that affect circulating hormones or genetic susceptibility</td>
<td>Postmenopausal obesity</td>
</tr>
<tr>
<td></td>
<td>Alcohol consumption</td>
</tr>
<tr>
<td></td>
<td>Recent hormone therapy</td>
</tr>
<tr>
<td></td>
<td>Recent oral contraceptive use</td>
</tr>
<tr>
<td></td>
<td>Tall stature</td>
</tr>
<tr>
<td></td>
<td>Personal history of cancer of endometrium, ovary, or colon</td>
</tr>
<tr>
<td></td>
<td>Jewish heritage</td>
</tr>
</tbody>
</table>

• Abdominal pain
• Indigestion
• Inability to eat normally
• Urinary frequency
• Pelvic pain
• Constipation
• Back pain
• Urinary incontinence of recent onset
• Unexplained weight loss

Colon cancer causes nearly as many deaths among women as all gynecologic pelvic malignancies combined. In most cases, it is preceded by adenomatous polyps. Both adenomatous polyps and early colon cancer can be detected by routine screening. Although testing of stool for blood can aid in early detection, fecal occult blood testing and fecal immunochemical testing require two or three samples of stool collected by the patient at home and returned for analysis. A single stool sample for fecal occult blood testing or fecal immunochemical testing obtained by digital rectal examination is not adequate for the detection of colorectal cancer. In addition, flexible sigmoidoscopy, colonoscopy, and double-contrast barium enema performed at specified intervals can increase the ability to detect asymptomatic lesions and are recommended for patients beginning at age 50 years. More comprehensive assessments should be undertaken on the basis of risk factors (see Table 3–1).

Resources

ACOG Patient Resources


ACOG Professional Resources


Other Resources


Substance Use and Abuse

The use of tobacco, alcohol, and illegal drugs constitutes a substantial national health problem. In the United States, an estimated 22% of all women smoke, 20.5% of women aged 15–44 years are binge drinkers, and 13% of nonpregnant women aged 18–25 years reported illicit drug use in the past month. Frequent use or dependency involving more than one substance is common. Although the prevalence of tobacco, alcohol, and illegal drug use varies, it is present in all socioeconomic, cultural, and ethnic groups.
Evaluation of a patient for tobacco, alcohol, or other substance abuse requires appreciation of the high prevalence and wide distribution among the population of such behavior, along with the ability to take a thorough history. Direct questioning of patients about their use of tobacco, alcohol, or other drugs is preferable to vague inquiry.

Addiction is a chronic, relapsing behavioral disorder affecting the functioning of the brain and other major organs. It is not a moral problem, an indication of bad character, a sign of weakness, or a failure of the will. Because substance abuse and dependence are medical conditions, health care practitioners have a key role to play in their prevention and treatment. This role includes screening patients by use of validated questionnaires; providing education, brief intervention, and referral; guiding and referring high-risk patients; advising patients about social and support groups; and practicing safe prescription writing. This section first addresses smoking, followed by alcohol and other drug use and abuse.

Smoking

Cigarette smoking is the largest preventable cause of premature death and avoidable illness among women in the United States. Smoking contributes to deaths from cancer, cardiovascular disease, and respiratory diseases. Women who smoke increase their risk of osteoporosis, dysmenorrhea, secondary amenorrhea, and menstrual irregularity. Women smokers also undergo natural menopause at a younger age than do nonsmokers, and they are at an increased risk of infertility.

The Agency for Healthcare Research and Quality recommends a brief smoking cessation intervention known as the 5 A’s for screening and treating tobacco dependence (see Box 3–33). The 5 A’s are applicable to outpatient office visits. This intervention is not only clinically effective but also extremely cost-effective relative to other commonly used disease prevention interventions and medical treatments. After assessing smokers for their willingness to quit smoking, physicians and office staff can encourage smoking cessation by ensuring that all smokers are identified, monitored, and counseled appropriately at every office visit. Smoking cessation interventions delivered by health and social care practitioners (eg, interventions by physicians, dentists, nurses, psychologists, and social workers) markedly increase cessation rates compared with interventions with no health care practitioner involvement (eg, self-administered interventions).

Clinicians can enhance the motivation to quit of individuals unwilling to consider smoking cessation by reviewing the many health risks associ-
Box 3–33. The Five A’s Brief Smoking Cessation Intervention

**Ask** about tobacco use.
Identify and document tobacco use status for every patient at every visit.

**Advise** to quit.
In a clear, strong, and personalized manner, urge every tobacco user to quit.

**Assess** willingness to make a quit attempt.
Is the tobacco user willing to make a quit attempt at this time?

**Assist** in quit attempt.
For the patient willing to make a quit attempt, use counseling and pharmacotherapy to help her quit:
1. Suggest and encourage the use of problem-solving methods and skills for smoking cessation (eg, identify “trigger” situations).
2. Provide social support as part of the treatment (eg, “We can help you quit”).
3. Arrange social support in the smoker’s environment (eg, identify “quit buddy” and smoke-free space).

**Arrange** follow-up.
Schedule follow-up contact, preferably within the first week after the quit date.


ated with smoking and the numerous benefits of living smoke-free. Follow-up that reinforces counseling on the health risks of smoking and provides appropriate referrals for additional cessation counseling and medical therapy is an important component of smoking cessation intervention.

Women experience more difficulty with smoking cessation than do men, especially in the initial cessation period, and they are more prone to relapse. Clinicians can provide brief, effective relapse prevention treatment by reinforcing the patient’s decision to quit, reviewing the benefits of quitting, and assisting the patient in resolving any residual problems encountered from quitting.

Many women are deterred from quitting smoking because of the fear of weight gain. Smoking cessation among women typically is associated with a weight gain of approximately 6–12 lb in the year after they quit smoking.
Weight gain is not caused by a change in chronic resting metabolic rates after smoking cessation; tobacco smoke is not an anorectic or a thermogenic agent. Weight gain with smoking cessation seems to be caused by a transient increase in oral intake without any change in physical activity. Following a nutritious diet of low-fat foods, drinking large amounts of noncaloric or low-caloric liquids, and engaging in regular exercise can help smokers cope with withdrawal symptoms and minimize weight gain. Several medications prescribed for smoking cessation (particularly nicotine replacement therapy gum and bupropion) may help delay weight gain; however, once the medications are discontinued, most women experience weight gain.

Every state offers free smoking cessation telephone counseling that smokers can gain access to through a toll-free number, 800-QUIT-NOW. Quitlines offer counseling and information on local resources, and they have been proved to increase smoking cessation rates and to decrease relapse.

Pharmacologic treatment for smoking cessation (including nicotine replacement therapy and sustained-release bupropion) should be offered to all women attempting smoking cessation unless it is contraindicated (see Table 3–19). These products increase quit rates 1.5–2.0-fold regardless of the treatment setting. They may be used in combination for patients who are experiencing difficulty quitting.

Alcohol and Other Drug Use and Abuse
Excessive alcohol consumption contributes to more than 100,000 deaths in the United States each year. In addition to motor vehicle accidents, suicide, and homicide, heavy drinking contributes to deaths from heart disease, cancer, and stroke. Half of all cirrhosis deaths are linked with alcohol. Menstrual disorders, early menopause, and osteoporosis are among the gynecologic consequences of alcohol abuse.

Substance use, abuse, and dependence can have serious implications for women's health. Among these implications are adverse effects on reproductive function and pregnancy. Liver disease, stroke and other cerebrovascular diseases, an increase in certain malignancies, and behavior that results in malnutrition or the acquisition of serious infections, such as HIV and hepatitis, are some of the consequences noted in women who abuse alcohol or other substances. In 1997, almost 16,000 deaths (both male and female) in the United States were directly related to illegal drugs. This number excludes accidents, homicides, and deaths related to infections.
<table>
<thead>
<tr>
<th>Pharmacotherapy</th>
<th>Precautions and Contraindications</th>
<th>Side Effects</th>
<th>Dosage</th>
<th>Duration</th>
<th>Availability</th>
<th>Cost per day†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bupropion SR</td>
<td>History of seizure, History of eating disorder</td>
<td>Insomnia, Dry mouth</td>
<td>150 mg every morning for 3 days then 150 mg twice daily (Begin treatment 1–2 wk before quitting smoking)</td>
<td>7–12 wk</td>
<td>Zyban (prescription only)</td>
<td>$3.50</td>
</tr>
<tr>
<td>Nicotine gum</td>
<td>Mouth soreness, Dyspepsia</td>
<td>1–24 cigarettes/d, 2-mg gum (up to 24 pieces/d), 25+ cigarettes/d, 4-mg gum (up to 24 pieces/d)</td>
<td>Up to 12 wk</td>
<td>Nicorette, Nicorette Mint, Nicorette Orange (OTC only)</td>
<td>Brand name: $4.54 for 10 2-mg pieces, $5.00 for 10 4-mg pieces, Store brand: $3.00 for 10 2-mg pieces, $3.70 for 10 4-mg pieces</td>
<td></td>
</tr>
<tr>
<td>Nicotine inhaler</td>
<td>Local irritation of mouth and throat</td>
<td>6–16 cartridges/d</td>
<td>Up to 6 mo</td>
<td>Nicotrol inhaler (prescription only)</td>
<td>$10.95 for 10 cartridges</td>
<td></td>
</tr>
<tr>
<td>Nicotine nasal spray</td>
<td>Nasal irritation</td>
<td>8–40 doses/d</td>
<td>3–6 mo</td>
<td>Nicotrol NS (prescription only)</td>
<td>$5.64 for 12 doses</td>
<td></td>
</tr>
<tr>
<td>Nicotine patch</td>
<td>Local skin reaction, Insomnia</td>
<td>21 mg/24 h, 14 mg/24 h, 7 mg/24 h, 15 mg/16 h</td>
<td>4 wk then 2 wk then 2 wk then 8 wk</td>
<td>Nicoderm CQ (OTC only), Generic patches (prescription and OTC), Nicotrol (OTC only)</td>
<td>Brand name $3.50, Store brand $2.11</td>
<td></td>
</tr>
</tbody>
</table>

* The information contained within this table is not comprehensive. Please see package insert for additional information.
† Prices based on retail prices of medication purchased at a national chain pharmacy located in Madison, Wisconsin, April 2001.

Obstetrician–gynecologists have an ethical obligation to learn and use a protocol for universal screening questions, brief intervention, and referral to treatment. The use of alcohol and other drugs should be determined when taking a medical history. Direct questioning of patients about their substance use is preferable to a vague inquiry. Many of the studies that validated the use of screening questionnaires originally did not include women. However, several screening questionnaires recently have been validated for use with women (see Resources). Table 3–20 provides criteria for the diagnosis of substance abuse and dependence.

Women may not disclose tobacco, alcohol, or other substance use for a variety of reasons. Fears regarding disclosure can include the fear of intervention by government agencies when reporting can result in punishment, incarceration, or loss of child custody. It is incumbent on the medical practitioner, as part of the procedure in obtaining consent for testing, to provide information about the nature and purpose of the test to the patient and how the results will guide management. Clinicians should be familiar with state statutes requiring illicit drug use reporting. Where there are laws requiring disclosure, patients should be informed in advance about specific items for which disclosure is mandated. Confidentiality is as essential to the physician–patient relationship with adolescents as it is with adults. Many state laws protect the confidentiality of minors with regard to substance abuse detection and treatment. The American Academy of Pediatrics recommends that parental permission is not sufficient for involuntary drug testing of the adolescent with decisional capacity and that testing be conducted noncovertly, confidentially, and with informed consent in the same context as for other medical conditions.

When indicated, laboratory drug tests can help identify or confirm a substance abuse problem overlooked by other detection methods when used appropriately and with prior and current informed consent. Although drug testing can be done on blood, hair, sweat, saliva, and nails, urine testing generally is the most practical option for the clinician's office. Urine testing is easy and inexpensive, and it provides a reasonable testing window for commonly used drugs (a few days in most cases). Mass-produced kits generate immediate results that can be discussed with the patient. Testing alone cannot confirm intoxication, abuse, or dependence. However, when combined with a thorough history and physical examination and appropriate screening questionnaires, drug testing can help the clinician provide better care, including appropriate interventions, to the patient.
Table 3–20. Diagnostic and Statistical Manual of Mental Disorders Criteria for Substance Abuse and Dependence

<table>
<thead>
<tr>
<th>Substance Abuse</th>
<th>Substance Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance abuse, which is a separate diagnosis from substance dependence, is defined as a maladaptive pattern of substance use with one or more of the following criteria over a 1-year period:</td>
<td>Substance dependence is a maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:</td>
</tr>
<tr>
<td>1. Repeated substance use that results in an inability to fulfill obligations at home, school, or work.</td>
<td>1. Tolerance, as defined by either of the following:</td>
</tr>
<tr>
<td>2. Repeated substance use when it could be physically dangerous (such as driving a car).</td>
<td>a) A need for markedly increased amounts of the substance to achieve intoxication or desired effect</td>
</tr>
<tr>
<td>3. Repeated substance-related legal problems, such as arrests.</td>
<td>b) Markedly diminished effect with continued use of the same amount of the substance</td>
</tr>
<tr>
<td>4. Continued substance use despite interpersonal or social problems that are caused or made worse by use.</td>
<td>2. Withdrawal, as manifested by either of the following:</td>
</tr>
<tr>
<td></td>
<td>a) The characteristic withdrawal syndrome for the substance</td>
</tr>
<tr>
<td></td>
<td>b) The same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms</td>
</tr>
<tr>
<td></td>
<td>3. The substance is often taken in larger amounts or over a longer period than was intended.</td>
</tr>
<tr>
<td></td>
<td>4. There is a persistent desire or unsuccessful efforts to cut down or control substance use.</td>
</tr>
<tr>
<td></td>
<td>5. A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects.</td>
</tr>
<tr>
<td></td>
<td>6. Important social, occupational, or recreational activities are given up or reduced because of substance use.</td>
</tr>
<tr>
<td></td>
<td>7. The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.</td>
</tr>
</tbody>
</table>

No single treatment is appropriate for all individuals with substance abuse problems. Recovery from substance abuse is a long-term process. Better outcome is seen in individualized programs that provide a greater range, frequency, and intensity of services. Treatment programs for women should look beyond simple abstinence from further substance use and take into account the total health of the individual. Support services (eg, transportation and child-care services) can affect the success of substance abuse treatment. Social service departments in many hospitals are an invaluable source of assistance and referral of patients with substance abuse problems. Many additional community and clinical resources are available (see Resources).

The role of the obstetrician–gynecologist or primary health care practitioner includes universal screening by questionnaire, brief intervention, and referral. Immediate intervention that goes beyond screening may help the patient come to terms with her substance abuse problem. The obstetrician–gynecologist also can be effective in encouraging a patient’s participation in the engagement and maintenance of her treatment and in planning for relapse prevention. For these patients, prescribing potentially addictive medications should be avoided.

**Resources**

**Patient Resources**


Alcoholics Anonymous
P.O. Box 459
New York, NY 10163
(212) 870-3400
http://www.alcoholics-anonymous.org

The American Cancer Society
The Great American Smokeout
1599 Clifton Road NE
Atlanta, GA 30329
800-ACS (227)-2345
http://www.cancer.org/docroot/PED/ped_10_4.asp
American Lung Association  
61 Broadway, 6th Floor  
New York, NY 10006  
800-LUNG-USA (800-586-4872)  
http://www.lungusa.org/

Center for Substance Abuse Treatment National Helpline  
1 Choke Cherry Road, Room 8-1036  
Rockville, MD 20857  
800-662-HELP  
http://www.csat.samhsa.gov

Narcotics Anonymous  
P.O. Box 9999  
Van Nuys, CA 91409  
(818) 773-9999  
http://www.na.org

SMART Recovery  
7537 Mentor Ave. Ste 306  
Mentor, OH 44060  
(866) 951-5357  
http://www.smartrecovery.org  
E-mail: info@smartrecovery.org

Women for Sobriety, Inc.  
P.O. Box 618  
Quakertown, PA 18951-0618  
(215) 536-8026  
http://www.womenforsobriety.org

ACOG Professional Resources


Other Resources


American Society of Addiction Medicine
4601 North Park Avenue
Arcade Suite 101
Chevy Chase, MD 20815
(301) 656-3920
http://www.asam.org


National Council on Alcoholism and Drug Dependence, Inc.
22 Cortlandt Street, Suite 801
New York, NY 10007
(212) 206-6770
Hope Line: 800-NCA-CALL
http://www.ncadd.org


U.S. Department of Health and Human Services
Substance Abuse and Mental Health Services Administration
National Clearinghouse for Alcohol and Drug Information
800-729-6686
http://www.ncadi.samhsa.org
Amenorrhea

Amenorrhea affects 2–5% of all women of childbearing age in the United States. Amenorrhea is a symptom, not a condition. The cause of amenorrhea usually is not a life-threatening disease or condition, but it can be associated with significant potential morbidities. In most instances, amenorrhea is reversible with treatment for the underlying condition.

There are two types of amenorrhea. Traditionally, primary amenorrhea has been defined as no menarche by 16 years of age; however, many diagnosable and treatable disorders can and should be detected earlier, using the statistically derived guideline of 14–15 years of age. Thus, an evaluation for primary amenorrhea should be considered for any girl who has not reached menarche by 15 years of age or has not done so within 3 years of thelarche. Accordingly, lack of breast development by 13 years of age also should be evaluated.

Secondary amenorrhea occurs when menstruating women fail to menstruate for 3–6 months. The historical definition is 6 months of amenorrhea after a woman has had at least one menstrual cycle. However, the American Society for Reproductive Medicine’s recommendation for a regularly menstruating woman is the initiation of a workup after 3 months of amenorrhea.

The etiology of secondary amenorrhea includes the following:

- Pregnancy
- Breastfeeding (lactation)
• Premature ovarian failure (menopause before age 40 years)
• Hormonal contraceptive side effects
• Postpill amenorrhea
• Pituitary gland dysfunction, especially hyperprolactinemia
• PCOS
• Endocrine disorders such as Cushing’s syndrome, Cushing’s disease, or thyroid dysfunction
• Emotional or physical stress
• Weight loss
• Eating disorders (eg, anorexia nervosa)
• Obesity
• Frequent strenuous exercise
• Chronic illness (eg, colitis, kidney failure, cystic fibrosis)
• Cancer chemotherapy
• Ovarian cysts or tumors

The evaluation of amenorrhea may include the following components:

• History
  – Last menstrual period
  – Past medical illnesses
  – Exercise
  – BMI
  – Medications
  – Drug use
  – Psychiatric history
  – Eating disorders

• Physical examination
  – Pubertal development (Tanner staging)
  – Evaluation of genital tract anatomy
  – Ultrasonography

• Laboratory studies
  – Pregnancy test
– Magnetic resonance imaging/computed tomography
– Hormonal evaluations
– Progesterone challenge test
  If menstrual bleeding occurs, amenorrhea is probably related to anovulation.
  If no bleeding occurs, the clinician must consider ovarian failure, chromosome abnormalities, and autoimmune antibodies.
– FSH
  An elevated FSH level may signify ovarian failure.
  If the FSH level is elevated in women younger than 40 years, evaluation of autoimmune antibodies and chromosome analysis should be considered.

