


Special Issues

Substance Use: Obstetric and Gynecologic Implications

Key Points

- Substance use, abuse, and dependence affect women and men differently and can have serious implications for women's health. Among them are adverse effects on reproductive function and pregnancy.
- Key areas in which obstetrician–gynecologists can have an effect are prevention, screening, testing, brief intervention, and referral.
- Obstetrician–gynecologists are responsible for prescribing appropriately, encouraging healthy behaviors by providing appropriate information and education, and identifying and referring patients already abusing drugs.
- Asking questions of all patients about their history and levels of use of alcohol and other drugs helps to indicate when further investigation is needed.
- Substance abuse and dependence occur across the lifespan and without regard to ethnic background, socioeconomic status, or sexual orientation.
- Women who abuse substances rarely abuse a single substance. Those who abuse illicit substances frequently also abuse tobacco or alcohol or both. The potential effect of multiple substance abuse must be taken into account when attempting to evaluate the effects of individual substances on the fetus or on pregnancy outcome.
- Fetal alcohol syndrome (FAS) is the most common preventable cause of mental retardation; FAS and other alcohol-related defects and disorders are 100% preventable if a woman does not drink during pregnancy.
- Education and brief intervention preformed by the obstetrician–gynecologist can be very effective in reducing alcohol-exposed pregnancies.
- Comprehensive prenatal care has been shown to ameliorate many of the maternal and neonatal complications associated with substance abuse.

> ***Because substance abuse and dependence are medical conditions, health care providers have a key role to play in prevention and treatment.***

The Disease of Addiction

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. Addiction hijacks the brain's reward system, the mesolimbic dopaminergic pathway extending from the ventral tegmentum to the nucleus accumbens. All addictive drugs act on this system; the resulting pleasurable effects reinforce the drug-taking behavior. Despite popular misconception, the issue of whether or not a drug can produce physical dependence has little bearing on whether or not its use can lead to addiction. If a substance can produce compulsive drug-seeking and use in spite of adverse consequences, then it has addictive potential (1). Table 8 lists the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV) criteria for substance abuse and dependence. The use of these terms in this book refers to DSM-IV definitions.

Until recently, most research into drug abuse focused on male subjects, yet women and men often demonstrate different biologic responses to drugs, different patterns of use, different reasons for using, and different responses to treatment. Conclusions derived from research conducted primarily in men are not necessarily generalizable to women; therefore, current trends emphasize the importance of investigating how drugs of abuse specifically affect women, and how the course of the disease of addiction may vary between the sexes.

Because substance abuse and dependence are medical conditions, health care providers have a key role to play in prevention and treatment. This role may include screening patients by use of questionnaires; providing education, treatment, and referral; guiding and referring high-risk patients; advising patients about social and support groups; practicing safe prescription writing; and addressing the needs of adolescents. Obstetrician–gynecologists are central figures in women's health care and, thus, need to be knowledgeable about substance abuse and dependence both in general and in areas of specific concern to women.

Substance use, abuse, and dependence affect not only the individual, but also families, communities,

Table 8. Diagnostic and Statistical Manual of Mental Disorders Criteria for Substance Abuse and Dependence

Substance Abuse	Substance Dependence
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: 1. Repeated substance use that results in an inability to fulfill obligations at home, school, or work. 2. Repeated substance use when it could be physically dangerous (such as driving a car). 3. Repeated substance-related legal problems, such as arrests. 4. Continued substance use despite interpersonal or social problems that are caused or made worse by use.	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: 1. Tolerance, as defined by either of the following: a) A need for markedly increased amounts of the substance to achieve intoxication or desired effect b) Markedly diminished effect with continued use of the same amount of the substance 2. Withdrawal, as manifested by either of the following: a) The characteristic withdrawal syndrome for the substance b) The same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms 3. The substance is often taken in larger amounts or over a longer period than was intended. 4. There is a persistent desire or unsuccessful efforts to cut down or control substance use. 5. A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects. 6. Important social, occupational, or recreational activities are given up or reduced because of substance use. 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.

workplaces, and society in general. Complications related to illegal and prescribed or controlled drugs, alcohol, and tobacco constitute a significant national health problem and a large economic detriment. The subject of women and tobacco dependence is discussed in another chapter in this book. The National Institute on Drug Abuse and the National Institute on Alcohol Abuse and Alcoholism estimated that the economic cost of alcohol and drug abuse is in the hundreds of billions of dollars. In 1998, the estimated cost of alcohol abuse alone was $184.6 billion (2). It is important to note that most individuals who abuse substances use more than one substance (ie, are polysubstance abusers) making it difficult to determine the effect of one particular drug. Information on specific drugs of abuse is given later in this chapter.

In addition to the harmful effects associated with specific drugs, substance abuse also poses more general risks associated with unhealthy life styles, such as malnutrition. Some individuals may trade sex for drugs, exposing themselves to sexually transmitted diseases. Individuals who share needles while using drugs risk contracting blood-borne infections, such as human immunodeficieny virus (HIV) or the hepatitis B and hepatitis C viruses. Drug abuse is more than twice as likely to be associated with HIV and acquired immunodeficiency syndrome (AIDS) in women than in men (3). Drug use leads to a number of adverse social consequences, such as poor judgment and impaired decision making; increased unprotected sex; and increased arguments, fights, domestic violence, and child abuse. The neurobehavioral effects of alcohol and drug use have been cited as the precipitating factor in injuries and deaths of the substance user and others. The 1996 National Household Survey on Drug and Alcohol Abuse (NHSDA) indicated that 14% of women respondents reported driving within 2 hours of alcohol use during the past year (4). In the same survey, 4% of women reported driving within 2 hours of drug use. Of the 15,000 motor vehicle crashes during the year 2002 involving a female driver in which a fatality occurred, 15% of the drivers had a blood alcohol concentration of more than 0.01 g/dL (5).

The true prevalence of substance abuse by pregnant women is difficult, if not impossible, to establish. In urban populations receiving care at large medical centers, routine urine testing at the time of labor has demonstrated rates of illicit substance abuse of 20% or higher (6). Because of the high-risk populations surveyed, however, many feel that these studies overestimate the magnitude of the problem in the general population.

Although there are some women who seem to be at high risk for substance abuse, physicians should not be biased about who might be using drugs. In a cross-sectional study of substance abuse by pregnant women in Pinellas County, Florida, all patients who presented for prenatal care from a public- or private-sector health care provider had urine samples analyzed for evidence of recent alcohol or illicit substance abuse (7). There was no difference in the prevalence of recent substance abuse when those with private insurance were compared with medically indigent patients.

Epidemiology

Gender

The 2003 NHSDA completed by the Substance Abuse and Mental Health Services Administration (SAMHSA) found significant gender-related differences in the use and abuse of alcohol (8).