Treatment options for patients with primary amenorrhea, by cause, include the following:

• *Constitutional*—no need for therapy
• *Genetic (inherited) abnormalities*—supplemental hormone therapy to develop normal secondary sex characteristics (breast development, pubic hair growth) and prevent osteoporosis
• *Structural abnormalities (eg, vaginal agenesis)*—referral for treatment

Secondary amenorrhea due to oophorectomy will cause hypoestrogenism, and estrogen therapy will prevent osteoporosis and other complications of low estrogen levels. Treatment options for patients with other forms of secondary amenorrhea, by cause, include the following:

• *Obesity*—diet, exercise, other weight loss interventions
• *Athletic training*—recommendation of a more moderate program
• *Hormonal imbalance*—hormonal therapy
• *Tumors or cysts in the ovaries, uterus, or pituitary gland*—surgical intervention may be indicated
• *Stress*—stress management training
Abnormal Genital Bleeding

Any bleeding other than what is expected in a normal ovulatory cycle is considered abnormal genital bleeding. The terminology is classified by the timing of the bleeding and the duration of flow as follows:

- **Menorrhagia**—excess bleeding (80 mL or more or bleeding that lasts longer than 7 days) during the expected time of menstrual flow
- **Menometrorrhagia**—a combination of the above bleeding abnormalities; excessive bleeding and frequent bleeding at abnormal times during the cycle

Abnormal genital bleeding is one of the most frequent conditions that clinicians see and treat. It is responsible for approximately 19% of visits to physician offices for gynecologic conditions. The source of the bleeding may be difficult to assess and may be the rectum, the urinary tract or the vulva, vagina, cervix, or uterus. A wide variety of conditions can cause the bleeding; they include trauma, infection, endocrine abnormalities, lesions, or tumors. If genital bleeding is secondary to trauma, the differential diagnosis should include rape and abuse.
The uterus is the source of most abnormal genital bleeding in adult women. Abnormal uterine bleeding is responsible for many hysterectomies. The major causes of abnormal uterine bleeding are leiomyomata (fibroids, fibromyomata) and dysfunctional uterine bleeding. Abnormal uterine bleeding and dysfunctional uterine bleeding often are confused and the terms frequently used interchangeably. Abnormal uterine bleeding is a generic term that is a subclassification of genital bleeding, and it refers to bleeding before a diagnosis is established. Dysfunctional uterine bleeding is a definitive diagnosis that is made when all pathologic causes of bleeding (eg, leiomyomata, polyps, endometrial hyperplasia or cancer, and coagulopathy) have been excluded and a specific cause cannot be determined. Dysfunctional uterine bleeding is presumed to be the result of a hormonal imbalance that affects the stability of the endometrium. Because dysfunctional uterine bleeding is frequently used as a synonym for abnormal uterine bleeding and also is used to describe anovulatory uterine bleeding, it is difficult to collect epidemiologic and clinical data accurately for any of these entities.

The following is an ordering of the differential diagnosis based on the age of the patient when symptoms occur:

- In adolescents, abnormal genital bleeding most often occurs as a result of persistent anovulation, including anovulation caused by PCOS, contraception, pregnancy, or coagulopathies.
- Women in the third and fourth decades of life most often develop abnormal genital bleeding from pregnancy, structural lesions (eg, leiomyomata and polyps), and anovulation including that caused by PCOS, HT, and endometrial hyperplasia.
- Menopausal women most often develop bleeding from HT, endometrial atrophy, leiomyomata, endometrial hyperplasia, and malignancy.

It is also possible for contraception and pregnancy to be etiologic factors. Less common causes of abnormal genital bleeding include the following:

- Vascular anomalies of the uterus
- Infection
- Cirrhosis
- Drug therapy
- Thyroid dysfunction
In pediatric patients, the source of abnormal genital bleeding can be the following (see also “Pediatric Gynecology” earlier in Part 3):

- Foreign bodies
- Vaginitis
- Urethral prolapse
- Neoplasm
- Trauma
- Precocious puberty

Women with undiagnosed coagulopathies frequently present initially with abnormal uterine bleeding. These disorders include defects in primary hemostasis, platelet deficiency (leukemia or idiopathic thrombocytopenia), platelet dysfunction (von Willebrand’s disease, which has an incidence of approximately 1% of all women), and abnormalities of secondary homeostasis (congenital factor deficiencies). Von Willebrand’s disease is the most common medical disorder associated with menarche. Hematologic disorders should be considered in adolescent patients presenting with menorrhagia—especially adolescents with a sudden onset of menorrhagia at menarche.

An accurate diagnosis for the cause of bleeding should be established. Based on age alone, endometrial assessment to exclude cancer is indicated in any woman older than 35 years who has abnormal uterine bleeding, particularly if anovulatory uterine bleeding is suspected. Endometrial carcinoma is rare in women younger than 35 years. Patients between 19 and 35 years of age who do not respond to medical therapy, have prolonged periods of unopposed estrogen stimulation, or both, are candidates for endometrial assessment.

The treatment of choice for anovulatory uterine bleeding is medical therapy with oral contraceptives, cyclic progestin, or the progestin-containing IUD. Women with anovulatory uterine bleeding who have failed medical therapy and no longer desire future childbearing may be candidates for endometrial ablation or hysterectomy.

Proper evaluation of abnormal genital bleeding may include the following:

- Evaluation for pregnancy
- Examination for lower genital tract lesions
- Cervical cytology
• Endometrial biopsy
• Ultrasonography
• Sonohysterography
• Hysteroscopy
• Evaluation for endocrine dysfunction, such as PCOS, and coagulation disorders
• Evaluation for trauma or sexual assault
• Evaluation for infection or STDs

Clinicians should be familiar with any state reporting requirements regarding trauma (evidence of abuse or intimate partner violence) and STDs.

The primary goal of management is to treat the underlying disorder. A universal single approach in the management of all patients with abnormal uterine bleeding is not feasible or appropriate. Establishing a specific diagnosis of PCOS has significant implications for fertility and cardiovascular health (see also “Polycystic Ovary Syndrome” later in Part 3).

Treatment options depend on the following:

• Frequency and quantity of bleeding
• Patient age
• Health status
• Reproductive plans
• Underlying contributory disorders—an underlying coagulopathy should be considered in all patients (particularly adolescents) when abnormal uterine bleeding is not otherwise explained, does not respond to medical therapy, or both

The development of anemia as a consequence of bleeding adds urgency to treatment.

Resources

ACOG Patient Resources


**ACOG Professional Resources**


**Other Resources**


**Endometriosis**

Endometriosis, defined as the presence of endometrial tissue outside the uterine cavity, is a gynecologic condition with an incidence level that is not well established but may be as high as 10% of women in the general population. In a population of women seeking infertility treatment, the prevalence has been reported to be 38%. A familial predisposition toward endometriosis via a proposed polygenic and multifactorial mechanism has been documented. A female patient who has an affected first-degree rela-
Defects with obstructed outflow, such as cervical or vaginal atresia and incomplete müllerian fusion, commonly are associated with pelvic endometriosis. The laparoscopic appearance of endometriosis may be different in adolescents compared with adults. The typical lesions in adolescents tend to be red, clear, or white, as opposed to the classic “powder burn” appearance of lesions commonly seen in adults.

Symptoms and sequelae of endometriosis include the following:

- Adnexal mass (symptomatic or asymptomatic)
- Dysmenorrhea
- Abnormal uterine bleeding
- Chronic pelvic pain
- Dyspareunia
- Infertility
- Uterosacral ligament nodularity

The typical presentation of an adolescent with endometriosis may be different from that of an adult. One important difference is that adolescents primarily seek medical attention because of pain rather than a concern for infertility. Common symptoms are acquired or progressive dysmenorrhea, acyclic pain, dyspareunia, and gastrointestinal symptoms. Adolescents found to have endometriosis most commonly present with both cyclic and acyclic pain, as opposed to acyclic pain alone or cyclic pain alone.

Many experts have attempted to develop a classification system for endometriosis. The classification system developed by the American Society for Reproductive Medicine is commonly used (see Table 3–21). This system classifies endometriosis by the extent and location of disease.

Both medical and surgical modalities have been used for management. Evidence exists to support short-term benefits in pain outcomes with either modality. No substantive data indicate the superiority of either modality for long-term management of pain. A substantial proportion of women managed with either method experience a recurrence of symptoms. Meta-analysis and prospective data now indicate that surgical treatment results in better fertility outcomes.

Clinicians should recognize that endometriosis is a chronic disorder. In discussing treatment options with the patient, they should plan long-term therapy based on the patient’s age, presenting symptoms, severity of dis-
Table 3-21. Classification of Endometriosis

<table>
<thead>
<tr>
<th>Patient’s Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I (Minimal)</td>
<td>1-5</td>
</tr>
<tr>
<td>Stage II (Mild)</td>
<td>6-15</td>
</tr>
<tr>
<td>Stage III (Moderate)</td>
<td>16-40</td>
</tr>
<tr>
<td>Stage IV (Severe)</td>
<td>&gt; 40</td>
</tr>
</tbody>
</table>

**AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE**
**REVISED CLASSIFICATION OF ENDOMETRIOSIS**

<table>
<thead>
<tr>
<th>PERITONEUM</th>
<th>ENDOMETRIOSIS</th>
<th>&lt; 1 cm</th>
<th>1-3 cm</th>
<th>&gt; 3 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sup</td>
<td>Superficial</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Deep</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>R Superficial</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Deep</td>
<td>4</td>
<td>16</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Ovary</td>
<td>L Superficial</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Deep</td>
<td>4</td>
<td>16</td>
<td>20</td>
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</table>

**POSTERIOR CULDESAC OBLITERATION**

<table>
<thead>
<tr>
<th></th>
<th>Partial</th>
<th>Complete</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>40</td>
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</table>

**ADHESIONS**

<table>
<thead>
<tr>
<th>Ovary</th>
<th>&lt; 1/3 Enclosure</th>
<th>1/3-2/3 Enclosure</th>
<th>&gt; 2/3 Enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Filmy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Dense</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>L</td>
<td>Filmy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Dense</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

**TUBE**

<table>
<thead>
<tr>
<th></th>
<th>&lt; 1/3 Enclosure</th>
<th>1/3-2/3 Enclosure</th>
<th>&gt; 2/3 Enclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Filmy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Dense</td>
<td>4*</td>
<td>8*</td>
</tr>
<tr>
<td>L</td>
<td>Filmy</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Dense</td>
<td>4*</td>
<td>8*</td>
</tr>
</tbody>
</table>

*If the fimbriated end of the fallopian tube is completely enclosed, change the point assignment to 16.

Denote appearance of superficial implant types as red (R), red-pink, flamelike, vesicular blobs, clear vesicles; white (W), opacifications, peritoneal defects, yellow-brown; or black (B) black, hemosiderin deposits, blue. Denote percent of total described as R, W, and B. Total should equal 100%.

**Additional Endometriosis:**

**Associated Pathology:**

To Be Used with Normal Tubes and Ovaries

To Be Used with Abnormal Tubes and/or Ovaries

(continued)
Table 3–21. Classification of Endometriosis (continued)

<table>
<thead>
<tr>
<th>Example &amp; Guidelines</th>
<th>Stage I (Minimal)</th>
<th>Stage II (Mild)</th>
<th>Stage III (Moderate)</th>
<th>Stage IV (Severe)</th>
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</thead>
<tbody>
<tr>
<td><strong>Peritoneum</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superficial Endo</td>
<td>1–3 cm</td>
<td>&gt; 3 cm</td>
<td>&gt; 3 cm</td>
<td>&gt; 3 cm</td>
</tr>
<tr>
<td>R. Ovary</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Filmy Adhesions</td>
<td>&lt; 1/3</td>
<td>&lt; 1/3</td>
<td>&lt; 1/3</td>
<td>&lt; 1/3</td>
</tr>
<tr>
<td>TOTAL POINTS</td>
<td>4</td>
<td>1</td>
<td>9</td>
<td>16</td>
</tr>
</tbody>
</table>

**Stage III (Moderate)**

<table>
<thead>
<tr>
<th>Example &amp; Guidelines</th>
<th>Stage III (Moderate)</th>
<th>Stage IV (Severe)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peritoneum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superficial Endo</td>
<td>&gt; 3 cm</td>
<td>&gt; 3 cm</td>
</tr>
<tr>
<td>R. Tube</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Filmy Adhesions</td>
<td>&lt; 1/3</td>
<td>&lt; 1/3</td>
</tr>
<tr>
<td>L. Ovary</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>L. Tube</td>
<td>&lt; 1/3</td>
<td>&lt; 1/3</td>
</tr>
<tr>
<td>Deep Endo</td>
<td>1 cm</td>
<td>1 cm</td>
</tr>
<tr>
<td>L. Ovary</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>L. Tube</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>TOTAL POINTS</td>
<td>30</td>
<td>14</td>
</tr>
</tbody>
</table>

**Stage IV (Severe)**

<table>
<thead>
<tr>
<th>Example &amp; Guidelines</th>
<th>Stage IV (Severe)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peritoneum</strong></td>
<td></td>
</tr>
<tr>
<td>Superficial Endo</td>
<td></td>
</tr>
<tr>
<td>R. Ovary</td>
<td></td>
</tr>
<tr>
<td>Filmy Adhesions</td>
<td></td>
</tr>
<tr>
<td>L. Ovary</td>
<td></td>
</tr>
<tr>
<td>L. Tube</td>
<td></td>
</tr>
<tr>
<td>Complete Obliteration</td>
<td></td>
</tr>
<tr>
<td>L. Ovary</td>
<td></td>
</tr>
<tr>
<td>Deep Endo</td>
<td></td>
</tr>
<tr>
<td>L. Ovary</td>
<td></td>
</tr>
<tr>
<td>L. Tube</td>
<td></td>
</tr>
<tr>
<td>DEEP ENDO</td>
<td></td>
</tr>
<tr>
<td>TOTAL POINTS</td>
<td></td>
</tr>
</tbody>
</table>

**Determination of the stage or degree of endometrial involvement is based on a weighted point system.** Distribution of points has been arbitrarily determined and may require further revision or refinement as knowledge of the disease increases.

To ensure complete evaluation, inspection of the pelvis in a clockwise or counterclockwise fashion is encouraged. Number, size and location of endometrial implants, plaques, endometriomas and/or adhesions are noted. For example, five separate 0.5 cm superficial implants on the peritoneum (2.5 cm total) would be assigned 2 points. (The surface of the uterus should be considered peritoneum.) The severity of the endometriomas or adhesions should be assigned the highest score only for peritoneum, ovary, tube or cul-de-sac. For example, a 4 cm superficial and a 2 cm deep implant of the peritoneum should be given a score of 6 (not 8). A 4 cm deep endometrioma of the ovary associated with more than 3 cm of superficial disease should be scored 20 (not 24).

In those patients with only one adhesia, points applied to disease of the remaining tube and ovary should be multiplied by two. **Point assignment may be circled and totaled.** Aggregation of points indicates stage of disease (minimal, mild, moderate, or severe).

The presence of endometriosis of the bowel, urinary tract, fallopian tube, vagina, cervix, skin, etc., should be documented under "additional endometriosis." Other pathology such as tubal occlusion, leiomyomata, uterine anomaly, etc., should be documented under "associated pathology." All pathology should be depicted as specifically as possible on the sketch of pelvic organs, and means of observation (laparoscopy or laparotomy) should be noted.

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ease, and reproductive plans. Recommendations for the management of the adolescent with endometriosis have been published (see Resources).

Direct visualization of endometriosis lesions remains the gold standard for diagnosing endometriosis. Nonetheless, the need for a surgical procedure to determine a diagnosis of endometriosis as the cause of pelvic pain continues to be debated. The ACOG Practice Bulletin No. 11, Medical Management of Endometriosis, provides detailed information on diagnosis and treatment (see Resources).

When medical therapy is elected for pain relief, treatment with a gonadotropin-releasing hormone (GnRH) agonist appears to be effective in most patients. When a GnRH agonist is effective in relieving pain and continued therapy is desired, the administration of add-back estrogen therapy may reduce or eliminate bothersome adverse effects and bone mineral loss induced by a GnRH agonist without reducing the efficacy of pain relief. Additionally, oral contraceptives or depot medroxyprogesterone acetate has been effective in comparison with placebo and may be equivalent to more costly regimens.

Treatments for pain include the following options:

- Drug therapy
  - Hormonal therapy
  - GnRH agonist
  - Nonsteroidal antiinflammatory agents
  - Antianxiety medications
  - Weak opioids
  - Strong opioids
  - Danazol
  - Levonorgestrel intrauterine system; can be considered by women with endometriosis desiring effective, long-term contraception

- Pain management centers; local injection of trigger points; success requires experience to detect secondary trigger points; injection alone is not uniformly successful, and treatment may require the addition of physical therapy and stretching exercises

- Nonpharmacologic therapy
  - Hypnotherapy
  - Cognitive and relaxation techniques
The efficacy of surgical therapy depends heavily on the experience and expertise of the surgeon. When surgery is elected, operative laparoscopy appears to have numerous advantages compared with laparotomy. However, no conservative surgical method has been shown to be superior in the treatment of endometriosis.

Surgical methods in use include the following:

- Ablation of lesions
- Excision
- Endocoagulation
- Electrocautery
- Laser vaporization

Hysterectomy, with or without bilateral oophorectomy, often is regarded as definitive therapy for pain control; however, symptoms may recur even after hysterectomy and oophorectomy. Ovarian conservation is associated with increased likelihood of recurrence of symptoms and additional surgery. Menopausal estrogen therapy is not contraindicated after bilateral salpingo-oophorectomy, but data on the recurrence of lesions and symptoms are limited.

Generalists should consider consultation or referral to a specialist if their level of expertise has been exceeded. The following referrals or support services may be needed:

- Reproductive endocrinologist
- Gynecologic surgeon
- Pain management unit
- Radiographic imaging
- Alternative therapies
  - Hypnotherapy
  - Relaxation techniques
  - Massage
Resources

**ACOG Patient Resources**


**ACOG Professional Resources**


**Other Resources**


**Leiomyomata**

Uterine leiomyomata (commonly known as fibroids) are the most common solid pelvic tumors in women and the leading indication for hysterectomy. Uterine leiomyomata are clinically apparent in 25–50% of women, although studies in which careful pathologic examination of the uterus is carried out suggest that the prevalence may be as high as 80%. These
tumors originate from proliferation of a single myometrial cell and may be estrogen dependent. Factors responsible for the genesis of leiomyomata are unknown; family history, ethnicity, and diet may play a role.

Leiomyomata are asymptomatic in most women and are an incidental finding on pelvic examination. For women who do experience symptoms, abnormal genital bleeding, pelvic pain, and pregnancy loss are the most common. Uterine size and symptoms may regress after menopause. Uterine leiomyomata are usually benign and do not appear to have a malignant potential.

Approximately 600,000 hysterectomies are performed each year in the United States. In a 2002 report, the CDC found that uterine leiomyoma was the cause of nearly 40% of hysterectomies performed between 1994 and 1999. Traditionally, most hysterectomies have been performed abdominally. The morbidity associated with abdominal hysterectomy includes infectious complications (10%); major injuries to the bowel, bladder, ovaries, or ureter (1%); and a postoperative recuperative time of 4–6 weeks.

Many women seek an alternative to hysterectomy for a variety of reasons, including a desire to preserve childbearing potential. As alternatives to hysterectomy become increasingly available, the efficacies of these treatments and their risks and potential problems become important considerations.

As benign neoplasms, uterine leiomyomata usually require treatment only when they cause symptoms, lead to urinary obstruction, or appear to contribute to infertility. The two most common symptoms for which women seek treatment are abnormal uterine bleeding and pelvic pressure or pain. However, not all bleeding is caused by leiomyomata; therefore, other causes of abnormal bleeding in the presence of leiomyomata should be ruled out (see “Abnormal Genital Bleeding” earlier in Part 3).

The clinical diagnosis of rapidly growing leiomyomata has not been shown to predict uterine sarcoma. Thus, it should not be used as the sole indication for myomectomy or hysterectomy.

**Surgical Intervention**

In women with symptomatic leiomyomata, hysterectomy provides a definitive cure. Abdominal myomectomy is a safe and effective option for women who wish to retain their uterus. A woman who selects this option should be counseled preoperatively about the relatively high risk of reoperation. Laparoscopic myomectomy appears to be a safe and effective
option for women with a small number of moderately sized uterine leiomyomata who do not desire future fertility. Further studies are necessary to evaluate the safety of this procedure for women planning pregnancy. Hysteroscopic myomectomy is an effective option for controlling menorrhagia in women with submucosal leiomyomata. The use of vasopressin at the time of myomectomy appears to limit blood loss.

Uterine artery embolization (UAE) for the treatment of patients with symptomatic uterine leiomyomata has become increasingly popular. Based on current evidence, it appears that UAE, when performed by experienced physicians, provides good short-term relief of bulk-related symptoms and a reduction in menstrual flow. Complication rates associated with the procedure are low, but in rare cases, complications can include hysterectomy and death. There is insufficient evidence to ensure the safety of UAE in women desiring to retain their fertility, and pregnancy-related outcomes remain understudied. The procedure is considered investigational or relatively contraindicated in women wishing to retain fertility. Women who wish to undergo UAE should have a thorough evaluation with an obstetrician–gynecologist to help facilitate optimal collaboration with interventional radiologists and to ensure the appropriateness of this therapy.

Endometrial ablation appears to be effective in controlling menorrhagia in women without leiomyomata. However, further studies are needed in women who have clinically significant leiomyomata.

**Medical Intervention**

The use of hormonal contraceptive agents or hormone therapy (progestins alone or in combination with estrogen) has not been shown to provide symptomatic relief in a predictable fashion. Therefore, these interventions are not recommended at this time.

Gonadotropin-releasing hormone agonists have been used to treat uterine leiomyomata. Their use preoperatively is beneficial, especially when improvement of hematologic status and reduction in size of the uterus are important goals. Long-term use of these agents usually is not recommended. Benefits of the use of GnRH agonists should be weighed against the cost and adverse effects for individual patients. Recently, the use of steroid hormones as add-back therapy to attenuate bone loss has produced reasonable results and allowed longer treatment regimens. However, at present, this treatment should be considered only for a finite period.
Leiomyomata may be a factor in infertility for some patients and may represent as many as 5–10% of infertile couples. The issues are complex, and myomectomy should not be performed solely for an infertility indication without completion of a comprehensive fertility evaluation.

Postmenopausal women with leiomyomata may have more bleeding problems and some increase in leiomyoma size while taking HT. However, there appears to be no reason to withhold this treatment from women who desire or need such therapy.

Resources

ACOG Resources


Other Resources


Chronic Pelvic Pain

Chronic pelvic pain is a common disorder of women that often presents a diagnostic dilemma. It is frequently difficult to cure or manage adequately. There is no generally accepted definition of chronic pelvic pain. One
proposed definition is noncyclic pain of 6 or more months’ duration that localizes to the anatomic pelvis, anterior abdominal wall at or below the umbilicus, the lumbosacral back, or the buttocks and is of sufficient severity to cause functional disability or lead to medical care. A lack of physical findings does not negate the significance of a patient’s pain, and normal examination results do not preclude the possibility of finding an abnormal pelvic condition.

More than 10% of all gynecologic referrals are for chronic pelvic pain, and the affiliated cost to diagnose and treat this condition is estimated to exceed $2 billion each year. This condition leads to 70,000 hysterectomies annually.

Potential visceral sources of chronic pelvic pain include the reproductive, genitourinary, and gastrointestinal tracts; potential somatic sources include the pelvic bones, ligaments, muscles, and fascia. Chronic pelvic pain may result from psychologic disorders or neurologic diseases, both central and peripheral (see Box 3–34 and Table 3–22).

A detailed history and focused physical examination are the basis for the differential diagnosis of chronic pelvic pain and should be used to determine appropriate diagnostic studies. The history and physical examination should seek to identify the location, severity, quality, and timing of the woman’s pain. Because of the many nongynecologic conditions associated with chronic pelvic pain, interdisciplinary evaluation and management may be needed. The following may be useful:

• Psychiatric evaluation
• Psychotherapy
• Pain management
• Marriage and sex counseling
• Biofeedback
• Treatment for depression
• Physical therapy
• Urologic consultation

A variety of treatment options exist, including medical, hormonal, nonmedical (eg, exercise and physical therapy), surgical, psychiatric and psychologic, and alternative medical therapies. Evidence supporting various therapies has been summarized in ACOG Practice Bulletin No. 51, *Chronic Pelvic Pain* (see Resources).
### Box 3–34. Gynecologic Conditions That May Cause or Exacerbate Chronic Pelvic Pain, by Level of Evidence

**Level A***
- Endometriosis †
- Gynecologic malignancies (especially late stage)
- Ovarian retention syndrome (residual ovary syndrome)
- Ovarian remnant syndrome
- Pelvic congestion syndrome
- Pelvic inflammatory disease †
- Tuberculous salpingitis

**Level B‡**
- Adhesions †
- Benign cystic mesothelioma
- Leiomyomata †
- Postoperative peritoneal cysts

**Level C§**
- Adenomyosis
- Atypical dysmenorrhea or ovulatory pain
- Adnexal cysts (nonendometriotic)
- Cervical stenosis
- Chronic ectopic pregnancy
- Chronic endometritis
- Endometrial or cervical polyps
- Endosalpingiosis
- Intrauterine contraceptive device
- Ovarian ovulatory pain
- Residual accessory ovary
- Symptomatic pelvic relaxation (genital prolapse)

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*Level A: good and consistent scientific evidence of causal relationship to chronic pelvic pain
†Diagnosis frequently reported in published series of women with chronic pelvic pain
‡Level B: limited or inconsistent scientific evidence of causal relationship to chronic pelvic pain
§Level C: causal relationship to chronic pelvic pain based on expert opinions

Table 3–22. Nongynecologic Conditions That May Cause or Exacerbate Chronic Pelvic Pain, by Level of Evidence

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>Urologic</th>
<th>Gastrointestinal</th>
<th>Musculoskeletal</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level A*</td>
<td>Bladder malignancy</td>
<td>Carcinoma of the colon</td>
<td>Abdominal wall myofascial pain (trigger points)</td>
<td>Abdominal cutaneous nerve entrapment in surgical scar</td>
</tr>
<tr>
<td></td>
<td>Interstitial cystitis†</td>
<td>Constipation</td>
<td>Chronic coccygeal or back pain†</td>
<td>Depression†</td>
</tr>
<tr>
<td></td>
<td>Radiation cystitis</td>
<td>Inflammatory bowel disease</td>
<td>Faulty or poor posture</td>
<td>Somatization disorder</td>
</tr>
<tr>
<td></td>
<td>Urethral syndrome</td>
<td>Irritable bowel syndrome†</td>
<td>Fibromyalgia</td>
<td></td>
</tr>
<tr>
<td>Level B‡</td>
<td>Uninhibited bladder contractions (detrusor dyssynergia)</td>
<td>—</td>
<td>Hemiated nucleus pulposus</td>
<td>Celiac disease</td>
</tr>
<tr>
<td></td>
<td>Urethral diverticulum</td>
<td></td>
<td>Low back pain†</td>
<td>Neurologic dysfunction</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Neoplasia of spinal cord or sacral nerve</td>
<td>Porphyria</td>
</tr>
<tr>
<td>Level C§</td>
<td>Chronic urinary tract infection</td>
<td>Colitis</td>
<td>Compression of lumbar vertebrae</td>
<td>Abdominal epilepsy</td>
</tr>
<tr>
<td></td>
<td>Recurrent, acute cystitis</td>
<td>Chronic intermittent bowel obstruction</td>
<td>Degenerative joint disease</td>
<td>Abdominal migraine</td>
</tr>
<tr>
<td></td>
<td>Recurrent, acute urethritis</td>
<td>Diverticular disease</td>
<td>Hernias: ventral, inguinal, femoral, spigelian</td>
<td>Bipolar personality disorders</td>
</tr>
<tr>
<td></td>
<td>Stone/ureolithiasis</td>
<td></td>
<td>Muscular strains and sprains</td>
<td>Familial Mediterranean fever</td>
</tr>
<tr>
<td></td>
<td>Urethral caruncle</td>
<td></td>
<td>Rectus tendon strain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Spondylosis</td>
<td></td>
</tr>
</tbody>
</table>

*Level A: good and consistent scientific evidence of causal relationship to chronic pelvic pain
†Diagnosis frequently reported in published series of women with chronic pelvic pain
‡Level B: limited or inconsistent scientific evidence of causal relationship to chronic pelvic pain
§Level C: causal relationship to chronic pelvic pain based on expert opinions

Pelvic pain is highly associated with childhood or adult sexual abuse and intimate partner or domestic violence. Clinicians should screen for abuse and be familiar with any state requirements for reporting occurrences.

**Resources**


**Premenstrual Syndrome**

Premenstrual syndrome is the cyclic recurrence of symptoms that occur in the luteal phase of the menstrual cycle, must be severe enough to interfere with some aspects of life, and cease shortly after the onset of menstruation. Emotional and physical changes occur premenstrually in up to 85% of women of reproductive age, although the vast majority of patients with these symptoms do not have PMS. It is estimated that 20–40% of these women regard these emotional and physical changes as difficult, but only 5–10% report a significant impact on work, lifestyle, or relationships. Severe PMS that interferes with daily life may meet the diagnostic criteria for premenstrual dysphoric disorder.

The etiology of PMS remains ill defined. Levels of estrogen and progesterone are normal in women with PMS, although there may be an underlying neurobiologic vulnerability to normal fluctuations of one or more of these hormones. Stress does not appear to be a major risk factor for PMS. In fact, it is more likely that coping with PMS results in significant stress.

Diagnosis of PMS depends on the exclusion of other medical and psychiatric disorders and the demonstration, with a patient-completed prospective calendar, of true cyclicity of symptoms severe enough to impair the woman's life. The diagnostic criteria for PMS are outlined in Box 3–35. These symptoms should be documented in two prospective calendar months.

Clinicians should be able to rule out disease processes and psychiatric problems through a careful history, physical examination, and laboratory
testing as indicated. As an overall clinical approach, treatments should be employed in increasing order of complexity. Using this principle, in most cases the therapies should be used in the following order:

**Step 1.** Supportive therapy, including a complex carbohydrate diet, aerobic exercise, nutrition supplements (calcium, magnesium, and vitamin E), and spironolactone

**Step 2.** Administration of SSRIs (fluoxetine or sertraline as the initial choice); for women who do not respond, an anxiolytic should be considered to alleviate specific symptoms

**Step 3.** Hormonal ovulation suppression with oral contraceptives or GnRH agonists

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**Box 3–35. Diagnostic Criteria for Premenstrual Syndrome**

Premenstrual syndrome can be diagnosed if the patient reports at least one of the following affective and somatic symptoms during the 5 days before menses in each of the three prior menstrual cycles:

**Affective**
- Depression
- Angry outbursts
- Irritability
- Anxiety
- Confusion
- Social withdrawal

**Somatic**
- Breast tenderness
- Abdominal bloating
- Headache
- Swelling of extremities

*These symptoms are relieved within 4 days of the onset of menses, without recurrence until at least cycle day 13. The symptoms are present in the absence of any pharmacologic therapy, hormone ingestion, or drug or alcohol use. The symptoms occur reproducibly during two cycles of prospective recording. The patient exhibits identifiable dysfunction in social or economic performance.

Drug therapy should be considered for women with severe symptoms or symptoms resistant to nonmedical approaches. Although no drugs currently are approved by the FDA specifically for the treatment of patients with PMS, several available drugs have been found to be effective for PMS and can be prescribed. Selective serotonin reuptake inhibitors are the initial drugs of choice in pharmacologic intervention:

- Fluoxetine, 20–60 mg/d, usually is administered in the morning to reduce insomnia (this drug is the most studied of the SSRIs; as Sarafem, it is approved for the treatment of patients with premenstrual dysphoric disorder)
- Sertraline, 50–150 mg/d
- Paroxetine, 20–30 mg/d
- Citalopram, 20–30 mg/d
- Other antidepressants
  - Clomipramine, 25–75 mg/d
  - Venlafaxine, 50–200 mg/d

Clinicians should be aware that some of these medications are available as extended-release formulations, thus dose and frequency may vary. Traditionally, these medications have been administered continuously throughout the cycle. More recently, cyclic luteal phase therapy has been found to be just as effective.

Treatment with the anxiolytic alprazolam is effective in some patients. Its adverse effects limit its use as first-line therapy, however. The use of GnRH agonists and surgical oophorectomy have been shown to be effective in treating women with PMS. However, adverse effects limit their usefulness in most patients. Oral contraceptives may improve physical symptoms of PMS. Calcium supplements have been shown to be effective in the treatment of women with PMS. Magnesium, vitamin B₆, and vitamin E may have minimal effectiveness. The bulk of scientific evidence does not support the usefulness of natural progesterone or primrose oil in treatment of patients with PMS.

**Resources**

Vaginitis

Vaginitis is defined as the spectrum of conditions that cause vulvovaginal symptoms such as itching, burning, irritation, and abnormal discharge. Vaginal symptoms are common in the general population and are one of the most frequent reasons for patient visits to obstetrician–gynecologists. The most common causes of vaginitis are bacterial vaginosis (22–50% of symptomatic women), vulvovaginal candidiasis (17–39%), and trichomoniasis (4–35%). Vaginitis has a broad differential diagnosis, and successful treatment frequently rests on accurate diagnosis.

Evaluation of women with vaginitis should include a focused history about the entire spectrum of vaginal symptoms, including change in discharge, vaginal malodor, itching, irritation, burning, swelling, dyspareunia, and dysuria. Questions about the location of symptoms (the vulva, vagina, and anus), duration, relation to the menstrual cycle, response to prior treatment including self-treatment and douching, and sexual history can yield important insights into the likely cause. Because many patients with vaginitis have vulvar manifestations of disease, the physical examination should begin with a thorough evaluation of the vulva. However, evaluation may be compromised by patient self-treatment with nonprescription medications. Since self-diagnosis of vaginitis is unreliable, clinical evaluation of women with vaginal symptoms should be encouraged, particularly for women who fail to respond to self-treatment with a nonprescription antifungal agent.

During speculum examination, samples should be obtained for vaginal pH determination, an amine (“whiff”) test, and saline (wet mount) and 10% potassium hydroxide microscopy evaluation. The pH and amine testing can be performed either through direct measurement or by colorimetric testing. It is important that the swab for pH evaluation be obtained from the midportion of the vaginal side wall to avoid false elevations in pH results caused by cervical mucus, blood, semen, or other substances.

In selected patients, vaginal cultures or polymerase chain reaction tests for Trichomonas species or yeast are helpful. Vaginal Gram staining for Nugent
scoring of the bacterial flora may help to identify patients with bacterial vaginosis. Other currently available ancillary tests for diagnosing vaginal infections include rapid tests for enzyme activity from bacterial vaginosis-associated organisms and *Trichomonas vaginalis* antigen, along with point-of-care testing for DNA of *Gardnerella vaginalis*, *T vaginalis*, and *Candida* species; however, the role of these tests in the proper management of patients with vaginitis is unclear. Depending on risk factors, DNA amplification tests can be obtained for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*.

**Bacterial Vaginosis**

Bacterial vaginosis is a polymicrobial infection marked by a lack of hydrogen peroxide–producing lactobacilli and an overgrowth of facultative anaerobic organisms. Organisms that are found with greater frequency and numbers in women with bacterial vaginosis include *G vaginalis*, *Mycoplasma hominis*, *Bacteroides* species, *Peptostreptococcus* species, *Fusobacterium* species, *Prevotella* species, *Atopobium vaginae*, and other anaerobes. Because these organisms are part of the normal flora, the mere presence of them, especially of *G vaginalis*, on a culture does not mean that the patient has bacterial vaginosis.

Patients with bacterial vaginosis, when symptomatic, may report an abnormal vaginal discharge and a fishy odor. A clinical diagnosis of bacterial vaginosis requires the presence of three out of four of Amsel's criteria:

- Abnormal gray discharge
- Vaginal pH higher than 4.5
- A positive amine test result
- More than 20% of the epithelial cells being clue cells

Bacterial vaginosis is an overgrowth of facultative and obligate anaerobic bacteria derived from the patient’s own endogenous vaginal flora. Therefore, the intent of treatment is not to eradicate these bacteria but to reduce their numbers and allow for the lactobacilli to become dominant. Treatment for bacterial vaginosis before abortion or hysterectomy significantly decreases the risk of postoperative infectious complications. Treatment may include oral or intravaginal clindamycin or metronidazole (see Table 3–23).
### Table 3–23. Therapy for Vulvovaginal Infections

<table>
<thead>
<tr>
<th>Indication</th>
<th>Drug</th>
<th>Formulation</th>
<th>Dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bacterial vaginosis</strong></td>
<td>Metronidazole</td>
<td>500 mg oral 0.75% gel</td>
<td>500 mg twice a day</td>
<td>7 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>300 mg oral 100-mg ovules</td>
<td>5 g daily at bedtime</td>
<td>7 d</td>
</tr>
<tr>
<td></td>
<td>Clindamycin</td>
<td>2% cream</td>
<td>5 g daily</td>
<td>7 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100-mg vaginal suppository</td>
<td>100 mg daily at bedtime</td>
<td>3 d</td>
</tr>
<tr>
<td><strong>Uncomplicated vulvovaginal candidiasis</strong></td>
<td>Butoconazole</td>
<td>2% intravaginal cream*</td>
<td>5 g daily</td>
<td>3 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100-mg vaginal suppository</td>
<td>100 mg daily</td>
<td>7 d</td>
</tr>
<tr>
<td></td>
<td>Clotrimazole</td>
<td>1% intravaginal cream*</td>
<td>5 g daily</td>
<td>7–14 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100-mg vaginal suppository</td>
<td>200 mg daily</td>
<td>3 d</td>
</tr>
<tr>
<td></td>
<td>Miconazole</td>
<td>2% intravaginal cream*</td>
<td>5 g daily</td>
<td>7 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100-mg vaginal suppository*</td>
<td>100 mg daily</td>
<td>7 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>200-mg vaginal suppository*</td>
<td>200 mg daily</td>
<td>3 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,200-mg vaginal suppository*</td>
<td>1,200 mg</td>
<td>Single dose</td>
</tr>
<tr>
<td></td>
<td>Nystatin</td>
<td>100,000-unit vaginal tablet</td>
<td>100,000 units daily</td>
<td>14 d</td>
</tr>
<tr>
<td></td>
<td>Tioconazole</td>
<td>6.5% intravaginal ointment*</td>
<td>5 g</td>
<td>Single dose</td>
</tr>
<tr>
<td></td>
<td>Terconazole</td>
<td>0.4% intravaginal cream</td>
<td>5 g daily</td>
<td>7 d</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.8% intravaginal cream</td>
<td>5 g daily</td>
<td>3 d</td>
</tr>
<tr>
<td></td>
<td>Fluconazole</td>
<td>150-mg oral tablet</td>
<td>150 mg</td>
<td>Single dose</td>
</tr>
<tr>
<td><strong>Trichomoniases</strong></td>
<td>Metronidazole</td>
<td>500 mg oral</td>
<td>4 tabs (2 g) as one dose</td>
<td>Single dose</td>
</tr>
<tr>
<td></td>
<td>Tinidazole</td>
<td>500 mg oral</td>
<td>4 tabs (2 g) as one dose</td>
<td>Single dose</td>
</tr>
<tr>
<td></td>
<td>Metronidazole</td>
<td>500 mg oral</td>
<td>500 mg twice daily</td>
<td>7 d</td>
</tr>
</tbody>
</table>

*Over-the-counter preparations

Vulvovaginal Candidiasis

Physical manifestations of vulvovaginal candidiasis range from asymptomatic colonization to severe symptoms. Symptomatic women may report itching; burning; irritation; dyspareunia; burning with urination; and a whitish, thick discharge.

Multiple studies conclude that a reliable diagnosis cannot be made on the basis of history and physical examination alone. Diagnosis requires either 1) visualization of blastospores or pseudohyphae on saline or 10% potassium hydroxide microscopy or 2) a positive culture result in a symptomatic woman. The diagnosis can be classified further as uncomplicated or complicated vulvovaginal candidiasis (see Box 3–36). This classification system has treatment implications, because complicated vulvovaginal candidiasis is more likely to fail standard antifungal therapy.