- Females aged 12 years or older were less likely than males in that age group to report past month alcohol use, 43.2% versus 57.3%.
- Male adolescents had higher rates of binge use and heavy drinking than females, but females and males aged 12–17 years had almost equal rates of past month alcohol use (18.3% and 17.1% respectively).
- Male college students aged 18–22 years are more likely to report current, heavy, and binge alcohol use than females; however, a significant number of females in college report current use (59.2%), heavy alcohol use (11.7%), and binge drinking (33.5%).

Some studies have reported that women who are white, unmarried, younger, and working full time outside the home are more likely than other women to drink alcohol (8).

The 2003 NHSDA also reported on gender differences for illicit drug use. Illicit drugs include marijuana, hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or any prescription-type psychotherapeutic drugs used nonmedically. Women were less likely than men to report current illicit drug use (6.5% versus 10%) but had approximately the same rates of

the nonmedical use of psychotherapeutics (approximately 2.7%) (8).

- Among adolescents, boys had slightly higher rates than girls of any drug use and of marijuana use in 2003, but girls were more likely than boys to use psychotherapeutic drugs for nonmedical purposes (3.8% vs 2.7%) (Fig. 5) (8).
- Overall, only one half as many females as males meet the criteria for dependence on or abuse of illicit drugs or alcohol; however, females and males aged 12–17 years show almost equal rates of abuse or dependence. (10).

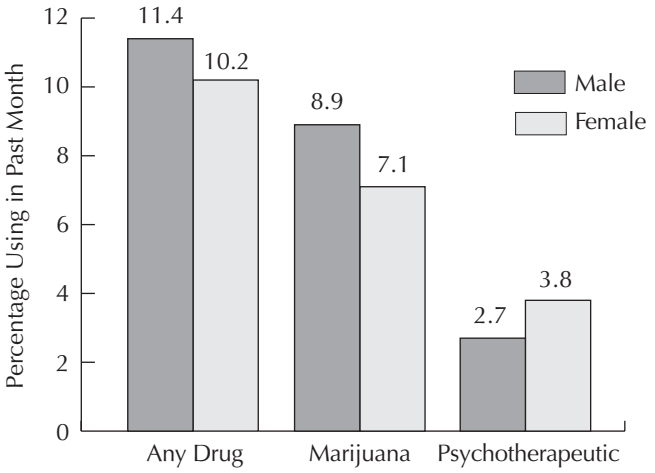

Fig. 5. Past month illicit drug use among youths aged 12–17 years by gender: 2003. (Substance Abuse and Mental Health Services Administration. Results from the 2003 National Household Survey on Drug Abuse: Volume I. Summary of national findings. Rockville [MD]: SAMHSA; 2004. Available at: http://oas.samhsa.gov/nhsda/2k3nsduh/2k3ResultsW.pdf. Retrieved October 21, 2004.)

Pregnancy

The use of alcohol in the past month by age and pregnancy status is presented in Table 9. Those in the youngest group of pregnant females were more likely to report binge and heavy alcohol use than older pregnant women (11). Based on data collected in 2000 and 2001 by the NHSDA and other broad-based data collection projects:

- Patterns of drinking before pregnancy often predict use patterns during pregnancy (12). Among nonpregnant women aged 15–44 years, 49.8% used alcohol, and 20.5% were binge drinkers (11).
- A total of 12.9% of pregnant women used alcohol, and 4.6% reported binge drinking (11). The Centers for Disease Control and Prevention (CDC) reported similar rates of use, with 12.8% of pregnant women reporting alcohol use and 3.3% reporting binge drinking in a 1999 survey (13).
- The CDC also reported that pregnant women who had any alcohol use were more likely than other pregnant women to be older than 30 years, unmarried, and employed (13).
- Unlike women younger than 30 years, women older than 30 years are less likely to reduce alcohol use when they learn they are pregnant. This effect may be caused by greater alcohol dependency (10, 14).

Table 9. Percentages of Females Aged 15–44 Years Reporting Past Month Use of Alcohol, by Pregnancy Status and Age: 1999 and 2000

	Pregnancy Status and Age (y)					
	15–17		18–25		26–44	
Past Month Use	Pregnant	Nonpregnant	Pregnant	Nonpregnant	Pregnant	Nonpregnant
Alcohol	8.6	26.1	10.1	53.6	14	50.2
Binge alcohol use*	7	16.4	4.8	29.6	3.1	17.1
Heavy alcohol use†	2	3.3	0.9	7.6	0.5	3

*Five or more drinks on the same occasion at least once in the 30 days before the survey (includes heavy use)
†Five or more drinks on the same occasion on at least 5 different days in the past 30 days
Substance Abuse and Mental Health Services Administration. Substance use among pregnant women during 1999 and 2000. NHSDA Report. Rockville (MD): SAMHSA; 2002. Available at: http://www.oas.samhsa.gov/2k2/preg/preg.pdf. Retrieved August 11, 2004.

The 2000 and 2001 NHSDA surveys and other current data-gathering initiatives reported on pregnant women's use of illicit drugs:

- A total of 3.3% of pregnant women aged 15–44 years were reported to have used an illicit drug in the past month. This rate was significantly lower than the rate reported for women in the same age group who were not pregnant (10.3%) (11).
- Among young pregnant women aged 15–17 years, the rate of illicit drug use was almost the same as that for nonpregnant women, 12.9% and 13.5%, respectively (11).
- Pregnant adolescents are more likely to use illicit drugs than older pregnant women (Fig. 6) (11).
- Among pregnant women aged 15–44 years, current use of illicit drugs does not vary by race or Hispanic origin (8).
- In 1999, the primary substances of abuse among nonpregnant females aged 15–44 years admitted for treatment included alcohol (38%), cocaine (20%), and opiates (19%) (11). For pregnant women entering treatment, the primary substances of abuse were cocaine (27%), followed by alcohol (24%) and opiates (19%) (Fig. 7) (11).

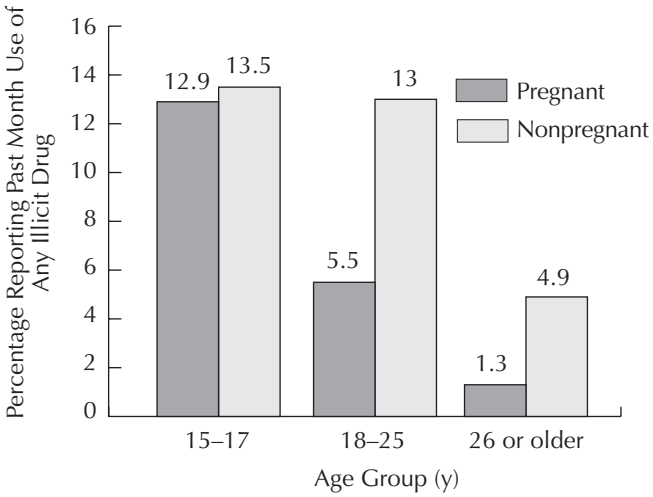

Fig. 6. Reporting past month use of any illicit drug by pregnancy status and age: 1999 and 2000. (Substance Abuse and Mental Health Services Administration. Substance use among pregnant women during 1999 and 2000. NHSDA Report. Rockville [MD]: SAMHSA; 2002. Available at: http://www.oas.samhsa.gov/2k2/preg/preg.pdf. Retrieved August 11, 2004.)