Women with uncomplicated vulvovaginal candidiasis can be treated successfully with any of the options in Table 3–23. Because all listed antifungal treatments seem to have comparable safety and efficacy, the choice of therapy should be individualized to the specific patient; factors such as cost, convenience, compliance, ease of use, history of response or adverse reactions to prior treatments, and patient preference all can be taken into consideration.

Box 3–36. Classification of Vulvovaginal Candidiasis

Uncomplicated
- Sporadic or infrequent episodes
- Mild to moderate symptoms or findings
- Suspected *Candida albicans* infection
- Nonimmunocompromised women

Complicated
- Recurrent episodes (four or more per year)
- Severe symptoms or findings
- Non-albicans *Candida* infection
- Women with uncontrolled diabetes, debilitation, or immunosuppression
- Pregnancy

Patients with complicated vulvovaginal candidiasis require more aggressive treatment to achieve relief of symptoms. Appropriate regimens are outlined in ACOG Practice Bulletin No. 72, Vaginitis (see Resources).

**Trichomoniasis**

Vaginal trichomoniais is a common STD with an estimated annual incidence of 7.4 million cases in the United States. Symptomatic women with trichomoniais may have an abnormal discharge, itching, burning, or postcoital bleeding; some women are asymptomatic. Although many women with trichomoniais have an elevated vaginal pH, diagnosis in clinical settings usually relies on visualization of motile trichomonads on saline microscopy. A wet mount has a sensitivity of 60–70% in diagnosing trichomoniais and must be evaluated immediately for optimal results. Trichomonad culture techniques are associated with greater than 90% sensitivity. Point-of-care diagnostics are also available to test for trichomoniais, with results available in as little as 10 minutes. The CDC notes that these tests can be more sensitive than wet preparations but that false-positive results might occur, especially in populations of low prevalence. The CDC recommends culturing vaginal secretions for *T vaginalis* when trichomoniais is suspected but not confirmed by microscopy.

Treatments for uncomplicated trichomoniais are listed in Table 3–23. Although metronidazole has been the mainstay of treatment in the United States, tinidazole also has been approved for single-dose therapy. Both treatments seem to be equally effective.

Partners of women with trichomoniais also should be treated. To prevent reinfection, women with trichomoniais should avoid intercourse until they and their partner have received treatment.

**Other Causes of Vaginal Symptoms**

If a patient reports pruritus and has a normal pH and negative potassium hydroxide microscopy test result and yeast vaginal culture findings, the diagnosis of contact or irritant vulvovaginitis should be considered. A wide variety of substances, from sweat to perfumes, may cause symptoms often mistaken for yeast infection before a thorough evaluation. Contact and irritant vulvovaginitis can be treated by eliminating the irritating substance (if it has been defined) and applying local topical steroid creams or ointments.

Although vulvovaginal candidiasis, bacterial vaginosis, and trichomoniais cause the most vulvovaginal symptoms, other causes may include a
broad range of conditions such as vulvar diseases, atrophic vaginitis, and rarer forms of vaginitis.

Patients with atrophic vaginitis may have an abnormal vaginal discharge, dryness, itching, burning, or dyspareunia. Although more common in postmenopausal women, sometimes atrophic vaginitis can be observed in younger, premenopausal women. Diagnosis can be made on the basis of an elevated vaginal pH and the presence of parabasal or intermediate cells on microscopy. An amine test result will be negative. Treatment consists of local water-based moisturizing preparations or topical or systemic estrogen.

Of the rarer forms of vaginitis, the best defined seems to be desquamative inflammatory vaginitis. Generally occurring in perimenopausal or postmenopausal women, desquamative inflammatory vaginitis causes burning, dyspareunia, and an abnormal yellow or green discharge. Examination reveals a purulent discharge with varying amounts of vestibular and vaginal erythema. The vaginal pH is elevated, and the amine test result is negative. Microscopy reveals large amounts of polymorphonuclear cells and parabasal cells. This condition easily is mistaken for trichomoniasis; however, in cases of desquamative inflammatory vaginitis, no motile trichomonads are present, and cultures for *T vaginalis* are negative. Although no randomized, controlled studies have been performed, a 14-day course with a 2% clindamycin cream often achieves a cure. However, relapse after therapy is fairly common.

**Resources**


Vulvodynia

Vulvodynia is a complex disorder that can be difficult to treat. This section is adapted from a Committee Opinion published jointly by ACOG and the American Society for Colposcopy and Cervical Pathology (see Resources).

Many women experience vulvar pain and discomfort that affects the quality of their lives. Vulvodynia is described by most patients as burning, stinging, irritation, or rawness. It is a condition in which pain is present with a normal appearance of the vulva (other than erythema).

The most recent terminology and classification of vulvar pain by the International Society for the Study of Vulvovaginal Disease defines vulvodynia as “vulvar discomfort, most often described as burning pain, occurring in the absence of relevant visible findings or a specific, clinically identifiable, neurologic disorder.” Vulvodynia is not caused by infection (eg, candidiasis, HPV infection, or herpes), inflammation (caused by, for example, lichen planus or immunobullous disorder), neoplasia (eg, Paget disease or squamous cell carcinoma), or a neurologic disorder (eg, herpes neuralgia or spinal nerve compression). The classification of vulvodynia is based on the site of the pain, whether it is generalized or localized, and whether it is provoked, unprovoked, or mixed.

Several causes have been proposed for vulvodynia, including embryologic abnormalities, increased urinary oxalate levels, genetic or immune factors, hormonal factors, inflammation, infection, and neuropathic changes. Most likely, there is no single cause. Because the etiology of vulvodynia is unknown, it is difficult to say whether localized vulvodynia (previously referred to as vestibulitis) and generalized vulvodynia are different manifestations of the same disease process. Distinguishing localized disease from generalized disease is fairly straightforward and is done with the cotton swab test, as described below. Early classification to localized or generalized vulvodynia can facilitate more timely and appropriate treatment.

Vulvodynia is a diagnosis of exclusion—a pain syndrome with no other identified cause. A thorough history should identify the patient’s duration of pain, prior treatments, allergies, medical and surgical history, and sexual history.

Cotton swab testing (see Fig. 3–7) is used to identify areas of localized pain and to classify where there is mild, moderate, or severe pain. A diagram of pain locations may be helpful in assessing the pain over time. The vagina should be examined, and tests, including wet preparation, vaginal pH testing, fungal culture, and Gram staining, should be performed as
indicated. Fungal culture may identify resistant strains, but sensitivity testing generally is not required. Testing for HPV is unnecessary.

Many treatments have been used for patients with vulvodynia (see Fig. 3–8), including vulvar care measures; topical, oral, and injectable medications; biofeedback training; physical therapy; dietary modifications; cognitive behavioral therapy; sexual counseling; and surgery. Newer treatments include acupuncture, hypnotherapy, nitroglycerin, and botulinum toxin.

Gentle care of the vulva is advised. Vulvar care measures that can minimize vulvar irritation include the following:

- Wearing 100% cotton underwear (no underwear at night)
- Avoiding vulvar irritants (perfumes, dyes, shampoos, and detergents) and douching
- Using mild soaps for bathing, with none applied to the vulva
- Cleaning the vulva with water only
- Avoiding the use of hair dryers on the vulvar areas
Physical examination
Cutaneous or mucosal surface disease present

- Cotton swab test
  - Not tender, no area of vulva touched described as area of burning
    - Alternative diagnosis (incorrect belief that vulvodynia is present)
  - Tender, or patient describes area touched as area of burning
    - Yeast culture
      - Positive
        - Antifungal therapy
          - Adequate relief
            - No additional treatment; stop treatment when indicated
          - Good relief
            - Inadequate relief and pain localized to vestibule
              - Surgery (vestibulectomy)
            - Inadequate relief and pain generalized
              - High-dose and multiple medications for neuropathic pain; consider referral to pain specialist; consider neuromodulation
      - Negative
        - Inadequate relief
          - Treatment Options
            1. Vulvar care measures
            2. Topical medications
            3. Oral medications
            4. Injections
            5. Biofeedback and physical therapy
            6. Dietary modifications
            7. Cognitive behavioral therapy
            8. Sexual counseling

Yes
- Treat abnormal visible condition present (infections, dermatoses, premalignant or malignant conditions)

No
- Yes

Fig. 3–8. Vulvodynia treatment algorithm. (Adapted from Haefner HK, Collins ME, Davis GD, Edwards L, Foster DC, Hartmann ED, et al. The vulvodynia guideline. J Low Genit Tract Dis 2005;9:40–51.)
• Patting the area dry after bathing and applying a preservative-free emollient (such as vegetable oil or plain petrolatum) topically to hold moisture in the skin and improve the barrier function
• Switching to 100% cotton menstrual pads (if regular pads are irritating)
• Using adequate lubrication for intercourse
• Applying cool gel packs to the vulvar area
• Rinsing and patting dry the vulva after urination

Vulvodynia can be difficult to treat, and rapid resolution is unusual, even with appropriate therapy. Decreases in pain may take weeks to months and may not be complete. No single treatment is successful in all women. Expectations for improvement need to be realistically addressed with the patient. Emotional and psychologic support are important for many patients, and sex therapy and counseling may be beneficial.

Resources


National Vulvodynia Association
P.O. Box 4491
Silver Spring, MD 20914
(301) 299-0775
http://www.nva.org

Abnormal Cervical Cytology

Approximately 50 million cervical cytologic tests are performed in the United States each year. Of these tests, the findings of 3–10% will be reported as ASC-US (atypical squamous cells of undetermined significance), and another 2–5% will show evidence of more severe abnormalities.
Effective cervical cancer prevention requires recognition and treatment of the precursors of invasive cancer and includes standardized terminology to report cervical cytologic test results. The 2001 Bethesda System of nomenclature (see Box 3–37) describes the categories of epithelial cell abnormalities, including atypical squamous cells (ASC), atypical glandular cells (AGC), and low-grade or high-grade squamous intraepithelial lesions (LSIL or HSIL). Histologic diagnoses of abnormalities are reported as CIN grades 1–3.

Visual inspection of the vagina and cervix and a bimanual examination should follow a cytology report of abnormal findings. The first objective is to exclude the presence of invasive carcinoma. Once this has been accomplished, the objectives are to determine the grade and distribution

**Box 3–37. The 2001 Bethesda System Categorization of Epithelial Cell Abnormalities**

**Squamous cell**
- Atypical squamous cells (ASC)
  - Of undetermined significance (ASC-US)
  - Cannot exclude HSIL (ASC-H)
- Low-grade squamous intraepithelial lesions (LSIL)
  - Encompassing human papillomavirus (HPV), mild dysplasia, and cervical intraepithelial neoplasia (CIN) 1
- High-grade squamous intraepithelial lesions (HSIL)
  - Encompassing moderate and severe dysplasia, carcinoma in situ, CIN 2, and CIN 3
- Squamous cell carcinoma

**Glandular cell**
- Atypical glandular cells (AGC) (specify endocervical, endometrial, or not otherwise specified)
- Atypical glandular cells, favor neoplastic (specify endocervical or not otherwise specified)
- Endocervical adenocarcinoma in situ (AIS)
- Adenocarcinoma

of the intraepithelial lesion. Options for evaluation include repeat cytology, HPV DNA testing, colposcopy with directed biopsies, and endocervical assessment.

Detailed recommendations for the management of women with abnormal cervical cytology and histology are provided in ACOG Practice Bulletin No. 66, Management of Abnormal Cervical Cytology and Histology (see Resources). Certain characteristics of adolescents may warrant special management considerations, and recommendations are available in ACOG Committee Opinion No. 330, Evaluation and Management of Abnormal Cervical Cytology and Histology in the Adolescent (see Resources).

In 2006, the American Society for Colposcopy and Cervical Pathology convened a consensus conference to update its recommendations on the appropriate management of women with cervical cytologic or histologic abnormalities. These guidelines, including practice algorithms, are available at: www.asccp.org/consensus/cytological.shtml.

The expertise required to evaluate and manage patients with abnormal cytologic findings includes a thorough knowledge of the significance and natural history of cervical preinvasive disease. Additionally, the person responsible for evaluating the abnormal test result also should be appropriately trained and experienced in colposcopy and aware of the various treatment options available for managing cervicovaginal abnormalities. Access to an appropriate cytologic and histopathologic laboratory is required.

The following equipment may be needed for evaluation of the patient with an abnormal test result:

- Colposcope
- Acetic acid solution, 3–5%
- Hemostatic solution, such as Monsel’s solution
- Instruments for the following:
  - Cervical biopsy
  - Endocervical sampling
- Appropriate fixative solution

The Clinical Laboratory Improvement Amendments have established requirements for the review of abnormal cervical cytology and follow-up of tests of identified high-risk patients (see “Compliance With Government Regulations” in Part 1 and Appendix C). In addition, clinicians should be familiar with any state requirements in this area.
Resources

ACOG Patient Resources


ACOG Professional Resources


Other Resource

American Society for Colposcopy and Cervical Pathology
20 West Washington Street, Suite 1
Hagerstown, MD 21740
(301) 773-3640
http://www.asccp.org

Neoplasms

Breast Cancer

In the United States, breast cancer is the most common cancer in women, with more than 178,000 new cases and more than 40,000 deaths estimated in 2007. Breast cancer is the leading cause of death from cancer in women aged 20–59 years and is the second leading cause of cancer deaths overall, after lung cancer. The lifetime risk of developing breast cancer is approximately one in eight.

The most common risk factors for developing breast cancer include advancing age and being female. Other risk factors include a personal or
family history of breast cancer, nulliparity, early menarche, and late menopause (see “Cancer Screening and Prevention” earlier in Part 3).

All women should have clinical breast examinations annually as part of the physical examination (see “The Breast Examination” earlier in Part 3). Despite a lack of definitive data for or against breast self-examination, this technique has the potential to detect palpable breast cancer and can be recommended. Women aged 40–49 years should have screening mammography every 1–2 years, and women aged 50 years and older should have annual screening mammography. Mammography is the most effective method currently available for screening patients and reducing mortality (see also “Cancer Screening and Prevention” earlier in Part 3). Obstetrician–gynecologists who provide mammography services should be in compliance with the Mammography Standards Quality Act (see “Compliance With Government Regulations” in Part 1).

Timely follow-up for an abnormal screening mammogram can optimize the diagnosis in, and treatment of, women with abnormal screening test results and may decrease patient anxiety, travel costs, and time off work. Timely follow-up is encouraged on an ethical basis and is consistent with the role of physicians as patient advocates.

When interpretation of a screening mammogram indicates that additional diagnostic studies are needed, no barriers imposed by the patient's health insurance policy or other regulations should prevent the performance of further diagnostic tests during the visit for screening mammography.

The clinician should be able to elicit an accurate history and document risk factors that might increase the patient's risk of developing breast cancer, as well as perform a thorough and accurate clinical breast examination (see “The Women's Health Examination” earlier in Part 3). Genetic testing for breast cancer, ovarian cancer, or both should be performed only after genetic counseling and with the woman's informed consent (see also “Hereditary Disorders” earlier in Part 3).

Clinicians with the knowledge and experience to perform cyst aspiration and fine-needle aspiration when necessary can facilitate their patients' prompt treatment. If a clinician is unable to provide this service, referral to a breast specialist or another clinician with this expertise is appropriate whenever an abnormality is noted on a mammogram or a mass is palpated on physical examination.

The clinician should be knowledgeable regarding the indications and options for reducing the incidence of breast cancer, including prophylactic mastectomy and chemoprevention. A key factor to be considered is the
woman’s risk of breast cancer. It is important that clinicians take a thorough history to assess the risk adequately. Researchers from the National Cancer Institute and the National Surgical Adjuvant Breast and Bowel Project have developed a computer-based tool to allow clinicians to project a woman’s individualized estimate of breast cancer risk. The Breast Cancer Risk Assessment Tool is a computer program that a woman and her health care professional can use to estimate her chances of developing breast cancer based on several established risk factors. The program is available at no charge in PC-compatible and Macintosh computer formats or online. To order, call the National Cancer Institute’s Cancer Information Service at 800-422-6237, or visit the National Cancer Institute’s cancer trials web site at cancertrials.nci.nih.gov/.

In postmenopausal women with previously treated breast cancer, alternatives to HT should be considered for the treatment of menopausal symptoms. The routine use of HT in women who have had breast cancer is not recommended.

Appropriate support and consideration should be given to patients undergoing mastectomy. A short length of hospital stay at the time of mastectomy is not optimal for all patients requiring such intervention. The Cancer Rights Act of 1998 requires that insurance coverage for mastectomy include reconstructive surgery.

**Cervical and Vaginal Cancer**

Despite the fact that use of the Pap test has been associated with a 70% decline in deaths from cervical cancer during the past 50 years, there are more than 9,700 new cases of invasive cervical cancer and more than 3,600 deaths expected in the United States in 2007. Although the median age for the occurrence of invasive carcinoma has remained constant at 44–50 years, this malignancy is diagnosed in women of all ages. Most cases of serious disease are seen in women who have not had regular cervical cytology screening. Elderly women who have never been screened and older women who do not receive regular cervical cytology screening as recommended continue to be at high risk for developing this malignancy.

It has now been established that HPV is a major contributor to cervical malignancy. Although most women with HPV never will develop this cancer, 95% of cervical malignancies have been associated with it.

Vaginal cancer, which is relatively uncommon, generally behaves and is diagnosed similar to cervical cancer. Most of these lesions occur in post-
menopausal women. Preinvasive lesions of the vagina (vaginal intraepithelial neoplasia) can be detected by cytology tests in a manner identical to that for detecting cervical cancer.

Recommendations for cervical cytology screening and the management of abnormal cytology are outlined earlier in Part 3 (see “The Women’s Health Examination,” “Cancer Screening and Prevention,” and “Abnormal Cervical Cytology”).

It is recommended that the staging system of the International Federation of Gynecology and Obstetrics (FIGO) be used. Staging of invasive cervical cancer with the FIGO system is achieved by clinical evaluation. Careful clinical examination should be performed by experienced examiners on all patients and may be performed with the patient under anesthesia. Although not required as part of FIGO staging procedures, various radiologic tests frequently are undertaken to help define the extent of tumor growth and guide therapy decisions, especially in patients with locally advanced disease.

Very early invasive cancer usually is managed by surgery alone. Early carcinomas of the cervix usually can be managed by surgical techniques or radiation therapy. More advanced carcinomas require primary treatment with radiation therapy plus chemotherapy administered in small doses as a radiation sensitizer. Specific recommendations for treatment have been outlined by ACOG (see Resources). After treatment for cervical carcinoma, patients should be monitored regularly—for example, with thrice-yearly follow-up examinations for the first 2 years and twice-yearly visits subsequently to year 5, with cervical cytology annually and chest radiography annually for up to 5 years.

The clinician should be familiar with the options for treating women with both early and advanced cervical cancer and should facilitate referrals for this treatment. Surgery or radiation therapy may be options for treatment, depending on the stage and size of the lesion. In most cases, women with diagnosed invasive cervical cancer should be referred to a gynecologic oncologist for care, often in conjunction with a radiation therapist.

Vaginal cancer is treated in a manner similar to cervical cancer. Most vaginal cancers require pelvic radiation therapy, and surgery is reserved for only a few very early lesions.
Endometrial Cancer

Carcinoma of the endometrium is the most common genital tract malignancy in the United States, with more than 39,000 cases estimated to be diagnosed in 2007 and 7,400 deaths in 2007. It is found more frequently in women who have been exposed to unopposed estrogen, either endogenous or exogenous. A family history of endometrial or colorectal cancer confers increased risk. The use of combination oral contraceptives is associated with a decreased risk. Management and treatment of chronic anovulation decreases the risk of estrogen-dependent endometrial cancers.