- In 1999, approximately 28% of pregnant women admitted to treatment were referred through the criminal justice system, and 28% were self-referrals. Between 1995 and 1999, the percent of pregnant women referred to treatment by a health professional decreased from 14% to 11% (15).

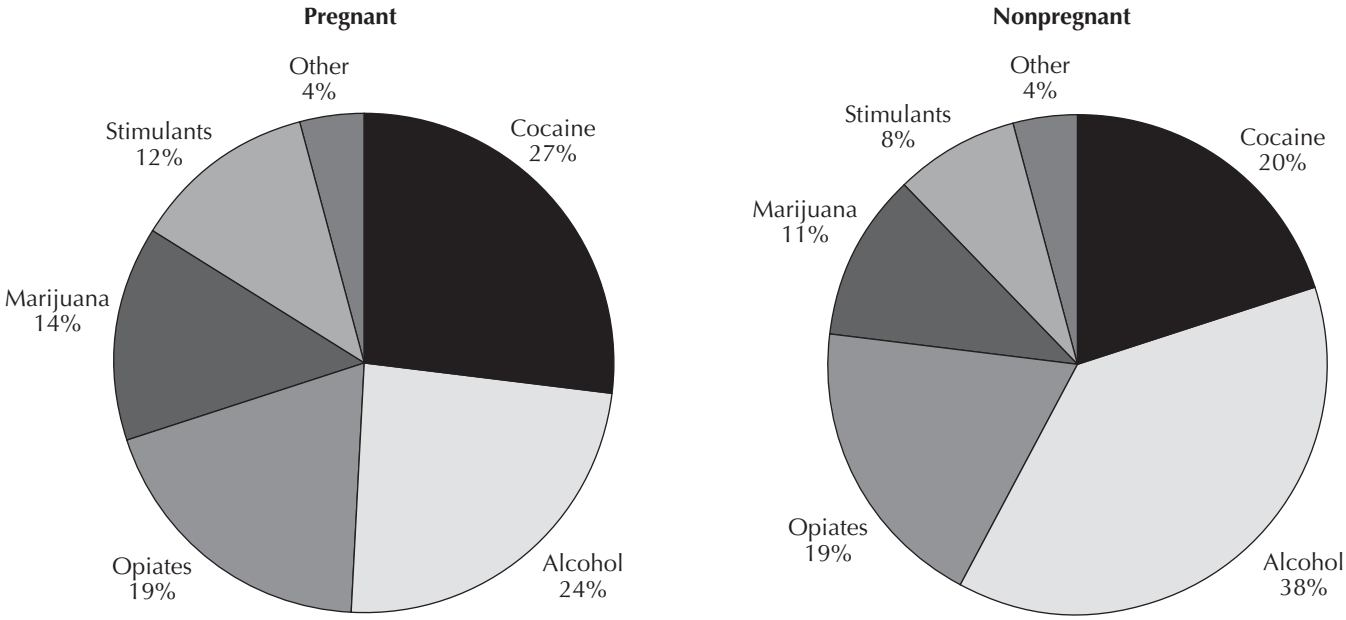

Fig. 7. Primary substance of abuse among women aged 15–44 years admitted to treatment by pregnancy status: 1999. (Substance Abuse and Mental Health Services Administration. Pregnant women in substance abuse treatment. The DASIS Report. Rockville [MD]: SAMHSA; 2002. Available at: http://www.oas.samhsa.gov/2k2/pregTX/pregTX.pdf. Retrieved August 12, 2004.)

Substance Abuse in Women and the Role of the Obstetrician–Gynecologist

Obstetrician–gynecologists have important opportunities for substance abuse intervention. Three of the key areas in which they can have an effect are 1) prescribing appropriately, 2) encouraging healthy behaviors through providing appropriate information and education, and 3) identifying and referring patients already abusing drugs. The woman's health care clinician is in a position to warn her about the adverse effects of tobacco, excessive alcohol, and drug use. Routine screening and intervention for all patients for substance abuse can improve women's present and future health and might help to avert or decrease prenatal substance exposure.

Occasions for substance abuse screening and prevention exist in daily practice. Two examples are pregnancy and visits for medical problems that may be exacerbated by substance abuse. Awareness of populations that may be at higher risk for substance abuse can aid clinicians in targeting their prevention efforts. At-risk populations may include biologic daughters of alcoholic or drug-abusing parents, spouses and partners of an alcoholic or drug abusing individual, women who have experienced a traumatic life event (divorce or separation, death of spouse or significant other, job loss, retirement, rape or sexual abuse, or witness a traumatic event), women with a chronic disabling or painful condition, health care professionals, women who have a psychiatric disorder (eg, depression, psychosis, anxiety, hyperactivity, posttraumatic stress disorder), and women who are victims of current or past intimate partner violence.

Clinicians should recognize presenting symptoms that might be associated with substance use problems. Frequently, psychologic problems associated with substance abuse or dependence are brought to the attention of the clinician by a relative. Vague physical symptoms, such as fatigue, insomnia, headaches, sexual problems, and loss of appetite, prompt early suspicion of substance use; however, definitive psychologic and physical evidence of substance abuse usually does not become apparent until late in the disease process. Importantly, most users of illicit drugs have no signs on physical examination (16). A careful history by a trusted clinician remains the most sensitive means of detecting drug use and abuse (16).

Discovery of substances taken by a patient may be prohibited because she may have consumed an adulterated substance (the composition of the substance taken is unknown to the patient), the patient may fear action by child welfare agencies, or the phenomenon of patient denial. In these circumstances, the clinician can use any local knowledge of what drugs are "on the street," combined with information from emergency departments, observation of the patient's behavioral status (eg, hallucinations, agitation, drowsiness), physical examination (eg, alcoholic fetor, white powder in nares), and, with her permission, perform tests for specific drugs to inform the clinician in counseling her.

Higher rates of eating disorders, panic disorders, posttraumatic stress disorder, and depression are found among women with alcohol use disorders (17). Women who develop alcohol dependence often are more likely than men to deny that they have a problem and to minimize the problems associated with their drinking (18). However, when they do seek help for problem drinking, it often is from their primary care providers (17). Therefore, it is essential that women be screened and diagnosed so they can receive appropriate intervention, referral, and treatment.

Misuse of Prescription and Over-the-Counter Drugs

The nonmedical use of prescription drugs, defined as taking a prescription drug that was "not prescribed for the user, or that the user took only for the experience of feeling it caused," is increasing (8). Seven percent of the U.S. population reports using prescription sedatives for nonmedical reasons at least once (19). Thus, it is important for clinicians to remain alert for signs of drug-seeking behavior. Patients may complain of losing prescriptions or medications and repeatedly report running out of medications before the time that would be expected if medications were taken as prescribed. They often seek narcotic or tranquilizer prescriptions from multiple physicians or claim that another physician, who is now unavailable, prescribed a certain narcotic that now needs to be refilled. They may insist on a particular drug by brand name and claim that nothing else works or demand an immediate prescription of a strong narcotic for chronic illness (20). Adolescents and young adults may be frequent abusers of over-the-counter drugs, particularly cold, allergy, and antinausea medications, taking large doses, multiple drugs or recom-

pounding or refining packaged medications. Health care providers should be alert to symptoms of overdose of these common drugs.