In the United States, the lifetime risk of developing endometrial cancer is 2.49%. White women have a 2.9% lifetime risk of developing endometrial cancer and a 0.49% risk of dying from the disease; African-American women have a 1.93% risk of developing the disease and a 0.75% risk of dying from it. Adenocarcinoma of the endometrium is predominantly a disease of postmenopausal women. Risk factors for the development of endometrial cancer include the following:

- Excess endogenous estrogen exposure
  - Obesity
  - Chronic anovulation (especially PCOS)
  - Estrogen-secreting tumors
- Unopposed exogenous estrogen exposure
- Use of tamoxifen
- Early menarche, late menopause
- Personal history of breast, ovarian, or colon cancer
- Hereditary nonpolyposis colon cancer syndrome

Uterine sarcomas are rare. These tumors usually arise in the muscle of the uterine wall; rarely, they have arisen in uterine leiomyomata.

There are no effective screening methods to detect endometrial cancer. Endometrial cancer should be suspected under the following circumstances:

- Bleeding in a postmenopausal woman
- Chronic anovulation and associated irregular bleeding in premenopausal women
• Perimenopausal women with the following:
  – Very heavy menstrual flow
  – Excessive intermenstrual bleeding

Routine cervical cytology screening is not a reliable means of detecting endometrial cancer. A patient who has abnormal bleeding should have an endometrial biopsy, which usually obviates the need for a dilation and curettage. Although neither transvaginal nor transabdominal ultrasonography can confirm the presence or absence of cancer of the endometrium, ultrasonography can provide information to aid in diagnosis.

A physical examination and chest radiography are the only preoperative tests required in patients with tumors of the most common histologic type (endometrioid). Many patients with lesions that are well differentiated (grade 1) will have disease that has not spread beyond the uterus. All other preoperative testing should be directed toward optimizing the surgical outcome.

If a diagnosis of invasive endometrial cancer is made, surgical staging is still the gold standard. Most women with endometrial cancer should undergo systematic surgical staging, which includes biopsy of any suspicious lesions, obtaining intraperitoneal (abdominal cavity) samples for cytology (washings), bilateral pelvic and paraaortic lymphadenectomy, and complete resection of all disease. Exceptions include young or perimenopausal women with grade 1 endometrioid adenocarcinoma associated with atypical endometrial hyperplasia and women at increased risk of mortality secondary to comorbidities. Women who desire to maintain fertility may be candidates for treatment with progestins monitored by serial endometrial biopsy. Women who cannot undergo systematic surgical staging because of comorbidities may be candidates for vaginal hysterectomy. More detailed treatment recommendations have been published by ACOG developed jointly with the Society of Gynecologic Oncologists (see Resources).

No definitive data support specific recommendations regarding the use of estrogen in women previously treated for endometrial cancer. At this time, the decision to use HT in these women should be individualized on the basis of potential benefit and risk to the patient.

In standard dosages, tamoxifen may be associated with endometrial proliferation, hyperplasia, polyp formation, invasive carcinoma, and uterine sarcoma. Postmenopausal women taking tamoxifen should be monitored closely for symptoms of endometrial hyperplasia or cancer and should have a gynecologic examination at least once every year. Premenopausal women
treated with tamoxifen have no known increased risk of uterine cancer and as such require no additional monitoring beyond routine gynecologic care. Patients should be encouraged to report promptly any abnormal vaginal symptoms, including bloody discharge, spotting, or staining, and these symptoms should be investigated. Screening tests have not been effective in increasing the early detection of endometrial cancer in women using tamoxifen and may lead to more invasive and costly diagnostic procedures; screening tests are not recommended. Appropriate evaluation of the endometrium should be performed. If atypical endometrial hyperplasia develops, appropriate gynecologic management should be instituted, and the use of tamoxifen should be reassessed. If tamoxifen therapy must be continued, hysterectomy should be considered in women with atypical endometrial hyperplasia. Tamoxifen use may be reinstated after hysterectomy for endometrial carcinoma in consultation with the physician responsible for the woman’s breast care. Tamoxifen use should be limited to 5 years’ duration, because a benefit beyond this time has not been documented.

The clinician should be able to elicit an appropriate history and identify risk factors that would predispose patients to the development of endometrial cancer. Appropriate physical and pelvic examination should be done to determine the source of any abnormal bleeding and to rule out extrauterine causes. The clinician should have the appropriate expertise and equipment to perform outpatient endometrial biopsies and have the ability to obtain transvaginal ultrasonography to evaluate the endometrial thickness. The clinician who plans to treat the patient with endometrial cancer must have the expertise to determine when full surgical staging is necessary and to be able to perform the required procedures, such as pelvic and paraaortic lymphadenectomy. A referral to, or consultation with, a gynecologic oncologist may be appropriate.

When it is practical and feasible, preoperative consultation with a physician with advanced training and demonstrated competence, such as a gynecologic oncologist, may be recommended. Consultation may be particularly beneficial in the following situations:

- The ability to completely and adequately surgically stage the patient is not readily available at the time of her initial procedure.
- Preoperative histologic findings (eg, grade 3, papillary serous, clear cell carcinosarcoma) suggest a high risk of extrauterine spread.
- The final pathology test result reveals an unexpected endometrial cancer after hysterectomy was performed for other indications.
• There is evidence of cervical or extrauterine disease.
• The pelvic washing results are positive for malignant cells.
• Recurrent disease is diagnosed or suspected.
• Nonoperative therapy is contemplated.

**Ovarian Cancer**

Ovarian cancer is the leading cause of death from genital tract malignancy and the fifth leading cause of cancer-related death in U.S. women. Most cases occur in women older than 50 years, but this disease also can affect younger women. More than 22,000 new cases are expected in 2007 in the United States, with more than 15,000 women estimated to die from this malignancy during the same period. The main reason for these dismal statistics is the advanced stage of disease at diagnosis and an overall 5-year survival rate of only 20–30%. Currently, no available screening methods are appropriate for mass screening of the general population.

Much less common are malignancies that arise in the tissue that covers the ovary and lines the abdominal cavity (ie, the peritoneum). Primary peritoneal cancer behaves the same as ovarian cancer and is treated in a similar manner. The existence of primary peritoneal cancer explains why some tumors that look like ovarian cancer can develop even after bilateral oophorectomy.

The pathogenesis of ovarian carcinoma remains unclear. Pregnancy, breastfeeding, and oral contraceptive use are associated with a decreased risk of ovarian cancer. Only approximately 5–10% of patients with ovarian cancer have a significant family history for this malignancy. A woman with a germline mutation of *BRCA1* or *BRCA2* has a lifetime risk of 15–45% of developing ovarian cancer. There are no data demonstrating that screening improves early detection of ovarian cancer in this population. These women should be offered genetic counseling.

The best way to detect early ovarian cancer is for both the patient and her clinician to have a high index of suspicion for the diagnosis in the symptomatic woman. The following persistent symptoms should be evaluated and ovarian cancer included in the differential diagnosis:

• Increase in abdominal size
• Abdominal bloating
• Fatigue
• Abdominal pain
• Indigestion
• Inability to eat normally
• Urinary frequency
• Pelvic pain
• Constipation
• Back pain
• Urinary incontinence of recent onset
• Unexplained weight loss

In evaluating these symptoms, physicians should perform a physical examination, including a pelvic examination. Imaging studies (including vaginal ultrasonography) may be helpful before making the diagnosis of irritable bowel syndrome, depression, stress, or other conditions. In premenopausal women with symptoms, a CA 125 measurement has not been shown to be useful in most circumstances, because elevated levels of CA 125 are associated with a variety of common benign conditions, including uterine leiomyomata, adenomyosis, pregnancy, and even menstruation. In postmenopausal women with a pelvic mass, a CA 125 measurement may be helpful in predicting a higher likelihood of a malignant tumor than a benign tumor, which may be useful in making consultation or referral decisions or both; however, a normal CA 125 measurement alone does not rule out ovarian cancer.

Diagnostic criteria based on physical examination and imaging techniques that should be used to consider referral to, or consultation with, a gynecologic oncologist are as follows:

• Postmenopausal women who have a pelvic mass that is suspicious for a malignant ovarian neoplasm as suggested by at least one of the following indicators: an elevated CA 125 level, ascites, a nodular or fixed pelvic mass, evidence of abdominal or distant metastasis, a family history of one or more first-degree relatives with ovarian or breast cancer
• Premenopausal women who have a pelvic mass that is suspicious for a malignant ovarian neoplasm, as suggested by at least one of the following indicators: a very elevated CA 125 level (eg, greater than 200 units/mL), ascites, evidence of abdominal or distant metastasis, a family history of one or more first-degree relatives with ovarian or breast cancer.

A woman with a suspicious or persistent adnexal mass requires surgical evaluation. In these circumstances, a physician trained to appropriately stage and debulk ovarian cancer, such as a gynecologic oncologist, should perform the operation. It should be done in a hospital facility that has the necessary support and consultative services (eg, pathology services) to optimize the patient’s outcome. When a malignant ovarian tumor is discovered and the appropriate operation cannot be performed properly, a gynecologic oncologist should be consulted.

**Vulvar Cancer**

Vulvar cancer is fairly uncommon, accounting for approximately 5% of all gynecologic malignancies. In 2007, more than 3,400 new cases and more than 800 deaths are expected. The great majority of malignant vulvar lesions are squamous cell cancers. Less common malignancies of the vulva include melanoma, Bartholin’s gland carcinoma, and a variety of sarcomata. In the recent past, the prognostic factors for vulvar cancers have been defined more clearly. The development of more conservative surgical approaches, along with the combination of chemotherapy and radiation (chemoradiation), has contributed to improved quality of life in patients with this malignancy.

Because there are no macroscopic features diagnostic of vulvar cancer, biopsy should be performed promptly for any lesion that raises suspicion, such as a confluent wartlike mass; an ulceration; a thickening; or localized, unexplained pruritus that persists for more than 1 month. If a diagnosis of extensive vulvar intraepithelial neoplasia or invasive cancer is made, appropriate referral of the patient to a gynecologic oncologist or a clinician with the requisite expertise to offer state-of-the-art and often multimodal therapy is required.

To avoid significant delay in diagnosis, the clinician should have a high index of suspicion of vulvar cancer when a woman, particularly one who is older, presents with vulvar symptoms or findings. The clinician also should be able to recognize the subtle findings associated with preinvasive
and early invasive vulvar lesions and be able to perform appropriate diagnostic procedures, including colposcopy and vulvar biopsy, to confirm the diagnosis.

_Gestational Trophoblastic Disease_

Gestational trophoblastic disease encompasses a spectrum of interrelated conditions originating from the placenta. These histologically distinct entities include complete and partial hydatidiform moles, invasive moles, placental site trophoblastic tumors, and gestational choriocarcinoma. With the currently available sensitive assays for human chorionic gonadotropin (hCG) to monitor the disease and with effective chemotherapy regimens (both single-agent and multiagent regimens), the previously observed morbidity and mortality from these disorders have been reduced greatly. With appropriate evaluation and treatment, most women with malignant gestational trophoblastic disease can be cured and their reproductive function preserved.

Estimates of the incidence of gestational trophoblastic disease vary widely. The following apply to the United States:

- Hydatidiform mole is observed in 1 in 1,500 pregnancies. Approximately 20% of patients will develop malignant sequelae requiring administration of chemotherapy after evacuation of hydatidiform moles.

- Gestational choriocarcinoma occurs in approximately 1 in 20,000–40,000 pregnancies: approximately 50% after term pregnancies, 25% after molar pregnancies, and the remainder after other gestational events.

- Approximately 3,000 cases of hydatidiform mole and 500–750 cases of malignant gestational trophoblastic disease are diagnosed each year.

To allow optimal management, practicing obstetrician–gynecologists should be able to diagnose and manage primary molar pregnancies, diagnose and stage malignant gestational trophoblastic disease, and assess risk in women with malignant gestational trophoblastic disease to allow referral for appropriate initial treatment. Experience, such as that found at regional gestational trophoblastic disease treatment centers, improves outcomes in the management of malignant gestational trophoblastic disease. Any woman for whom initial therapy for invasive mole has failed or who has a choriocarcinoma diagnosis should be referred to a physician or facility with training, expertise, and experience in managing the disease.
Hydatidiform moles usually are diagnosed during the first trimester of pregnancy. The most common symptom is abnormal bleeding. Other signs and symptoms include uterine enlargement greater than expected for gestational age, absent fetal heart tones, cystic enlargement of the ovaries, hyperemesis gravidarum, and an abnormally high level of hCG for gestational age. The presence of these features in the first trimester should alert the clinician to the possibility of a molar gestation. Pregnancy-induced hypertension in the first half of pregnancy, although uncommon, is suggestive of hydatidiform mole. Ultrasonography has replaced all other noninvasive means of establishing the diagnosis. Molar tissue typically is identified as a diffuse mixed echogenic pattern replacing the placenta, produced by villi and intrauterine blood clots, but these findings may be subtle or lacking in cases of early complete or partial moles.

As long as hCG values are decreasing after molar evacuation, there is no role for chemotherapy. However, if hCG levels increase or plateau over several weeks, immediate evaluation and treatment for malignant postmolar gestational trophoblastic disease are indicated. Occasionally, the plateauing or increasing hCG levels represent a false-positive laboratory test result caused by heterophilic antibodies cross-reacting with the hCG test (phantom hCG).

Postmolar gestational trophoblastic disease most frequently is diagnosed on the basis of increasing or plateauing hCG values. Women with malignant gestational trophoblastic disease after nonmolar pregnancies may have subtle signs and symptoms of disease, which make the diagnosis difficult. Abnormal bleeding for more than 6 weeks after any pregnancy should be evaluated with hCG testing to exclude a new pregnancy or gestational trophoblastic disease. Gestational choriocarcinoma should be considered in any woman of reproductive age with metastatic disease from an unknown primary site. A serum hCG determination and exclusion of pregnancy are all that are required to diagnose metastatic gestational trophoblastic disease in these circumstances.

Patients should be counseled to use a reliable form of hormonal contraception during the first year of remission. Because of the 1–2% risk of a second mole in subsequent pregnancies, early ultrasonographic examination is recommended for all future pregnancies. There does not appear to be an increased risk of congenital malformations or other complications related to pregnancy. Oral contraceptives have been shown to be safe and effective during posttreatment monitoring based on randomized, controlled trials.
Resources

ACOG Patient Resources


ACOG Professional Resources


Other Resources


Pain Management

The heterogeneous patient population cared for by gynecologists results in a broad range of pain management challenges. The pain experienced by gynecologic patients ranges from acute pain, such as postoperative incisional pain, to chronic pain, such as that experienced by many patients with cancer. Although the treatment of patients with acute postoperative pain is typically less challenging than the long-term management of chronic pain syndromes, studies have shown that even this acute pain often is not controlled optimally. Many patients respond adequately to the as-needed administration of an opioid such as morphine or meperidine, whereas other patients require alternative medications, modification of the dosage, or different routes of administration to achieve optimal results. Studies have documented that 25–70% of general surgical patients have unrelieved postoperative pain. Surveys of patients with chronic cancer pain have documented that approximately two thirds of these patients also have acute pain transiently. It is clear that even though the treatments required to
provide adequate relief of pain are widely available, they often are used inadequately. The fear of regulatory scrutiny is the most common reason physicians give for failing to provide adequate medication for chronic pain.

General principles of pain management are outlined in Box 3–38. Whenever possible, therapy should be directed toward resolving the underlying condition.

The ability to manage pain optimally requires comprehensive assessment of pain and information regarding temporal characteristics (stable versus constant course, severity, location, quality, provocative factors, and

**Box 3–38. Pain Management Principles**

1. Use positive reinforcement and support.
   a. Placebos should not be used to evaluate pain.
   b. The placebo effect may be used to supplement other therapy through positive reinforcement.

2. Assess psychologic factors early in the evaluation process.
   a. Coexisting depression or sleep disorders should be sought.
   b. The diagnosis of “psychogenic pain” should not be a diagnosis of exclusion. Rather, it should be made only when there are clear indications for this diagnosis.

3. Treat the underlying disorder whenever possible.
   a. Pain receptors do not adapt.
   b. Under some circumstances pain receptors actually lower their thresholds, causing hyperalgesia.

4. Treat the pain promptly and continue on a regular basis.
   a. Treatment that effectively suppresses pain or that is not based on the need to reexperience pain gives the best results (eg, patient-controlled analgesia for postoperative patients).
   b. Frequent, scheduled follow-ups are better than “as needed” visits.

5. Consider the use of multiple treatment modalities in synergy.
   a. Different methods of treatment work by way of different routes (eg, relaxation techniques, transcutaneous electrical nerve stimulation, physical therapy, vocational rehabilitation, and biofeedback).
   b. The nuances of the treatments used should be understood (eg, site of action, half-life, administration routes available, and interactions).
   c. Combinations of medications that increase sedation without enhancing analgesia should be avoided.

6. Use narcotic drugs with caution.
   a. Tolerance and dependence may occur with long-term use.
   b. Narcotics should not be withheld if other therapies are ineffective.
palliative factors). The clinician should be well versed in the various options for the management of pain.

Ideally, clinicians also should be familiar with the following approaches to pain management:

- **Anesthesia**
  - Nerve blocks
  - Continuous conduction anesthesia
- **Neurostimulation**
  - Transcutaneous electrical nerve stimulation
  - Acupuncture
  - Massage
- **Neurosurgery**
- **Mood modification**
  - Aromatherapy
  - Imagery

Many hospitals have established comprehensive pain services, which often are directed by anesthesiologists and provide expert assessment and multimodality therapy for patients with both acute and chronic pain. The Joint Commission provides new standards on pain assessment and treatment for hospitals, ambulatory care facilities, and other institutions. The use of pain scales (eg, rating pain from 0 to 10) may be helpful. Clinicians also should be aware of the option for patient-controlled analgesia.

In general, nonsteroidal antiinflammatory drugs are overused and provide minimal benefit to patients in severe pain, particularly patients experiencing pain secondary to metastatic cancer. Often these drugs are used instead of opioids with the well-intended concern that patients not become dependent. However, this class of medications generally does not control this pain, which can be severe, particularly at the end of life.

Guidelines for the treatment of patients with severe pain secondary to metastatic cancer suggest that long-acting opioids be administered around the clock and be supplemented with short-acting oral opioids for episodes of breakthrough pain. Ninety percent of cancer pain can be controlled by opioid administration via oral, rectal, or transdermal...
routes. Effective management requires recognition of drug pharmacokinetics and potential adverse effects that may be age related.

Methods of neurostimulation, such as transcutaneous electrical nerve stimulation, acupuncture, and massage, are based on the gate theory of pain control. These treatments can be useful for pain control, particularly when the pain is severe. Imagery, aromatherapy, and other mood modifiers can provide an atmosphere of relaxation and comfort. Finally, conduction anesthesia can be provided by continuous administration in the home or with hospice care.

Clinicians should be familiar with any relevant pain treatment legislation adopted in their state. They also should be aware of requirements regarding the use of controlled substances.

Resources

ACOG Resources


Other Resources


Infertility

Infertility affects 6.1 million people in the United States (approximately 10% of the reproductive-aged population) and affects men and women equally. Sexually transmitted diseases, endometriosis, and decreasing fecundity associated with advancing age are the major factors that contribute to these numbers. There is emphasis in today’s society on the delay of childbearing. Thus, many couples who seek fertility services are older and have acquired diseases that can affect their fertility adversely and compound the naturally decreasing fertility associated with age.

Infertility is established when a couple has unprotected intercourse for 12 months without conception. Evaluation of infertility should be undertaken at this time unless medical history and physical findings dictate earlier evaluation and treatment. Women older than 35 years should receive expedited evaluation and treatment after 6 months of attempted conception, or earlier if clinically indicated. In general, three major potential etiologic factors are assessed to uncover the causes of infertility: male factor dysfunction, ovulation defects, and female anatomic abnormalities.