When prescribing potentially addictive substances, it is important for the clinician to assess carefully the risks posed by that treatment and consider nonpharmacologic treatments or nonaddicting medications whenever possible. Potentially addictive drugs should be prescribed initially at a dose adequate to relieve symptoms and then be reduced gradually to the smallest effective dose. However, it is important to not undertreat pain out of fear of causing addiction. In some cases, drug-seeking behavior by patients with undertreated pain may be mistaken for addiction; this is referred to as pseudo-addiction (21). Opioid drugs have legitimate use in the management of both cancer pain and chronic nonmalignant pain if warranted by the clinical picture. However, the opioids best at alleviating pain also have the most abuse liability (see the "Opioids" section later in chapter) (22).

It is advisable that the physician take a thorough history of alcohol use and prescription, over-the-counter, and illicit drug use before prescribing drugs with a dependence liability. A history of drug abuse or dependence is not an absolute contraindication; many patients with such histories can benefit from opioid pain relief (23). Appropriate measures to reduce drug misuse in all patients include medication contracts, discussion of reasonable goals, prescribing suitable amounts of pain medication, writing out numbers to prevent alteration of dose or quantity, monitoring with drug screens and pill counts, and careful documentation of the rationale of the prescription (24).

At times, the physician may encounter a patient who obtains prescriptions for medications that can be resold for profit. This "entrepreneur" often refuses diagnostic testing, intramuscular injections, or medications for immediate consumption. She encourages providers to prescribe a maximum amount of pills or asks for a number that is easily converted to a greater one (for example, 10 can become 40 or 100 with a stroke of a pen) (25). This patient knows exactly what she wants and will adamantly refuse an alternative. Patient-generated pressure to prescribe in the face of the physician's feeling of hesitancy is a classic indicator of a drug-seeking behavior. An initial refusal to prescribe by the physician that eventually changes to a willingness to prescribe in the face of patient pressure is considered by some experts to be pathognomomonic of prescription drug abuse (20). An effective response by the physician is to stick to the principle of requiring a formal physician–patient relationship before prescribing medication. Components of this relationship can include a complete history, obtaining confirmatory medical records from other practitioners and hospitals, a thorough physical examination, and the obtaining of indicated diagnostic tests (16). The physician may shift the focus of the encounter to the patient while still refusing to prescribe by making statements such as, "I'm feeling pushed by you to write a prescription today that is not medically indicated. I'm concerned about you, and we need to talk about your use of these substances." The physician's fear of confrontation and time constraints play into the hands of chemically dependent patients, who have a stronger relationship with the prescription than they do with the physician (20).

It is important for clinicians to educate patients about the effects of drugs prescribed to them, including activities to be avoided while taking the medication and potential interactions with other medications and substances they are known to be using. The potential for a drug to produce dependence needs to be clearly stated as well as the effect of the medication when mixed with other substances. The clinician should warn about the dangers of misuse of a drug and assess the patient's understanding (see Box 13 for substance abuse prevention prescribing pointers).

Because some substances, such as ephedra, have been marketed in the past as a "natural" supplement, many patients are not aware of the health risks associated with their use. Additionally, many patients do not inform their physicians about their use of "alternative medicine" (26) and do not think of herbal remedies as drugs. It is, therefore, important to specifically ask about the use of vitamins, supplements, and traditional medicines. It is important for health care providers to educate patients about the risks of these supplements, explaining that the herbal supplements are not regulated by the U.S. Food and Drug Administration (FDA) or any other agency and that "natural" does not necessarily mean safe, as many natural products can be just as potent and risky as pharmaceuticals.

Brief Intervention and Motivational Interviewing

Brief interventions and motivational interviewing as part of primary health care can help reduce the risk of

developing substance dependence. There are several motivational models for behavioral change. The Stages Model of the Process of Change is useful in determining where a patient is in the process of change (27). The stages of change include precontemplation, contemplation, action, maintenance, and relapse (Table 10). Research has shown that the best strategy for helping patients is to try to move them to the next step in the change process (28). For those women who may be stuck in the precontemplation and contemplation stages, a group meeting with medical providers, family, close friends, and co-workers at which, in the framework of care and concern, each group member states the effects of the patient's substance use and the consequences of not accepting treatment. This intervention can markedly support the patient's desire for treatment (16).

In a brief intervention, the clinician follows five steps (known as the 5A's) within a 3–10 minute conversation. These steps are: *Ask* (screening for use, amount, frequency), *Assess* (determining how problematic the behavior is for the patient or others), *Advise* (making a clear statement that the behavior is detrimental to the patient's health or the health of her fetus), *Assist* (suggesting how the patient can receive help, referring for treatment, supplying further information on the behavior, setting goals), and *Arrange* follow-up (making a follow-up appointment for the provider to reassess). Women who use alcohol, narcotics or cocaine heavily require intervention directly followed by referral for treatment to a professional trained in addiction medicine.

Motivational interviewing involves a directive, client-centered counseling style for eliciting behavior change by helping patients to explore and resolve ambivalence. Compared with nondirective counseling, it is more focused and goal-directed (29). Although the technique requires some training, brief encounters using motivational interviewing techniques can be accomplished in the primary care setting.

A recent study confirmed that brief intervention and motivational interviewing are effective techniques in reducing harmful drinking patterns among women of childbearing age (30). In another study, conducted by the CDC, women who received motivational interviewing were able to reduce the risk for alcohol-exposure during pregnancy by decreasing their alcohol consumption risk, increasing contraception use, or both (31) (Fig. 8). In fact, among high-risk women overall, 69% of high-risk women were able to reduce

Table 10. Stages of Change

Stage	Mechanism	Patient Needs
Precontemplation	Patient does not believe a problem exists	Evidence of problem and its consequences
Contemplation	Patient recognizes a problem exists and is considering treatment	Support and encouragement to initiate treatment Information on treatment options Referral to a specific treatment program
Action	Patient begins treatment	Ongoing support Follow-up to support success
Maintenance	Patient incorporates drug-free living into daily life	Initiate steps to break cycle of addiction: weekly contact, peer support groups, family or group therapy.
Relapse	Patient returns to regular drug use. This is an expected part of the recovery process.	Institute prevention strategies: ■ Alter lifestyle to reduce outside influence ■ Develop drug-free socialization ■ Identify social pressures that influence use and rehearse avoidance strategies ■ Learn ways to cope with negative feelings

American College of Obstetricians and Gynecologists. Illicit drug abuse and dependence in women: a slide lecture presentation. Washington, DC: ACOG; 2002.

Box 13

Substance Abuse Prevention Prescribing Pointers

When considering prescribing potentially addictive drugs:

- Assess option of alternative treatments
  —Nonpharmacologic treatments
  —Nonaddicting medications
- Determine risk of developing abuse or dependence
- Order an initial dose sufficient to provide analgesia, then taper to smallest effective dose

Prescribing suggestions for potentially addictive drugs

- Write for the shortest period of time for treatment
- Avoid more than one refill
- Avoid telephone refills
- Reassess at frequent intervals
- Prescribe to be taken on a fixed schedule rather than as needed
- Taper, rather than discontinue if used long term
- On the prescription write the amount to be dispensed numerically and by word to minimize ability for alteration

American College of Obstetrics and Gynecologists. Illicit drug abuse and dependence in women: a slide lecture presentation. Washington, DC: ACOG; 2002.

their risk for an alcohol-exposed pregnancy. Given this capacity for dramatic improvement, physicians have an obligation to be therapeutic—in this case to learn the techniques of screening and brief intervention—and to inform themselves as they would if a new test or therapy were developed for any other recognized disease entity (32).

Risk Reduction

Women who are unable or unwilling to stop using substances should be advised to at least cut down on their substance use because negative outcomes may have a dose-dependent effect. For example, some of the harmful effects of excessive drinking, such as increased breast cancer risk, show up above a certain threshold of alcohol consumption. Intervenous drug users who cannot or will not enter treatment should be encouraged to take advantage of needle-exchange programs, if available in the local community, because they may reduce the risk of HIV infection for some users (33). To reduce the risk of pregnancy and, thus, reduce future exposure to a fetus, it is important to encourage women who abuse substances to use effective contraception. For those adolescents and women who are using alcohol, it is key to reinforce the message of refraining from driving or other situations requiring full attention.

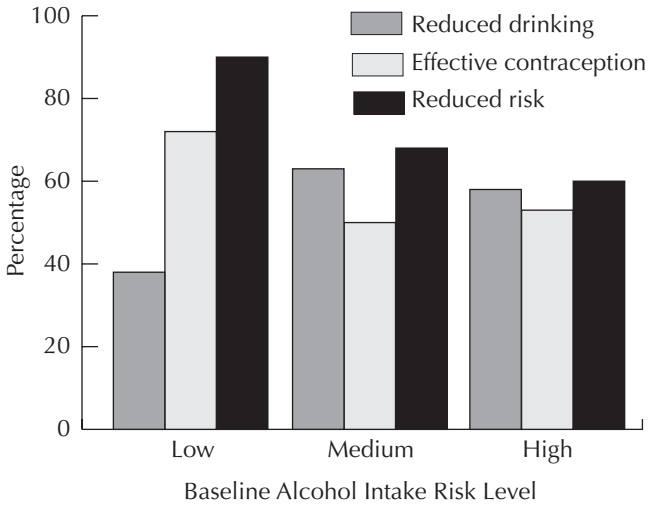

Fig. 8. Baseline alcohol intake among women and choices for reducing risk of an alcohol exposed pregnancy. (Motivational intervention to reduce alcohol-exposed pregnancies—Florida, Texas, and Virginia, 1997–2001. MMWR Morb Mortal Wkly Rep 2003;52:441–4.)

Screening Questionnaires

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 (34). Many of the studies that validated the use of screening questionnaires originally did not include women. However, several screening questionnaires have recently been validated for use with women. These screening tools, known by their acronyms, are the TWEAK, AUDIT, T-ACE, and 5 P's (Box 14). Some studies have suggested that the TWEAK questionnaire was the optimal screening tool for women with heavy drinking or alcohol abuse and

Box 14 Substance Abuse Questionnaires

AUDIT Questionnaire

1. How often do you have a drink containing alcohol?
   (0) Never
   (1) Monthly or less
   (2) 2–4 times per month
   (3) 2 to 3 times per week
   (4) 4 or more times per week
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
   (0) 1 or 2
   (1) 3 or 4
   (2) 5 or 6
   (3) 7 to 9
   (4) 10 or more
3. How often do you have six or more drinks on one occasion?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily
4. How often during the last year have you found that you were not able to stop drinking once you started?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily
5. How often during the last year have you failed to do what was normally expected from you because of drinking?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily
7. How often during the last year have you had a feeling of guilt or remorse after drinking?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
   (0) Never
   (1) Less than monthly
   (2) Monthly
   (3) Weekly
   (4) Daily or almost daily
9. Have you or someone else been injured as a result of your drinking?
   (0) No
   (2) Yes, but not in the last year
   (4) Yes, during the last year
10. Has a relative or friend, or a doctor or other health care worker been concerned about your drinking or suggested you cut down?
    (0) No
    (2) Yes, but not in the last year
    (4) Yes, during the last year

The minimum score (for nondrinkers) on the AUDIT is 0 and the maximum possible score is 40. A score of 8 or more indicates a strong likelihood of hazardous or harmful alcohol consumption. (Available online at http://www.niaaa.nih.gov/publications/insaudit.htm.)

(continued)

Box 14 Substance Abuse Questionnaires *(continued)*

5 P's Screening Questions

Did any of your **P**ARENTS have a problem with using alcohol or drugs?	Yes*	No	No answer	
Do any of your friends (**P**EERS) have a problem with drug or alcohol use?	Yes*	No	No answer	
Does your **P**ARTNER have a problem with drug or alcohol use?	Yes*	No	No answer	
Before you knew you were pregnant (**P**AST), how often did you drink beer, wine, wine coolers, or liquor?	Not at all	Rarely*	Sometimes*	Frequently*
In the past month (**P**RESENT), how often did you drink beer, wine, wine coolers, or liquor?	Not at all	Rarely*	Sometimes*	Frequently*

*Considered positive responses

Kluwer Academic Publishers, Maternal and Child Health Journal, 8 (3):137–47, 2004. Improving screening for alcohol use during pregnancy: the Massachusetts ASAP program. Kennedy C, Finkelstein N, Hutchins E, Mahoney J; table 1. Reprinted with kind permission of Springer Science and Business Media.

TWEAK

T **T**OLERANCE: How many drinks can you hold? If five or more drinks—score 2 points

W Have close friends or relatives **W**ORRIED or complained about your drinking in the past year?—If "Yes" 2 points

E **E**YE OPENER: Do you sometimes take a drink in the morning when you get up?—If "Yes" 1 point

A **A**MNESIA: Has a friend or family member every told you about things you said or did while you were drinking that you could not remember?—If "Yes" 1 point

K (C) Do you sometimes feel the need to **C**UT DOWN on your drinking? If "Yes" score 1 point.

The TWEAK is used to screen for pregnant at-risk drinking defined here as the consumption of 1 ounce or more of alcohol per day while pregnant. A total score of 2 or more points indicates a positive screen for pregnancy risk drinking.

Reprinted with permission from Chan AW, Pristach EA, Welte JW, Russell M. Use of the TWEAK test in screening for alcoholism/heavy drinking in three populations. Alcohol Clin Exp Res 1993;17:1188–92.