The following are causes of infertility and the estimated percentage of cases for each:

- Male factor dysfunction, 20%
- Ovulation defects, 30%
- Female anatomic abnormalities, 25%
- Combined disorders, 10%
- Unexplained infertility, 15%

It is important for health care practitioners to understand and accept the emotional and educational needs and demands of patients with infertility. Physicians should appraise their own interests, personality, training, and experience and be prepared to refer patients to subspecialists when appropriate. A team approach is frequently helpful in ensuring that patients receive an adequate workup and appropriate counseling. Counseling of patients with infertility who are treated with assisted reproductive technologies should include, among other things, information regarding the risk of multiple gestation, the ethical issues surrounding multifetal preg-
nancy reduction, and adoption. Supporting services for couples with infertility may include the following:

- Reproductive endocrinology
- Assisted reproductive technologies
  - In vitro fertilization
  - Gamete intrafallopian transfer
  - Zygote intrafallopian transfer
  - Donors
    - Oocyte
    - Sperm
    - Embryo
  - Gestational carriers and surrogate mothers
  - Preimplantation genetic testing
  - Intracytoplasmic sperm injection
- Psychologic support
- Urologic and andrology services
- Adoption agencies
- Infertility support groups
- Family counseling

Clinicians should be familiar with any state laws regarding infertility services and treatment or insurance coverage.

**Resources**

**Patient Resources**


RESOLVE: The National Infertility Association
7910 Woodmont Avenue, Suite 1350
Bethesda, MD 20814
(301) 652-8585
888-623-0774
http://www.resolve.org
E-mail: info@resolve.org

ACOG Professional Resources


Other Resources


Polycystic Ovary Syndrome

There is no universally accepted definition for PCOS. The following diagnostic criteria were established by the National Institutes of Health (NIH) in 1990:

- Chronic anovulation
- Hyperandrogenism
  - Clinical (e.g., hirsutism)
  - Chemical (e.g., elevated testosterone levels)
- Exclusion of other endocrinopathies
  - Adult-onset congenital adrenal hyperplasia
  - Hyperprolactinemia
  - Androgen-producing tumor

It should be noted that insulin resistance and elevated luteinizing hormone/follicle-stimulating hormone ratios have been noted in many women with PCOS, but they are not part of the diagnostic criteria as defined by NIH.
A 2003 consensus conference cosponsored by the American Society for Reproductive Medicine proposed refining the NIH criteria by suggesting that patients with PCOS meet two out of the following three criteria:

1. Oligoovulation or anovulation
2. Clinical or chemical hyperandrogenism
3. Polycystic ovaries on ultrasonogram with the exclusion of other endocrinopathies

The rationale behind these recommendations is that PCOS encompasses a broader clinical presentation than that defined by the NIH criteria. For example, women with regular menstrual cycles or women without hyperandrogenism still may have PCOS, providing they exhibit the other two criteria. Critics of this definition point out that polycystic ovaries demonstrated on ultrasonogram are a nonspecific finding and may be found in women without endocrine or metabolic abnormalities.

Polycystic ovary syndrome occurs in approximately 5% of women. The clinician must rule out other medical illnesses that can mimic and be confused with PCOS. Conditions to consider in the differential diagnosis of PCOS are included in Box 3–39. The suggested diagnostic evaluation for PCOS is included in Box 3–40. Although patients generally present to the obstetrician–gynecologist reporting symptoms such as menstrual irregular-

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**Box 3–39. Conditions to Consider in the Differential Diagnosis of Polycystic Ovary Syndrome**

- Androgen-secreting tumor
- Exogenous androgens
- Cushing’s syndrome
- Nonclassic congenital adrenal hyperplasia
- Acromegaly
- Genetic defects in insulin action
- Primary hypothalamic amenorrhea
- Primary ovarian failure
- Thyroid disease
- Prolactin disorders

Box 3–40. Suggested Diagnostic Evaluation for Polycystic Ovary Syndrome

**Physical**
- Blood pressure
- Body mass index (BMI)
  - BMI 25–29.9 = overweight, BMI 30 or more = obese
- Waist–hip ratio to determine body fat distribution
  - Value more than 0.72 = abnormal
- Presence of stigmata of hyperandrogenism or insulin resistance
  - Acne, hirsutism, androgenic alopecia, acanthosis nigricans

**Laboratory**
- Documentation of biochemical hyperandrogenemia
  - Total testosterone or bioavailable or free testosterone
- Exclusion of other causes of hyperandrogenism
  - Thyroid-stimulating hormone levels (thyroid dysfunction)
  - Prolactin (hyperprolactinemia)
  - 17-Hydroxyprogesterone (nonclassic congenital adrenal hyperplasia caused by 21-hydroxylase deficiency): random normal level less than 4 ng/mL or morning fasting level less than 2 ng/mL
  - Consider screening for Cushing’s syndrome and other rare disorders such as acromegaly
- Evaluation for metabolic abnormalities
  - 2-h oral glucose tolerance test (fasting glucose less than 100 mg/dL = normal, 100–125 mg/dL = impaired, more than 126 mg/dL = type 2 diabetes) followed by 75-g oral glucose ingestion and then 2-h glucose level (less than 140 mg/dL = normal glucose tolerance, 140–199 mg/dL = impaired glucose tolerance, more than 200 mg/dL = type 2 diabetes)
- Fasting lipid and lipoprotein level (total cholesterol, high-density lipoprotein, triglycerides [low-density lipoprotein usually calculated by Friedewald equation])

(continued)
Box 3–40. Suggested Diagnostic Evaluation for Polycystic Ovary Syndrome (continued)

Optional Tests to Consider

- Ultrasonographic examination of ovaries for baseline evaluation and morphology before ovulation induction or in cases of virilization or rapid conversion to an androgen excess state
- Gonadotropin determinations to determine cause of amenorrhea
- Fasting insulin levels in younger women, those with severe stigmata of insulin resistance and hyperandrogenism, or those undergoing ovulation induction
- Overnight suppression test with 1 mg dexamethasone to rule out Cushing’s syndrome


ity, infertility, or hirsutism, a critical element of caring for the patient with PCOS is addressing the substantial metabolic sequelae associated with the condition. Patients often develop diabetes or CVD and have dyslipidemia; thus, all patients with PCOS should be screened for metabolic abnormalities. Patients have an increased risk of endometrial carcinoma related to anovulation and unopposed estrogen.

Treatment of patients with PCOS often depends on the presenting signs and symptoms. In women not attempting conception, oral contraceptives remain the mainstay of long-term treatment, because they provide a progesterin and suppress androgen secretion, increase sex hormone–binding globulin, and reduce the potential for endometrial cancer. Weight loss should also be a mainstay of therapy in overweight and obese patients. This weight loss should be accomplished by exercise and nutrition interventions (see “Obesity” earlier in Part 3). Weight loss reduces the risk factors for diabetes and CVD. As little as a 5% weight loss has been associated with decreased androgen levels and spontaneous resumption of menses, ovulation, or both.

Small studies over 3–6 months using the insulin-sensitizing agent metformin have shown an improvement in ovulatory function in approximately half the women studied. Serious but rare adverse effects of metformin may include lactic acidosis, which is seen chiefly in patients with preexisting renal or hepatic disease, which are contraindications to this medica-
Lactic acidosis also may occur with marked dehydration. Metformin administration should be stopped before radiologic procedures that use iodinated contrast material, such as intravenous pyelography. Common adverse effects of metformin, such as bloating and diarrhea, may be decreased by initiating therapy at low doses and gradually increasing the amounts until therapeutic levels are attained. A starting dose of 500 mg/d may be increased gradually. Sustained-release formulations allowing once-daily administration improve compliance and are available in the United States. It is important to note that although the use of insulin-sensitizing agents is promising in patients with PCOS, conclusive data regarding outcomes and risks are lacking. Only small studies and preliminary findings have been published.

In patients reporting hirsutism, combined therapy with an ovarian suppression agent and an antiandrogen appears effective. In women attempting pregnancy, the administration of clomiphene citrate is appropriate, as are interventions that improve insulin sensitivity, including weight loss and metformin.

### Resources

**ACOG Resources**


**Other Resources**


### Sexual Dysfunction

It is suggested that as many as 35–45% of women perceive some type of sexual dysfunction. Sexual dysfunction may be related to relationship difficulties, psychologic problems, physical impairment, medications (eg,
antihypertensives, antipsychotics, antidepressants, or hormonal agents), or biologic factors. Sexual function is influenced by the following factors:

- Health status
- Emotional well-being
- History of sexual violence
- Fatigue
- Stress
- Depression
- Alcohol
- Drug use

Vaginismus and dyspareunia, as well as the interruption or absence of any stage in the sexual response cycle (desire, arousal, orgasm, and resolution), can result in sexual dysfunction (see Table 3–24).

Some basic questions can identify patients' sexual dissatisfaction and can be asked during the routine annual examination. They should be

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Definitions from Diagnostic and Statistical Manual of Mental Disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypoactive sexual desire disorder</td>
<td>Persistently or recurrently deficient (or absent) sexual fantasies and desire for sexual activity. The disturbance causes marked distress or interpersonal difficulty.</td>
</tr>
<tr>
<td>Female sexual arousal disorder</td>
<td>Persistent or recurrent inability to attain, or to maintain until completion of the sexual activity, an adequate lubrication-swelling response of sexual excitement. The disturbance causes marked distress or interpersonal difficulty.</td>
</tr>
<tr>
<td>Female orgasmic disorder</td>
<td>Persistent or recurrent delay in, or absence of, orgasm following a normal excitement phase. The disturbance causes marked distress or interpersonal difficulty.</td>
</tr>
<tr>
<td>Dyspareunia</td>
<td>Recurrent or persistent genital pain associated with sexual intercourse. The disturbance causes marked distress or interpersonal difficulty.</td>
</tr>
<tr>
<td>Vaginismus</td>
<td>Recurrent or persistent involuntary spasm of the musculature of the outer third of the vagina that interferes with sexual intercourse.</td>
</tr>
</tbody>
</table>

posed in a gender-neutral fashion. The following are examples of the types of questions that can be posed:

1. “Are you sexually active?”
2. “Are you sexually satisfied?”
3. “Do you think your partner is satisfied?”
4. “Do you have questions or concerns about sexual functioning?”

The importance of a nurturing environment should not be overlooked, especially when discussing dissatisfaction with sexual activity. To assess the quality of the interpersonal relationship between the patient and her partner, including mutual satisfaction with their sexual relationship, it may be necessary to ask pointed questions.

It is necessary for clinicians to understand the sexual response pattern (desire, arousal, orgasm, and resolution) and the variations of these responses to assist in the identification and treatment of patients with sexual dysfunction. There are a range of sexual practices that are considered normal by different people and different cultures (see also “Female Sexuality” earlier in Part 3). It is necessary to understand and appreciate these differences to counsel, treat, or refer patients. The clinician should be prepared to discuss patients’ concerns about sexual function in a setting of mutual respect and trust. If an examination is performed, the patient should be informed of what it will entail. The presence of a chaperone is recommended during examination, regardless of the sex of the health care practitioner.

Lack of libido can be attributed to interpersonal causes or to a conditioned response that causes a woman to interpret a sexual encounter in terms of success or failure. Although most women with low sexual desire have some difficulty experiencing arousal or orgasm, some are capable of achieving these states but have little interest in initiating the process. Desire may be blunted by previous negative experiences and repeated failures to progress to orgasm.

Lack of arousal may be caused by insufficient foreplay, use of objectionable forms of stimulation, absence of desired stimulation, pain, or emotional or physical distraction. Sensate focus exercises can help couples develop verbal and nonverbal means to communicate with each other to improve satisfaction.

Lack of orgasm may not be a problem unless the patient or partner perceives it to be. The loss of the ability to achieve orgasm may be a symptom
of an underlying problem. More than 90% of women are able to experience orgasm, often through a combination of techniques. Lack of orgasm may be attributable to arousal phase dysfunction. Self-stimulation techniques may be beneficial for the patient.

Vaginismus may be idiopathic or may occur after major trauma, such as sexual abuse, rape, or an injury to the vagina. It also may follow less severe problems, such as episodes of painful intercourse occurring as the result of vaginal infection.

Dyspareunia can occur during entry, with deep thrusting, or after intercourse. Dyspareunia at the time of penetration may be secondary to a functional problem such as vaginismus or a physical condition such as vaginal septa, localized vulvodynia and vestibulitis, or vaginal dryness. Dyspareunia with deep penetration can be related to abnormalities of the upper genital tract, such as endometriosis or pelvic inflammation. Treatment by desensitizing exercises and dilators can be effective for vaginismus, whereas specific therapy is necessary for organic causes.

After menopause, women often experience a lack of vaginal lubrication that makes intercourse painful. The use of estrogen and lubricants can ease the problem. Although more common in the elderly, women of any age may experience this problem.

Lack of adequate stimulation, personal illness, or illness in a partner can interfere with sexual function. Couples should be counseled about the effects of illness or medication on sexuality and be encouraged to experiment with alternative forms of sexual expression to accommodate physical limitations.

Emotional issues can be the basis for sexual dysfunction. The physician should attempt to identify any factors that could affect sexual function and provide education and counseling about them. Events from the past, such as childhood inhibitions or sexual abuse, can affect sexual function. Patients with complex sexual problems of a psychologic nature may benefit from referral to a mental health professional. When emotional problems clearly are limited to unsatisfactory sexual experiences, referral to a qualified sex therapist may be appropriate. If the difficulty involves issues other than sexuality, referral to a counselor skilled in marital and other relationship problems may be preferable. Individuals with sexual dysfunction resulting from a history of sexual victimization should be referred to mental health professionals with an expertise in abuse-related problems.

Male factors include low desire and erectile dysfunction, which may be based on organic or psychologic factors. Acknowledgment and support
from the woman’s physician may assist the patient in helping her partner seek counseling and treatment.

Treatment of patients with sexual dysfunction will vary with the type of dysfunction, although many types of dysfunction are related. In general, sexual dysfunction involves the couple, and therapy should be with both partners. However, even if an individual has a specific problem, it still may be appropriate for the partner to be involved in therapy. Sometimes the patient’s concerns are related to the sexual health of her partner. Treatment may be within the scope of the obstetric–gynecologic practice, or a referral may be appropriate, depending on the nature and extent of the problem.

When medications, such as antidepressants or oral contraceptives, result in sexual dysfunction, the medication or dosage may need to be changed or eliminated. Difficulties with prior sexual experience, insufficient foreplay, and attitudes about sexual pleasure can be elicited with careful history taking. Behaviorally oriented, time-limited treatment programs for previously anorgasmic women have been described. Support groups of women with similar problems may be helpful. Vaginal dilation exercises may be useful for patients with dyspareunia and vaginismus after organic factors have been excluded.

Some treatments for sexual dysfunction may be within the scope of the obstetrician–gynecologist. If not, referrals may be appropriate to mental health practitioners, marriage or relationship counselors, or sex therapists.

**Resources**

**ACOG Resources**


**Other Resources**

American Association for Marriage and Family Therapy
112 South Alfred Street
Alexandria, VA 22314
(703) 838-9808
http://www.aamft.org
Pelvic Floor Dysfunction

The prevalence of pelvic floor dysfunction has increased as life expectancy has increased. The lifetime risk of undergoing an operation for pelvic organ prolapse or urinary incontinence by age 80 years has been estimated to be 11%. Usually women with pelvic floor dysfunction are postmenopausal and have had vaginal deliveries or chronic repetitive increases in intraabdominal pressure. However, women who have never been pregnant also may exhibit pelvic relaxation. Weakness of the pelvic floor tissues, which is probably congenital, also can cause pelvic floor dysfunction. It is possible for the urethra, bladder, rectum, or small bowel to protrude into the vagina.

It is necessary to examine a symptomatic woman in lithotomy, sitting, and standing positions before, during, and after a maximum Valsalva maneuver. Urinary or rectal incontinence can be assessed easily at the same time. Treatment is determined by the following:

- Patient age
- Desire for future fertility
- Coital activity
- Severity of symptoms
- Degree of disability
- Other medical issues

Clinician knowledge and experience with normal pelvic floor function and its variations are required. One evaluation tool for the assessment of pelvic relaxation is the Pelvic Organ Prolapse Quantification system. It promotes universal standards to determine pelvic defects. It is important to be fully cognizant of both noninvasive and surgical interventions.
Supplemental approaches to improve outcomes and decrease failure rates may include treatment of patients with chronic respiratory or metabolic conditions, constipation, and other intraabdominal disorders. Hormonal treatment, weight control, smoking cessation, and reduction in activities that increase intraabdominal pressure should be instituted. Vaginal pessaries may be of assistance, particularly if the woman is not interested in surgery or is not a good candidate for operative intervention.

Urogynecologic investigation can be helpful if urinary incontinence or extensive bladder prolapse is present (see also “Urinary Incontinence” later in Part 3). Instruction in Kegel exercises may be appropriate. Cystoscopy and endoscopy may be useful adjuncts to surgical repair.

Resources

ACOG Patient Resources


ACOG Professional Resources


Other Resources

American Urogynecologic Society
2025 M Street NW, Suite 800
Washington, DC 20036-3309
(202) 367-1167
http://www.augs.org
E-mail: info@augs.org


Urinary Incontinence

Urinary incontinence affects 10–70% of women living in a community setting and up to 50% of nursing home residents. The prevalence of incontinence appears to increase gradually during young adult life, has a broad peak around middle age, and then steadily increases in the elderly. The estimated annual direct cost of urinary incontinence in women in the United States is $12.43 billion.

Urinary incontinence has been shown to affect women’s social, clinical, and psychologic well-being. It is estimated that less than one half of all incontinent women seek medical care, even though urinary incontinence often can be treated.

Among women experiencing urinary incontinence, the differential diagnosis includes genitourinary and nongenitourinary conditions (see Box 3–41). Some conditions that cause or contribute to urinary incontinence are potentially reversible (see Box 3–42).

**Box 3–41. Differential Diagnosis of Urinary Incontinence in Women**

**Genitourinary Etiology**

- Filling and storage disorders
  - Urodynamic stress incontinence
  - Detrusor overactivity (idiopathic)
  - Detrusor overactivity (neurogenic)
  - Mixed types
- Fistulae
  - Vesical
  - Ureteral
  - Urethral
- Congenital
  - Ectopic ureter
- Other
  - Interstitial cystitis
  - Postradiation

**Nongenitourinary Etiology**

- Functional
  - Neurologic
  - Cognitive
  - Psychologic
  - Physical impairment
- Environmental
- Pharmacologic
- Metabolic

The relative likelihood of each condition’s causing incontinence varies with the age and health of the individual. Among ambulatory women with incontinence, the most common condition is urodynamic stress incontinence, which represents 29–75% of cases. Detrusor overactivity accounts for 7–33% of incontinence cases, with the remainder being mixed forms. Among older, noninstitutionalized women with incontinence evaluated in referral centers, stress incontinence is found less often, and detrusor abnormalities and mixed disorders are more common than in younger ambulatory women. More severe and troublesome incontinence probably occurs with increasing age, especially in women older than 70 years.

Patient recall in history gathering may be unreliable. Thus, in addition to patient history evaluation, daily urinary diaries are considered a practical and reliable method of obtaining information on voiding behavior.

Patients with urinary incontinence should undergo a basic evaluation that includes a history, physical (abdominal, pelvic, and rectal) examination, neurologic examination (of the lower thoracic, lumbar, and sacral nerves), direct observation of urine loss (eg, cough and pad test), measurement of postvoid residual volume, urine culture, and urinalysis, with initial therapy

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**Box 3–42. Common Causes of Transient Urinary Incontinence**

- Urinary tract infection or urethritis (including from sexually transmitted diseases)
- Atrophic urethritis or vaginitis
- Drug side effects
- Pregnancy
- Increased urine production
  - Metabolic (hyperglycemia, hypercalcemia)
  - Excess fluid intake
  - Volume overload
- Delirium
- Restricted mobility
- Stool impaction
- Psychologic

based on these findings. If significant bacteriuria is found, antibiotic treatment is appropriate, and the patient can be reevaluated in several weeks. If complex conditions are present, the patient does not improve after initial therapy, or surgery is being considered, definitive specialized studies may be necessary. Supplementary evaluation may include the following:

- Blood testing (evaluation of blood urea nitrogen, creatinine, glucose, and calcium)
- Urodynamic testing (water or carbon dioxide cystometry, multichannel urodynamics)
- Cystourethroscopy
- Imaging (eg, radiography, ultrasonography)

Obstetrician–gynecologists who have training, experience, and demonstrated competence in urogynecologic techniques, including cystoscopy, should be granted privileges accordingly. Physicians also should understand the role of medications, physical therapy, bladder training, and other alternatives to medication or surgery.