T-ACE

T **T**OLERANCE: How many drinks does it take to make you feel high? More than two drinks is a positive response—score 2 points

A Have people **A**NNOYED you by criticizing your drinking? If "Yes"—score 1 point.

C Have you ever felt you ought to **C**UT DOWN on your drinking? If "Yes"—score 1 point.

E **E**YE OPENER: Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover? If "Yes"—score 1 point.

A total score of 2 or more points indicates a positive screen for pregnancy risk drinking.

Reprinted from Am J Obstet Gynecol, Vol 160, Sokol RJ, Martier SS, Ager JW. The T-ACE questions: practical prenatal detection of risk drinking. p. 863-8; discussion 868–70, 1989, with permission from Elsevier.

(continued)

Box 14 **Substance Abuse Questionnaires *(continued)***

CRAFFT Substance Abuse Screen for Adolescents

C Have you ever ridden in a **C**AR driven by someone (including yourself) who was high or had been using alcohol or drugs?

R Do you ever use alcohol or drugs to **R**ELAX, feel better about yourself or fit in?

A Do you ever use alcohol or drugs while you are by yourself **A**LONE?

F Do you ever **F**ORGET things you did while using alcohol or drugs?

F Do your **F**AMILY or friends ever tell you that you should cut down on your drinking or drug use?

T Have you ever gotten in **T**ROUBLE while you were using alcohol or drugs?

Scoring: Two or more positive items indicate the need for further assessment.

Reprinted with permission from: Knight JR, Sheritt L, Shrier LA, Harris SK, Chang G. Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. Arch Pediatr Adolesc Med 2002;156:607–13. Copyright © 2002, American Medical Association. All rights reserved.

Note: A standard drink is defined as a shot of liquor, a glass of wine, or a can of beer (12 oz of beer, 5 oz of table wine, and 1.5 oz of 80-proof distilled spirits). Source: United States Department of Agriculture, United States Department of Health and Human Services. Dietary guidelines for Americans 2005. 6th ed. Washington, DC: USDA; USHHS; 2005.

dependence (35). In another recent study, the standard AUDIT and modified AUDIT-C questionnaires were both sensitive (0.81 and 0.84, respectively) and specific (0.86 and 0.85, respectively) for the diagnosis of at-risk drinking in female Veterans Affairs patients. Although all of these screening questionnaires were developed for use in detecting alcohol use, it is possible to use them for detecting other drug use by adding the term drugs or a specific list of drugs of concern to the screening instrument (34).

During pregnancy, any amount of alcohol or substance use is considered to be "at-risk" use. Screening questionnaires designed specifically for office detection of risk drinking among pregnant women include the T-ACE and 5 P's. The T-ACE is a four-question screen that is considered to have excellent utility in sidestepping the denial syndrome. The T-ACE had demonstrated a sensitivity of 69% and specificity of 96% (36). The 5 P's was designed as a broad catch substance abuse screening tool for pregnant women in need of education, as well as intervention and treatment. This tool has been modified in recent years to include a question on peer alcohol use and to use multiple-choice answers for some questions (37).

The CRAFFT test is used to identify substance abuse in adolescents. This test has proved to be a valid means of screening adolescents for substance-related problems and disorders that may be common in some general clinic populations (38).

To improve disclosure rates for substance abuse, a system of regular screening should be instituted within an office setting. The tools mentioned previously can be self-administered questionnaires; however, care must be taken to ensure privacy during completion and secure and confidential handling of the completed form. As the clinician or staff member reviews the completed form with the woman, additional information can be obtained to further assess problem substance use.

Laboratory Testing

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 provides a reasonable testing window for commonly used drugs (a few days in most cases). Mass-produced test kits generate immediate results that can be discussed with the patient. These kits test for the most common drugs of abuse or their metabolites (nicotine, alcohol, codeine-morphine, amphetamine-methamphetamine, phencyclidine "PCP," marijuana, cocaine); however, they do not detect lysergic acid diethylamide "LSD," 3,4-methylenedioxy-methamphetamine "MDMA" (also known as ecstasy), and synthetic opiates or stimu-

lants. If necessary, a urine sample can be retested. Accepted standards for testing exist, including quantitative results (39). Urine samples can be vulnerable to dilution, substitution, and adulteration. Urine testing kits offer less reliability than off-site gas chromatography or mass spectrometry testing. These more expensive measures can be used as a backup, if necessary. Drug testing laboratories must be certified by the U.S. Department of Health and Human Services (39).

All tests can have false-positive and false-negative results, which is why a physician or other qualified individual should interpret all tests. False-positive test results for opiates caused by poppy-seed consumption can be avoided by setting the threshold for a positive test at a sufficiently high level and by testing for presence of a metabolite specific to heroin. In the absence of other clinical evidence of heroin use, opiate test results should be considered negative (39). A test is not in itself a diagnosis. 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 obstetrician–gynecologist provide better care, including appropriate interventions, to the patient (39).

From an ethical perspective, the most important principles involve a trusting patient–physician relationship, a focus on the benefits the patient may derive from testing, and an appreciation that patients make choices about their medical care. It is incumbent on the the medical provider, 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 (40). As with other confidential medical information, the results of such tests should under no circumstances be made available to police or government agencies unless specifically required by law. Seeking obstetric–gynecologic care should not expose a woman to criminal or civil penalties or the loss of custody of her children. Because of the possible implications of a positive drug screen, the rights of patients to autonomy and privacy are to be respected (16).

Confidentiality is as essential to the physician–patient relationship with adolescents as it is with adults (32). Many state laws protect the confidentiality of minors with regard to substance abuse detection and treatment (41). 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 (32, 42).

Treatment and the Obstetrician–Gynecologist

The role of the obstetrician–gynecologist includes referral with consultation and pretreatment for substance abuse. Pretreatment is the major contribution of the obstetrician–gynecologist or primary health care provider. It can be defined as providing immediate intervention that goes beyond screening to help the patient to come to terms with her substance abuse problem, even during the precontemplation phase when she may not be ready to accept treatment. The obstetrician–gynecologist can maintain the patient in the health care system, provide counseling on the risks and dangers of substance abuse, and treat the patient respectfully even when she continues to decline specific drug rehabilitation. Approximately 50% of patients who refused drug treatment eventually accepted it after a latent period during which they often tried their own solutions (43).

Physicians may be unaware of options and community resources available for substance abuse intervention and treatment. It is important for the clinician to identify an individual to whom patients can be referred for further assessment. Hospital social workers may be of help in obtaining this information. There are several important roles the obstetrician–gynecologist fills in the diagnosis and treatment of substance abuse that benefits these patients. Often, encouragement and support provided by the physician may lead the patient to reduce or eliminate substance use. This aids in preventing medical and psychosocial complications of substance use. Patient education, early diagnosis, and referral for treatment are key parts of total patient care for women with substance abuse issues. As the most significant health care practitioner for many women, the obstetrician–gynecologist may be influential in a patient's decision to accept treatment or referral.

The obstetrician–gynecologist may wish to offer treatment for low-level substance abuse. This may consist of follow-up office visits to monitor substance use, substance abuse, or treatment compliance.

Providing additional information through directed readings and educational materials about substance abuse is beneficial. The description and availability of local residential and outpatient services for addiction detoxification and treatment can be located through the SAMHSA web site (see "Resources"). Self-help and other treatment programs like Narcotics Anonymous, Alcoholics Anonymous, and Al Anon are important resources. Family members may be involved to help address different aspects of the substance abuse problem. In larger metropolitan areas, support groups specifically for women have been established (44).

The obstetrician–gynecologist 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. Treatment or referral for medical or psychiatric complications and co-morbidities can be managed in accordance with the physician's expertise in this field and the patient's wishes.

The role of the obstetrician does not end following referral of a pregnant woman to a drug or alcohol rehabilitation program. By design, these programs are highly regimented. Special consideration for women who are pregnant may require professional advocacy. For instance, many drug rehabilitation programs do not allow medications that have not been approved by the program's governing authority. The obstetrician may need to provide information on medications prescribed and ensure that the patient is receiving them. It also is important for the rehabilitation program to notify the clinician of medications prescribed by the program for the pregnant patient. Prenatal care appointments may coincide with mandatory program activities. The obstetrician's communication with the rehabilitation program staff will help to ensure comprehensive, coordinated care for the patient.

Pharmacologic Agents Used in Treatment

Patients in treatment programs for drugs may be taking supplemental pharmacologic agents. The three most commonly used agents are disulfiram, methadone, and naltrexone. Disulfiram is used to ensure abstinence from alcohol in conjunction with supportive therapy. When treating pregnant women, it is important to note that disulfiram has been associated with increased fetal risk of limb abnormality (45). Ingestion of alcohol while taking this medication results in profuse vomiting, hyperventilation, throbbing headache, and profuse sweating. Liver functions should be monitored every 6 months in these patients. Disulfiram should never be administered to a patient who is intoxicated or without her full knowledge. A new pharmaceutical, naltrexone injection, has been marketed to reduce heavy drinking; however, studies to date have demonstrated this treatment is only effective for men (46).

Methadone is used to treat narcotic withdrawal. This long-acting narcotic is used in maintenance treatment of narcotic addiction. Levomethadyl acetate, a methadone derivative, has been developed for thrice-weekly use. Buprenorphine, approved by the FDA in 2002, has been suggested as a promising alternative for maintenance therapy of opiate-dependent subjects because it produces limited withdrawal symptoms, results in reduced heroin self-administration, and has a longer duration of action. It is administered sublingually and may be combined with naloxone to decrease the potential for abuse by injection. Limited use of this agent in pregnancy has been reported in Europe with apparent less severe neonatal abstinence syndrome observed compared to neonates born of methadone-maintained women (47). A physician holding a current Drug Enforcement Administration waiver may prescribe these agents. Clonidine has been useful in reducing symptoms during opioid detoxification, particularly during pregnancy (48).

Naltrexone is used to block the "high" associated with opioid drug use. It is used in detoxified, formerly opioid-dependent patients to help prevent relapse. Patients with intact families and jobs benefit most from this treatment. Naltrexone implants have been used successfully to manage pregnant, heroin-dependent patients (49). Several studies have demonstrated promise in treating both cocaine and heroin addiction with auricular acupuncture in combination with counseling or pharmacologic measures (50).

Pregnancy and Substance Use

Substance use by pregnant women continues to be one of the leading causes of complications in modern obstetrics. The frequency of abuse of more than one substance, especially with alcohol and tobacco, makes interpretation of the literature difficult; however, there is little doubt that substance abuse is associated with an increased risk of poor pregnancy outcomes. Furthermore, prenatal care utilization and abstinence

from substance use are associated with improved perinatal outcomes. Despite the positive impact of perinatal care, however, continued abuse of substances during pregnancy can result in infant impairment.

Most drugs of abuse alter the blood flow to the uteroplacental site and, therefore, affect the pregnancy outcome. Although substance use in pregnancy is a major public health problem, it often takes decades to identify its effects in humans. Alcohol consumption has been reported for most of human history, yet even FAS was not discovered until recently. For some harmful effects on the fetus, animal studies provide the only available information and suggest that drugs of abuse are dangerous to the fetus as well as the pregnant woman.

The effect to the fetus of maternal drug use has multiple determinants, including time of insult, diet and other host factors, the number of different drugs taken, the route or method of use, and the duration of use. Because engagement in high-risk activities during drug seeking and using periods is common, it is important to offer repeat HIV and sexually transmitted disease testing for pregnant women who use alcohol and other drugs and encourage condom use.

A recent survey of obstetrician–gynecologists found that 87% reported they ask their pregnant patients about drug use. Among women reporting drug use, 97% of clinicians discussed adverse effects and 95% advised abstinence. Forty-five percent reported that they referred patients for treatment, and one third reported performing periodic drug screens (51). In another survey, only 20% of obstetrician–gynecologists reported that abstinence from alcohol use was the safest way to avoid all four of the adverse pregnancy outcomes cited (spontaneous abortion, birth defects, FAS, and central nervous system impairment). Sixty-three percent of providers from this second study stated that they needed referral resources for patients with alcohol problems (52).

Caution should be used when looking at prevalence data in regards to substance abuse during pregnancy. There may be a tendency for women to underreport use (53). When asked retrospectively, women may report higher levels of alcohol use during pregnancy. Antenatal self-reported alcohol use has been found to be predictive of adverse outcomes (54).

Drug Testing in Pregnancy

Drug testing can help to save the lives and improve outcomes for women and their neonates. Misrepresentation and denial are part of the disease of addiction, with the result that patients may give inaccurate or misleading histories in which they minimize their use and the fetus's exposure. In one recent study, 11% of the women self-reported illicit substance use, but 43% of the 3,000 infants tested positive for illicit substances (55). However, false-negative and false-positive drug test results exist as a result of the woman's diet, other substances used, method, and carefulness of collection and elapsed time. Typical detection times for various substances are reported in Table 11. Confirmation of testing is always possible using gas chromatograph or mass spectrometry; however, such testing is expensive. Random testing, commonly used in addiction treatment programs, is not appropriate for use in a general obstetric–gynecologic practice. If the physician feels the need for continuous monitoring and random testing, a substance abuse specialist or team should monitor the patient.

Both meconium and neonatal hair samples have been used to document substance abuse by pregnant women. Although this approach has its limitations, these samples may help identify neonates who may be at risk for developing long-term sequelae as a result of in utero exposure and who may benefit from early identification and intervention. State law governs the practice of testing for prenatal drug exposure in neonates. Information on this testing can be obtained by contacting the state's child welfare agency.