Behavioral therapy, including bladder training and prompted voiding, improves symptoms of urge and mixed incontinence; it can be recommended as a noninvasive treatment in many women. Pelvic floor training appears to be an effective treatment for adult women with stress and mixed incontinence. Absorbent products are available for use by women undergoing treatment, for women who choose not to have treatment, or for women for whom treatment is ineffective.

Pharmacologic agents, especially oxybutynin and tolterodine, may have a small beneficial effect on improving symptoms of detrusor overactivity.

Many surgical treatments have been developed for stress urinary incontinence, but only a few—retropubic colposuspension and sling procedures—have supporting evidence for recommendations. Long-term data suggest that Burch colposuspension and sling procedures have similar objective cure rates; therefore, selection of treatment should be based on patient characteristics and the surgeon’s experience.

Resources

ACOG Resources


Interstitial Cystitis

Interstitial cystitis is a disorder of the bladder characterized by urinary frequency, urgency, and pelvic pain. It may be the cause in women who have chronic pelvic pain. Dyspareunia and nocturia are also common symptoms of interstitial cystitis. Recent research suggests that as many as 22% of women are affected. Many gynecologists may not consider the bladder as the source of chronic pelvic pain (see “Chronic Pelvic Pain” earlier in Part 3). Therefore, it is not uncommon to have interstitial cystitis misdiagnosed as yeast vulvovaginitis, endometriosis, or a urinary tract infection.

Diagnosis can be difficult, because the symptoms are not diagnostic. The following may assist the practitioner in the diagnosis:

- Use of a patient questionnaire—the Pelvic Pain and Urgency/Frequency Symptom Scale (see Resources)
- Potassium sensitivity testing. The majority of patients with interstitial cystitis have a response to the potassium; however, the absence of a response does not rule out this diagnosis.
- Cystoscopy

Management options include the following:

- Restoration of epithelial impermeability with heparinoid therapy
- Down-regulation of neural hyperactivity with tricyclic antidepressants or SSRIs
- Control of allergies with hydroxyzine
Pharmacotherapy includes oral pentosan polysulfate sodium and intravesical dimethyl sulfoxide. Antidepressants and allergy medications should be added as needed. Alternative therapies include intravesical heparin sulfate and pain medication. Nonpharmacologic interventions such as diet or behavior modification also may be beneficial.

Therapy may be instituted on the basis of the patient questionnaire. It is not necessary to do extensive testing unless the patient does not respond to therapy.

Resources


Early Pregnancy Complications

The management of early pregnancy complications is within the purview of obstetrician–gynecologists and other providers of women’s health care. Clinicians should be aware of local hospital rules and regulations, and requirements of their professional liability insurance carrier, as to whether this is viewed as obstetric or gynecologic care. The American College of Obstetricians and Gynecologists considers early pregnancy complications (often up to 12–14 weeks of gestation) to be within the definition of gynecology. Management of conditions such as ectopic pregnancy and spontaneous and elective abortion, including early and mid-trimester abortion, often are included in such a practice. Liability insurance should cover this role of gynecologists in the management of such early pregnancy-related conditions.

Spontaneous Abortion

Spontaneous abortion is the most common complication of the first trimester of pregnancy. A spontaneous abortion is the loss of an intrauterine fetus because of natural causes. The term miscarriage is used for the
spontaneous termination of a pregnancy before fetal development has reached 20 weeks. Pregnancy losses after the 20th week are categorized as preterm deliveries. Spontaneous abortion is a naturally occurring event and is unrelated to elective or therapeutic abortion procedures. Other terms for spontaneous abortion include missed abortion, incomplete abortion, complete abortion, threatened abortion, inevitable abortion, or infected abortion.

The cause of most spontaneous abortions is fetal death due to fetal genetic abnormalities. Rare possible causes for spontaneous abortion include infection, hormonal factors, immune responses, and serious medical disease of the mother. It is estimated that up to 50–75% of all fertilized eggs die and are aborted spontaneously, usually before the woman knows she is pregnant. Among clinically established pregnancies, the rate of spontaneous abortion is approximately 10–20%, and this spontaneous abortion usually occurs between the 7th and 12th weeks of pregnancy. Overall, 30–50% of spontaneous abortions have chromosomal abnormalities. Of those that have chromosomal abnormalities or variations, most are random events. The most common finding is triploid aneuploidy.

The risk of spontaneous abortion is higher in women older than 35 years, in women with systemic diseases, and in women with a history of repeated prior spontaneous abortions.

Possible symptoms include lower back or abdominal pain, vaginal bleeding, abdominal cramps, or tissue that passes from the vagina.

If a spontaneous abortion occurs, it is important to determine whether any fetal tissue remains in the uterus. If remaining tissue is not aborted in a reasonable amount of time, uterine curettage or medication can be used to complete the abortion. Medications include mifepristone, misoprostol, or a combination of these medications. Complications in spontaneous abortion are rare but include retained fetal tissue and infection.

In addition to evaluation of the history and signs and symptoms, a diagnosis of spontaneous abortion may include the following:

- Interpretation of serum hCG measurements
- Interpretation of endovaginal ultrasonographs
- Interpretation of serum progesterone concentrations
- Physical diagnosis
- Surgical procedures such as dilation and curettage, culdocentesis, laparoscopy, or laparotomy
Treatment options for spontaneous abortion may include the following:

- Observation
- Uterine curettage
- Medical treatment with misoprostol, mifepristone, or a combination of these medications
- Review of histopathology
- Evaluation to determine causes of recurrent spontaneous abortion (see “Recurrent Pregnancy Loss” later in Part 3)
- Grief counseling, as indicated

Clinicians should be familiar with any state requirements regarding the reporting of fetal death and the disposal of fetal remains.

**Ectopic Pregnancy**

Ectopic pregnancy is the fourth leading cause of maternal mortality in this country. Based on current trends, more than 150,000 ectopic pregnancies (approximately 20 per 1,000 live births) will be diagnosed this year in the United States. Because ectopic pregnancy can be life-threatening, women with known risk factors for ectopic pregnancy should seek care early in the gestation to ensure that it is a normal intrauterine gestation. The number of deaths from ectopic pregnancy has dropped during the past decade. However, approximately 25–30 women die annually in the United States as a direct result of an ectopic pregnancy. It has been estimated that almost half of the women who died had sought care during the pregnancy and had received medical services.

Risk factors for ectopic pregnancy include the following:

- Advanced maternal age
- Prior treatment for infertility
- Pelvic infection
- Previous ectopic pregnancy

Unfortunately, most women who have an ectopic pregnancy are unaware of any risk factors and seek care when they experience pain or bleeding.
In addition to the history gathering and the evaluation of signs and symptoms, diagnosing ectopic pregnancy may include the following:

- Interpretation of serum hCG measurements
- Interpretation of endovaginal ultrasonography
- Interpretation of serum progesterone concentrations
- Physical diagnosis
- Surgical procedures such as dilation and curettage, culdocentesis, laparoscopy, or laparotomy

Diagnosis of ectopic pregnancy is presumed in the presence of the following:

- Hemoperitoneum in the first trimester
- Abnormally low hCG levels
  - Incremental hCG levels that do not rise appropriately
- Ultrasonography that reveals an empty uterus when the hCG value is above the discriminatory zone

An ectopic pregnancy is confirmed when it can be visualized either laparoscopically or by ultrasonography.

Treatment options for ectopic pregnancy include the following:

- Expectant management and observation
- Chemotherapy (principally methotrexate)
- Surgery

The choice of therapy must take into consideration the skill of the clinician and his or her experience with the treatment modalities. One must consider the reproductive desires of the patient or couple and use good clinical judgment in determining the expectant management of threatened abortion or the surgical management of abortive or ectopic pregnancy. Intramuscular methotrexate is appropriate for the treatment of selected patients with small, unruptured tubal pregnancies. Patients need to be carefully monitored, and successful treatment may require more than one dose of methotrexate. Although expectant management of an ectopic pregnancy is not ideal in most circumstances, there may be a role for it when hCG levels are low and falling.
Resources

Patient Resources


RESOLVE: The National Infertility Association
7910 Woodmont Avenue, Suite 1350
Bethesda, MD 20814
(301) 652-8585
888-623-0744
http://www.resolve.org
E-mail: info@resolve.org

ACOG Professional Resources


Other Resources

Bereavement Services
Gunderson Lutheran Medical Foundation
1900 South Avenue, ALEX
La Crosse, WI 54601
800-362-9567, ext 54747
http://www.bereavementservices.org
E-mail: info@bereavementservices.org

Recurrent Pregnancy Loss

Recurrent pregnancy loss typically is defined as two or more consecutive pregnancy losses and occurs in approximately 1% of women desiring childbearing. Recent evidence suggests that the risk of recurrent spontaneous abortion after two successive unplanned losses remains stable with future pregnancies. Thus, patients with two or more consecutive spontaneous abortions are candidates for an evaluation to determine the cause, if any, for their pregnancy losses.

Recurrent early pregnancy loss can be a difficult and frustrating problem for patients and clinicians. The following factors should be considered in the evaluation of women with recurrent pregnancy loss:

- Characteristics of prior pregnancy losses
- Exposure to toxins and drugs
- Genetic abnormalities
- Pelvic infections
- Endocrine or metabolic dysfunction
- Immunologic disorders
- Uterine abnormalities

For couples with recurrent pregnancy loss, it is reasonable to offer a basic evaluation. Tests commonly offered to couples with recurrent pregnancy loss are outlined in Table 3–25. Couples with recurrent pregnancy loss should be tested for balanced chromosomal abnormalities. Those couples affected by such abnormalities should be counseled regarding the risk of recurring abortion, offered prenatal genetic studies, and offered the use of newer assisted reproductive technologies in future pregnancies. Corrective surgery for uterine defects may be reasonable when such defects appear to interfere with implantation or pregnancy growth. Laboratory studies should include testing for lupus anticoagulant and anticardiolipin antibodies.

The role of luteal phase defect and thyroid abnormalities is controversial. Treatment for the luteal phase defect with progesterone is of unproven efficacy. Cultures for bacteria or viruses and tests for glucose intolerance, antibodies to infectious agents, antinuclear antibodies, antithyroid antibodies, paternal human leukocyte antigen status, or maternal antipaternal antibodies are not beneficial. Immunoglobulin and paternal leukocyte therapies are not effective in preventing recurrent pregnancy loss. These tests are no longer routinely recommended in the evaluation of women with recurrent pregnancy loss.
Approximately 50% of couples who complete evaluation will not have an identifiable cause. Informative and supportive counseling appears to play an important role and may lead to the best pregnancy outcomes. Couples with unexplained recurrent pregnancy loss should be counseled regarding the potential for successful pregnancy without treatment. Clinicians should be familiar with any state requirements regarding the reporting of fetal death or the disposal of fetal remains.

### Resources

**Patient Resources**


RESOLVE: The National Infertility Association
7910 Woodmont Ave., Suite 1350
Bethesda, MD 20814
(301) 652-8585
http://www.resolve.org
E-mail: info@resolve.org

**ACOG Professional Resources**

Induced Abortion

The medical definition of abortion is the interruption of pregnancy after nidation (the intrauterine implantation of a fertilized egg). According to data compiled by the CDC, approximately 848,000 legal induced abortions were reported to the CDC in 2003. Both the abortion ratio (the number of abortions per 1,000 live births) and the abortion rate (the number of abortions per 1,000 women aged 15–44 years) have remained relatively constant from 1997 to 2003. Women who obtain legal induced abortions are predominantly white, young, and unmarried. Approximately 17% of women who obtained legal abortions in 2003 were 19 years or younger; 33% were aged 20–24 years. In 2000, 87% of all U.S. counties lacked an abortion practitioner, and these counties were home to 34% of all women aged 15–44 years.

Curettage, traditionally the primary abortion procedure, accounted for 90% of all procedures in 2003. Slightly more than 60% of all terminations were performed during the first 8 weeks of gestation; approximately 87% were performed during the first 12 weeks.

Termination of pregnancy before viability is a medical matter between the patient and the physician, subject to the physician’s clinical judgment, the patient’s informed consent, relevant state and federal laws, and the availability of appropriate facilities. The American College of Obstetricians and Gynecologists supports access to care for all individuals and the availability of all reproductive options, irrespective of financial status. The American College of Obstetricians and Gynecologists opposes unnecessary regulations that limit or delay access to care. If a termination is chosen, it should be performed safely and as early as possible.
A woman has the right to choose to have an abortion and should be unencumbered by obstacles such as the following:

- Harassment
- Lack of availability of service providers
- Bans on specific procedures
- Biased informed consent
- Mandatory waiting periods
- Parental notification or consent
- Lack of funding
- Facility regulations that are more stringent than for other surgical procedures of similar risk

The policy of ACOG affirms that the intervention of legislative bodies into medical decision making is inappropriate, ill-advised, and dangerous. The College continues to affirm the legal right of a woman to obtain an abortion before fetal viability. The American College of Obstetricians and Gynecologists is opposed to abortion of the healthy fetus that has attained viability in a healthy woman. Viability is the capacity of the fetus to survive outside the woman’s uterus. Whether or not this capacity exists is a medical determination, may vary with each pregnancy, and is a matter for the judgment of the responsible attending physician.

Clinicians are not required to perform abortions. However, they should be prepared to counsel patients fully on their options and to manage complications of induced abortions, as needed.

Before an abortion, the patient should be counseled on her options for an unwanted pregnancy. The patient should be fully informed in a balanced manner about all options, including raising the child herself, placing the child for adoption, and abortion. The information conveyed should be appropriate to the gestational age. The health care professional should make every effort to avoid introducing personal bias. Patients should be informed that the available evidence concludes that induced abortion is not associated with an increase in breast cancer risk (see Resources).

The clinician should evaluate the patient’s available psychosocial support and refer her to appropriate counseling or other supportive services.
Contraceptive counseling is important. A comprehensive evaluation should be performed and includes the following:

- Complete medical history
- Thorough physical examination
- Screening for vaginitis and STDs, as indicated
- Appropriate laboratory testing, as indicated
  - Pregnancy test
  - Rh determination
  - Complete blood count
- Ultrasonography, as indicated, to diagnose pregnancy and establish gestational age
- Prophylactic antibiotics (for surgical abortion)

Clinical training curricula and additional policy guidelines for abortion care are available from the National Abortion Federation, at www.prochoice.org (see Resources).

Medical abortion is an acceptable alternative to surgical termination in selected, carefully counseled and informed women with pregnancies up to 63 days of gestation. If the woman decides to terminate a pregnancy during this period, both medical and surgical termination procedures should be discussed. The woman should make a firm decision that she wants an abortion before she decides on the abortion technique.

Clinicians who perform abortions in their offices, clinics, or freestanding ambulatory care facilities should have a plan to provide prompt emergency services if a complication occurs and should establish a mechanism for transferring patients who require emergency treatment. Routine pathologic examination of tissue is not necessary after the elective surgical termination of pregnancy in which embryonic or fetal parts can be identified with certainty. In such instances, a description of the gross products of conception should be recorded.

The following postprocedure care should be provided:

- Immunoprophylaxis with anti-D immune globulin for women who are Rh D-negative
• Counseling on signs of hemorrhage, uterine perforation, retained tissue, infection, subinvolution, Asherman's syndrome, and missed pregnancy, as appropriate

• Psychologic or other support service consultation, as indicated

Clinicians should be aware of any legal limitations on abortion services in their jurisdiction. The United States has no national system for the mandatory reporting of induced termination of pregnancy. However, state health departments vary greatly in approaches to the compilation of these data, and clinicians should be aware of any such reporting requirements.

Resources

Patient Resources


Planned Parenthood Federation of America
434 West 33rd Street
New York, NY 10001
800-230-PLAN
http://www.plannedparenthood.org

ACOG Professional Resources


Other Resources


National Abortion Federation
1755 Massachusetts Ave. NW, Suite 600
Washington, DC 20036
800-772-9100
http://www.prochoice.org


**Ambulatory Gynecologic Surgery**

Many surgical procedures routinely performed by the obstetrician–gynecologist can be performed safely, efficiently, and cost-effectively in a freestanding or hospital-based ambulatory surgical facility. The office setting, or office surgical facility, is one type of ambulatory surgical facility. Although the guidance in this section is applicable to inpatient surgery in some instances, inpatient surgery is not the focus.

Many procedures performed as inpatient procedures have been replaced by procedures that can be performed safely in ambulatory sites, for example,

- Endometrial sampling in place of diagnostic dilation and curetage
- Loop electrosurgical excision procedure in place of cone biopsy of the cervix
- Diagnostic laparoscopy and hysteroscopy
- Follicular aspiration

Procedures performed in a freestanding or hospital-based ambulatory surgical facility should be those for which there is a reasonable expectation of discharge within a short time, with traditional recovery occurring at home. Ambulatory surgical procedures should be limited to procedures that can be performed safely; are consistent with staff expertise, facilities, and equipment; and are in accordance with the intrinsic risk of the procedure, the patient’s condition, and the need for anesthesia.
Regulations

Clinicians should be aware of any federal, state, and local regulations governing surgical procedures, including ambulatory surgical procedures requiring anesthesia or conscious sedation. Details on the organization of a freestanding or hospital-based ambulatory care surgical facility and on the involvement of the hospital staff in the ambulatory care facility's activities are available from a variety of sources, including the following:

- The Joint Commission
- The Occupational Safety and Health Administration
- The Accreditation Association for Ambulatory Health Care, Inc.
- The American Association for Accreditation of Ambulatory Surgery Facilities, Inc.
- The Americans With Disabilities Act
- The Clinical Laboratory Improvement Amendments
- Centers for Medicare and Medicaid Services

Clinicians should be aware of payers' regulations regarding sites for which professional and facility charges will be paid because they have a bearing on where procedures may be performed.

Facilities

The ambulatory surgical facility should provide the highest quality care in an environment supportive of the patient's individual comfort, rights, and dignity. The following three general classes of ambulatory surgical facility care are recognized by the American College of Surgeons:

- **Class A**—provides for minor surgical procedures performed under topical and local infiltration blocks with or without oral or intramuscular preoperative sedation. Excluded are spinal, epidural, and regional blocks. Simple procedures of limited invasiveness that require only local anesthesia usually can be accomplished safely in the office with minimal extra requirements of space, personnel, and backup equipment.

- **Class B**—provides for minor or major surgical procedures performed in conjunction with oral, parenteral, or intravenous sedation or under analgesic or dissociative drugs. When more extensive procedures using local anesthesia are performed, or when conscious intravenous sedation is to be used, a more advanced level of training of
office personnel and more extensive preoperative, intraoperative, and postoperative monitoring are required.

- **Class C**—provides for major surgical procedures that require general or regional block anesthesia and support of bodily functions. Procedures that may require major emergency laparotomy should not be performed in any ambulatory surgical facility setting.

**Patient Selection**

The selection of patients is based on the condition of the patient and the potential risks of the procedure. This evaluation involves clinical judgment based on history, physical examination, and preoperative laboratory studies. The American Society of Anesthesiologists (ASA) recommends the following classification:

- **ASA #1**—a normal, healthy patient
- **ASA #2**—a patient with mild systemic disease that does not limit physical activity
- **ASA #3**—a patient with severe systemic disease that limits normal activity
- **ASA #4**—a patient with severe systemic disease that is a constant threat to life
- **ASA #5**—a moribund patient not expected to survive with or without the operation (usually not appropriate for an ambulatory surgical facility)

Not all patients are good candidates for office surgery. For certain patients, it is not practical to use the office setting for procedures that require a level of patient cooperation, such as dilation and curettage or hysteroscopy. Patients in the following categories, in general, may be poor candidates for office procedures performed under local anesthesia:

- Children and adolescents who have an immature lower genital tract and cannot relax sufficiently
- Postmenopausal patients with vaginal atrophy who tolerate pelvic examinations poorly
- Patients who require maximal relaxation
- Patients who are extremely obese
- Patients who are unable to understand or cooperate with the procedure
The patient’s mental or emotional suitability for ambulatory surgery and the social and environmental setting into which she will return also should be taken into consideration.

**Facility Selection**

The appropriate facility for a given patient will depend on many factors:

- Condition of the patient
- Type of anesthesia to be used
- Resources of the facility
  - Facility design
  - Safety management
  - Emergency treatment availability
  - Hospitalization services
  - Ancillary services (on site and off site)
    - Pharmaceutical services
    - Laboratory services
    - Pathology services
    - Diagnostic imaging services
    - Blood product availability

A physician, the surgeon, the anesthesiologist, or a combination of these practitioners determines the appropriate facility based upon the safety and well-being of the patient. Appropriate facilities are generally as follows:

- Class A facilities usually provide care only for ASA #1 and #2 patients.
- Class B and C facilities in some cases provide care to ASA #3 and #4 patients, but documented evidence of preoperative evaluation by a physician is required. When compromise or dysfunction is identified, consultation with an appropriate specialist may be necessary.

**Selection of Anesthesia**

When any form of anesthesia is used, trained personnel and proper equipment and drugs for cardiopulmonary resuscitation should be available.
The following factors place a woman at increased risk in anesthesia and should be communicated to the anesthesia care practitioner in advance to permit formulation of a management plan:

- Marked obesity
- Severe facial and neck edema
- Extremely short stature
- Difficulty opening her mouth
- Small mandible, protuberant teeth, or both
- Arthritis of the neck
- Short neck
- Anatomic abnormalities of the face or mouth
- Large thyroid
- Asthma or other chronic pulmonary diseases
- Cardiac disease
- History of problems attributable to anesthetics
- Bleeding disorders
- Other significant medical complications

On rare occasions, it may be impossible to intubate a patient after the induction of general anesthesia. Emergency percutaneous transtracheal/cricothyroid ventilation may be lifesaving in this circumstance, and the necessary equipment for performing this procedure should be available immediately whenever general anesthesia is administered.

**Local Anesthesia**

Except in simple procedures of limited invasiveness, the following resources should be available when performing surgical procedures with local anesthesia:

- Physicians and surgical assistants certified and periodically recertified in cardiopulmonary resuscitation. Specialized personnel, such as anesthesiologists and nurse-anesthetists, need not be present when local anesthesia is used in the office setting.
- Written and readily available protocols for emergency medical services and ambulance services.
• Arrangements with a backup hospital reasonably accessible to the office facility.

• Oxygen with an appropriate delivery system, including oral airway, nonbreathing mask, nasal cannula, and devices able to deliver positive-pressure ventilation.

• Emergency medications to manage allergic reactions, anesthetic toxic effects, and vasovagal reactions. These include, but are not limited to, the following:
  – Lidocaine
  – Atropine sulfate
  – Diphenhydramine sulfate
  – Epinephrine
  – Diazepam

• Intravenous solutions and appropriate intravenous cannulas

• Auxiliary light source

Resuscitation devices such as endotracheal tubes, defibrillators, and medications used in advanced life-support situations are not necessary if procedures are performed with local anesthesia and if potential candidates for surgery have been evaluated carefully and candidates with serious cardiovascular disorders excluded.

Procedures should be in place to maintain equipment, replace outdated or recalled medications, and maintain proper training of personnel in the use of equipment and medications. Office emergency kits with appropriate instruction manuals and reordering procedures are available commercially and can be very useful in the office setting.

For safety, minimal disturbance of physiology and rapid recovery, local anesthetic agents are chosen for most procedures performed in the office setting. When the practitioner is properly trained in the administration of local anesthetic agents for local infiltration, pudendal block, and paracervical block, these agents are extremely effective in providing anesthesia for most office procedures. It is recommended that the practitioner limit use to a few of the agents available and become very familiar with their pharmacodynamics, anesthetic properties, toxic levels, safe dosage levels, adverse effects, and complications. Common agents include the following:

• *Lidocaine*. Lidocaine is used most commonly in the office setting because of its safety, intermediate potency, and excellent spreading
characteristics. A 1:200,000 concentration of epinephrine often is used with lidocaine to retard systemic absorption, prolong the duration of anesthesia, and allow the use of smaller concentrations of anesthetic.

- **Chloroprocaine.** Some practitioners use this agent because of its rapid hydrolysis and low toxic potential.

- **Bupivacaine or other more potent, longer-acting amides.** These agents may be used for some surgical procedures.

Adverse systemic effects of local anesthetic agents are unlikely unless blood levels exceed 5 mcg/mL. Recommended maximum safe dose levels of local anesthetics are designed to minimize toxic effects by maintaining a blood level of less than 2 mcg/mL. The practitioner should be familiar with the maximum allowable doses, the signs and symptoms of high levels of anesthetic in the tissues, and the administration of appropriate treatment.

**Conscious Intravenous Sedation**

States vary in their requirements for personnel managing conscious intravenous sedation. Analgesics and sedatives such as fentanyl, meperidine, and midazolam often are used intravenously in conjunction with office surgery. Such use is referred to as *conscious intravenous sedation*.

When conscious sedation is used to depress the patient’s level of consciousness, the patient should retain the ability to maintain her airway independently and continuously and respond appropriately to verbal and physical stimulation. Sedation to the extent that the patient is not easily aroused to consciousness or experiences complete or partial loss of preoperative reflexes is to be avoided.

Before undergoing surgery using conscious intravenous sedation, the patient should abstain from food or drink for at least 4 hours. After intravenous sedation is administered and before the surgical procedure is begun, the patient’s mental status and ability to maintain her airway should be determined and documented.

The selection of proper analgesics or sedatives for conscious intravenous sedation is critical. Drugs should be chosen based on their ability to prepare the patient for the planned surgical procedure and their margin of safety in the office setting. Common drugs may include the following:

- **Midazolam**
- **Diazepam**
• Morphine
• Meperidine
• Fentanyl citrate

Conscious intravenous sedation requires the same guidelines and resources necessary for the use of local anesthesia, as well as the following recommendations:

• Medication should be given by a qualified person who has a working knowledge of the medications, monitoring equipment, and resuscitation techniques necessary for the management of adverse drug reactions.

• Vital signs, including heart rate, blood pressure, respiratory rate, level of consciousness, and oxygen saturation (determined by pulse oximetry), should be monitored continuously and documented before, during, and after the procedure.

• A qualified person whose primary responsibility is patient monitoring should be available in the procedure room.

• Narcotic and benzodiazepine reversal agents, such as naloxone and flumazenil, should be available.

Emergency backup equipment must be more extensive for conscious intravenous sedation than for the use of local anesthetics. Advanced life support equipment, such as a laryngoscope, endotracheal tube, defibrillator, and an emergency cart with advanced life support medications, should be available. The safe and effective use of this equipment requires regular and frequent practice. Office personnel must be trained in the proper use and maintenance of emergency life support equipment.

Perioperative Considerations

Preoperative Evaluation and Consent

A preoperative evaluation should be performed to determine the appropriateness of the procedure. Certain criteria should be fulfilled as a result of this evaluation:

• The proposed procedure must be indicated, based on targeted history and physical examination.
• Alternative treatments should have been considered, and it should be determined that the benefits to the patient outweigh the risks.

• Known contraindications and risk factors should have been ruled out or considered.

• Informed consent must have been obtained from the patient or legal guardian.

• The surgeon must have the necessary skills and experience.

• The facility must have the equipment and staff necessary for both the procedure and any anticipated complications.

The following evaluations should be completed before outpatient surgery, and the findings should be noted in the medical record:

• A recent general and targeted history and physical examination with specific attention to pregnancy status, preexisting or concurrent illness, medications, allergies, and adverse drug reactions that may have an effect on, or contraindicate, the operative procedure or anesthesia. Because many diagnostic and therapeutic modalities may pose a direct or indirect risk to an embryo, facilities should establish specific procedures, applicable to all services, for identifying unsuspected pregnancies in women of reproductive age. A menstrual history and physical examination can be helpful in this determination. If there is any reason to suspect pregnancy, a pregnancy test should be performed in advance of any such procedure.

• Laboratory data as indicated, based on the patient’s needs and condition and on the procedure. Laboratory testing will vary considerably with the extent of the planned surgery, the patient’s age, preexisting conditions, potential complications, institutional policies, and insurance requirements.

• Informed consent, including an informed consent form or other documentation indicating that the diagnosis, the reason for the surgery, a description of the planned procedure, the intended benefits and possible risks, the possible alternatives, if any, and the probability of a successful outcome have been explained to the patient.
• Preoperative written instructions that include directions regarding restrictions on food and fluid intake and warning that failure to heed such directions may result in cancellation of the procedure.

• A preanesthetic evaluation on the day of the surgery, including an interval history, medical record review, and heart and lung examination.

• Medications used for preoperative medication and surgical anesthesia should be chosen carefully to minimize the risk of major adverse reactions.

The guiding principle is to determine any contraindications or risk factors that should be known and to establish baselines that may be important in managing the postoperative course.

**Patient Preparation**

The extent of preoperative counseling needed to prepare patients for ambulatory surgery depends on the type of procedure being performed. If the patient is anxious or if the procedure is to be extensive, preoperative medication may be given before the procedure.

Preoperative tests and procedures should be individualized based on the patient’s age and medical status with respect to the planned surgery. This testing should be aimed at evaluating the patient’s known disease and at screening for unsuspected pathologic findings that would warrant further preoperative evaluation or alter the surgeon’s planned therapeutic approach.

Other issues to be considered preoperatively include the following:

• **Bowel preparation.** Women who have a pelvic mass that suggests malignancy, bowel symptoms, a history of bowel resection, or suspected dense peritoneal adhesions are candidates for bowel preparation to reduce infectious complications if the bowel is entered. Appropriate prophylaxis includes a mechanical bowel preparation with or without oral antibiotics and the preoperative administration of a broad-spectrum parenteral antibiotic.

• **Prophylactic use of antibiotics.** Antibiotic prophylaxis recommendations for gynecologic procedures are provided in ACOG Practice Bulletin No. 74, *Antibiotic Prophylaxis for Gynecologic Procedures* (available online to ACOG Fellows at http://www.acog.org/publications/educational_bulletins/pb074.cfm). Patients with high- and moderate-
risk cardiac defects who are undergoing certain surgical procedures may benefit from endocarditis prophylaxis. Antibiotic selection depends on the planned procedure and published guidelines, including American Heart Association guidelines (available at circ.ahajournals.org/cgi/content/full/96/1/358). Women undergoing surgically induced abortion are candidates for antibiotic prophylaxis; doxycycline is a cost-effective regimen.

- **Skin preparation.** The goal of skin preparation is to reduce bacterial counts while minimizing skin irritation. Hair removal should be performed only when necessary for adequate visualization and with the least amount of skin disruption (clipping rather than shaving, when possible).

- **Prevention of venous thrombosis.** Preoperative patients should be classified according to levels of risk of thrombosis to determine the benefits and risks of pharmacologic and physical methods of preventing venous thromboembolism (see Resources). Factors to consider include patient age; duration of surgery; and clinical risk factors such as prior deep vein thrombosis or pulmonary embolism, varicose veins, infection, malignancy, estrogen therapy, and obesity. Low-risk patients who are undergoing gynecologic surgery do not require specific prophylaxis other than early ambulation. Alternatives for thromboprophylaxis for moderate-risk patients undergoing gynecologic surgery include compression stockings, pneumatic compression, unfractionated heparin, and low-molecular-weight heparin. Alternatives for prophylaxis for high-risk patients undergoing gynecologic surgery include pneumatic compression, unfractionated heparin, and low-molecular-weight heparin. Recent evidence-based recommendations for prophylaxis have been published (see Resources). There are no studies that confirm definitively the clinical benefit of discontinuation of oral contraceptives or HT preoperatively. Some studies do show an increased risk of thrombosis in both oral contraceptive and HT users. However, the benefit of stopping oral contraceptives 1 month or more before major surgery must be balanced against the risks of an unintended pregnancy. If oral contraceptives are continued before major surgical procedures, heparin prophylaxis should be considered. Because of the low perioperative risk of venous thromboembolism, it currently is not considered necessary to discontinue combination oral contraceptives before laparoscopic tubal sterilization or other brief surgical procedures.
Allergies and sensitivities. Some patients are allergic or sensitive to common operating room materials such as latex, povidone–iodine, adhesive tape, and metal used for surgical staples. Patients should be evaluated preoperatively for such allergies.

Jewelry. All body jewelry, including piercings, should be removed before surgery.

Elective coincidental appendectomy. The possible benefits of the removal of the appendix at the time of another surgical procedure unrelated to appreciable appendiceal pathology include preventing a future emergency appendectomy and excluding appendicitis in patients with complicated differential diagnoses. The benefit of elective coincidental appendectomy remains controversial. It appears, from limited data, that women 35 years and younger benefit most. The decision to perform elective coincidental appendectomy at the time of gynecologic procedures should be based on individual clinical scenarios after a discussion of risks and benefits with the patient. In light of the low risk of morbidity based on current limited data, a patient’s concern about developing future appendicitis may be considered. If there is a reasonable probability that the benefits outweigh the risks, based on age or history, elective coincidental appendectomy during a primary gynecologic procedure may be appropriate.

Intraoperative Care

Proper positioning of both the patient and the retractor are important to prevent nerve injury. Care should be taken to avoid excessive flexion or external rotation of the patient’s hips to prevent a femoral neuropathy. Proper positioning of the foot and leg will prevent pressure on the perineal nerve, and is best achieved by using lateral thigh supports.

If a laparotomy is required, improper placement of retractors can cause pressure on the psoas muscle and cause femoral nerve injury. Shallow blades and laparotomy packs under the blades may help reduce pressure.

Fluids must be monitored carefully. In operative procedures such as hysteroscopy, in which osmotically active solutions are used for visualization, careful intraoperative management of fluid balance is critical to patient well-being.

In elderly patients, operative management should include minimizing anesthesia doses to promote cognitive recovery. It also should include avoiding dehydration, careful positioning to accommodate joint fragility,
and ensuring sufficient padding of bony surfaces and cushioning to prevent ulceration.

With the exception of those specimens exempted by the facility’s governing body and the Joint Commission, tissue removed during surgery should be submitted to a pathologist for examination. Routine pathologic examination of tissue is not necessary after the elective surgical termination of a pregnancy in which embryonic or fetal parts can be identified with certainty. In such instances, the physician simply should record a description of the gross products of conception.

**Postoperative Care**

The following issues should be addressed as part of postoperative care:

- Staff should monitor the patient carefully for pain and treat pain as appropriate.
- Nasogastric tube insertion should not be used routinely because it is uncomfortable, increases the incidence of pulmonary complications, and does not reduce the incidence of wound complications.
- Oral feeding with a regular diet immediately postoperatively is safe for most patients who have undergone an ambulatory surgical procedure.
- At the appropriate time, the patient should be informed of the operative findings, including the results of tissue examination.
- Early mobilization and rapid removal of any restraints are important.
- In the elderly, extra precautions should be taken to prevent falls. Delirium is a serious risk of surgery in the elderly; early investigation for medical causes is important, and treatment should be augmented with frequent auditory, visual, and somatosensory orientation.

**Adverse Reactions**

Vasovagal reactions are the most common adverse reactions to gynecologic procedures performed in the office setting. These reactions include a number of cardiovascular and autonomic or central nervous system reactions:

- Bradycardia
- Hypotension
- Diaphoresis
- Nausea
- Convulsions
A vasovagal reaction usually is the result of patient anxiety but also may occur with cervical dilation or peritoneal stretching, or as a result of pain. In patients who do not have CVD, vasovagal reactions usually terminate spontaneously without the need for specific therapy.

Vasovagal reactions may be prevented by the following measures:

- Preoperative patient counseling
- Reassurance during the procedure
- The administration of preoperative atropine or promethazine hydrochloride

Oxygen should be used in cases of prolonged apnea. Assisted respiration is rarely necessary.

A vasovagal reaction should not be confused with the much less common allergic reactions to a local anesthetic or preoperative medication. True allergic reactions to commonly used anesthetic and preoperative medications do not occur often, but personnel should be familiar with common allergic reactions and their appropriate management. Allergic reactions may include the following:

- Urticaria
- Hives
- Edema
- Asthma
- Anaphylaxis

Allergic reactions may be treated with diphenhydramine intravenously, or epinephrine may be given intramuscularly or subcutaneously. Anaphylaxis, whether due to a reaction to latex or another factor, is a life-threatening event. Prompt recognition and treatment are critical. Any patient with an anaphylactic reaction should be monitored for recurrent symptoms after initial treatment and resolution. Guidelines for the diagnosis and management of anaphylaxis have been published (see Resources).

**Discharge Issues**

When local anesthetic agents are used for office surgery, minimum space and services are necessary for proper postoperative recovery. When patients are alert, are oriented, have stable vital signs, are free of major
pain, and are able to sit up and dress themselves, they may leave the office.

When conscious intravenous sedation is used, an area sufficient for patient recovery should be provided and staffed by personnel who continue monitoring vital signs and level of consciousness. The patient should be observed until there is a return to premedication mental status and vital signs consistent with normal ranges. The patient should be discharged by order of the clinician or by predefined practitioner-approved criteria. The patient should be discharged into the care of a responsible adult.

When procedures have been performed in an ambulatory surgical facility, a physician, preferably the anesthesiologist, should be present in the facility until the patient has been discharged. This physician should oversee the postanesthetic recovery area and should share with the surgeon the responsibility for discharging patients or transferring them to the backup hospital.

During the recovery period, a member of the health care team should observe the patient closely. This person should maintain a complete record of the patient’s general condition, including the following:

- Vital signs
- Blood loss
- Occurrence of complications

The patient should remain in the recovery area until recovery is sufficient to permit safe discharge according to the following criteria:

- The patient’s cardiovascular physiologic variables are stable.
- The patient must be able to cough, and respiration must be unobstructed.
- Optimally, the patient should have voided after the procedure. Exceptions require documentation of plans to monitor the ability to void after discharge.
- Pain and nausea must be controllable with medication in appropriate doses.
- There should be no evidence of active bleeding.
- There should be no significant temperature elevation.
- The patient must be able to ambulate and be aware of her surroundings and what has occurred.
• The patient should be discharged in the company of a responsible adult licensed to drive a vehicle or able to accompany the patient home by public transportation.

The patient should be examined by a health care practitioner with appropriate clinical privileges and be discharged on written order. Alternatively, other practitioners may discharge patients according to approved criteria.

On discharge, the patient and any accompanying responsible adult should be given and acknowledge verbal and written instructions about the following:

• Medications
• Follow-up care
• Signs and symptoms of common complications
• Procedures for obtaining emergency care and advice

One method of evaluating the effectiveness of care is follow-up telephone contact to substantiate the patient's well-being the day after surgery.

Resources

ACOG Resources


Other Resources


The diagnosis and management of anaphylaxis: an updated practice parameter. Joint Task Force on Practice Parameters; American Academy of Allergy, Asthma and Immunology; American College of Allergy, Asthma and Immunology; Joint Council of Allergy, Asthma and Immunology. J Allergy Clin Immunol 2005;115(suppl 2):S483–523.


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The information in Guidelines for Women’s Health Care: A Resource Manual, Third Edition should not be viewed as a body of rigid rules. The guidelines are general and intended to be adapted to many different situations, taking into account the needs and resources particular to the locality, the institution, or the type of practice. Variations and innovations that improve the quality of patient care are to be encouraged rather than restricted. The purpose of these guidelines will be well served if they provide a firm basis on which local norms may be built.

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