Some states have mandatory reporting laws if a woman has a positive test result for illegal drugs during pregnancy. All health care providers should famil-

Table 11. Typical Urine Drug and Drug Metabolite Detection Times

Drug	Detection Time*
Marijuana (THC), acute use	3 days
Marijuana (THC), chronic use	30 days
Cocaine	1–3 days
Heroin	1 day
Methadone	3 days

*The amount of time that a drug or drug metabolite remains detectable in urine can very depending on the amount and frequency of use, metabolic rate, body mass, age, overall health, drug tolerance, and urine pH. Detection times for hair follicle, blood and saliva tests are much higher.

American College of Obstetricians and Gynecologists. Illicit drug abuse and dependence in women: a slide lecture presentation. Washington, DC: ACOG; 2002.

iarize themselves with state laws governing testing and reporting. There may be instances when mandated reporting measures endanger the relationship of trust between the physician and patient, placing the obstetrician in an adversarial relationship with the patient, and possibly creating conflict with the therapeutic obligation. If pregnant women become reluctant to seek medical care because they fear being reported for alcohol or illegal drug use, these strategies will actually increase the risks to the woman and the fetus rather than reduce the consequences of substance abuse (32). Substance abuse does not by itself guarantee child neglect or prove inadequate parenting capacity (57).

The issue of reporting substance abuse; special issues for girls and adolescent women; and the ethical rationale for universal screening questions, brief intervention, and referral to treatment may be found in American College of Obstetricians and Gynecologists (ACOG) Committee Opinion number 294 "At-Risk Drinking and Illicit Drug Use: Ethical Issues in Obstetric and Gynecologic Practice" (see "ACOG Resources").

Improving Outcomes in Pregnancy

On diagnosis of a substance abuse problem, it is important for the pregnant woman to have a thorough assessment and intervention by an American Society of Addiction Medicine-certified physician or other physician qualified in addiction medicine or a substance abuse-pregnancy counselor (see "Resources"). If these individuals are not available, the obstetrician–gynecologist needs to identify an individual to whom patients can be referred for further assessment. Drug and alcohol use exposes the woman and fetus to numerous untested, complex compounds that interfere with judgment and make numerous other high-risk behaviors more likely. Residential treatment and group, community outpatient, and faith-based programs have been very effective at reducing the consequences of substance use during pregnancy.

Additionally, "drug" use during pregnancy is a misnomer, because polysubstance abuse is almost always involved. Thus, even if the effects of individual drugs were known completely, outcome measures studying multiple drugs and the effect of their interactions would be so complex as to approach impossibility. Early identification and intervention are essential if prevention fails.

Prenatal and Early Postpartum Care

Comprehensive prenatal care has been shown to ameliorate the maternal and neonatal complications associated with substance abuse. For example, among pregnant women who use cocaine, multidisciplinary prenatal care may improve obstetric outcomes compared with users who receive little or no prenatal care (58). The favorable pregnancy outcomes seen in opiate addicts enrolled in methadone maintenance programs throughout pregnancy attest to the beneficial effects of these programs in concert with prenatal care (59).

The pregnant woman who abuses substances often has a multitude of nonmedical problems. Some of these women are unemployed, are undereducated, live in substandard housing, have psychiatric disorders and other co-morbidities, are victims of partner violence, or are homeless. Because of the close association of substance abuse and partner violence, especially during pregnancy, the discovery of one problem should signal a search for others (see the "Intimate Partner Violence and Domestic Violence" chapter). Even when the pregnant woman who abuses substances remains in her abusive relationship, incorporating a strong social support system can improve the chance of a drug-free delivery. Therefore, where possible, it is helpful to have a multidisciplinary team of health care and social service providers to address the multiple problems of pregnant women who abuse substances. At each prenatal encounter, substance abuse treatment should be offered to those who have not quit.

A substance abuse history should be taken from all patients as part of the medical and obstetric history. Those with significant alcohol use need to be counseled regarding the risk and effects of FAS. It also is important to counsel pregnant women who abuse substances about the potential risks of preterm delivery, fetal growth restriction, fetal death, and possible long-term neurobehavioral effects of continued substance abuse. A self-administered questionnaire embedded with a relational and "broad-catch" screening tool (such as the 5 P's) offers the prenatal provider a platform to educate pregnant women on substance use and, when appropriate, provide brief intervention counseling (37). Following screening, all pregnant women, regardless of substance use history, should be educated as to the harmful effects of substance use and the necessity to refrain from use.

Because growth restriction is a relatively frequent finding among fetuses of women who abuse substances, accurate assessment of gestational age is essential for optimal management. Early ultrasound examination confirmation of gestational age may obviate the need for more intensive testing or intervention later in pregnancy. Furthermore, because of the possibility of structural anomalies of the fetuses of women who abuse alcohol, a fetal anatomic survey may be indicated.

Drug abuse also may be associated with serious complications during labor and obstetric anesthesia administration. Complications may result from intoxication and include increased risk of aspiration, respiratory depression, lack of the ability to cooperate or to control musculature, and altered responses to pain. Labor, particularly prolonged labor, may precipitate drug withdrawal, producing a wide range of autonomic reactions. In addition, many drugs produce specific neurologic, cardiovascular, or hematologic dysfunctions that affect the choice of and response to obstetric anesthesia (60). These are included in the discussion of substances of abuse as follows. It is critical that health care providers delivering anesthesia and caring for the newborn be informed of the woman's substance abuse. Fetal well-being needs to be documented throughout labor. The infant may need prolonged observation for signs of withdrawal and for potential future developmental abnormalities.

It is important to encourage women who abuse substances to receive treatment throughout the postpartum period. This includes counseling the breastfeeding woman that the infant may be exposed through her milk to the substances she is using. Women whose infants are at risk for neurobehavioral disabilities need to be informed of the importance of early and frequent developmental examinations. A number of states mandate the reporting and monitoring of these women and their exposed infants. Specific information on state-level requirements can be accessed through a state's child protection department.

Substances of Abuse

The specific effects of commonly abused substances are outlined in Table 12 at the end of this chapter. Tobacco use is addressed in the "Smoking and Women's Health" chapter.

Alcohol

Alcohol-related mortality (heart disease, cirrhosis, accidents, overdose) represents a leading cause of preventable death. Chronic alcohol abuse results in multiple adverse health effects, raising the risk of many types of cancer, and increasing the incidence of malnutrition, including deficiencies in thiamine, riboflavin, pyridoxine, niacin, and vitamin C. In 2002, 17,419 individuals were killed and 258,000 were injured in alcohol-related motor vehicle crashes (5).

Men and women differ in their metabolism of alcohol. Women achieve higher blood alcohol levels than men after consuming the same amount of alcohol, even after adjusting for body weight. This effect may be caused in part by the lower percentage of body water in women (61). Lower levels of gastric alcohol dehydrogenase in women, leading to reduced first-pass metabolism, also may play a role (62). Women eliminate alcohol at a faster rate than men, which results in increased exposure to acetaldehyde and may contribute to an increased risk of liver disease (62). The menstrual cycle does not appear to affect alcohol metabolism, subjective response, or degree of impairment (63).

More than one half of all women in the United States consume alcohol (64). It is important to remember that light to moderate drinking can have beneficial cardiovascular effects for both men and women; however, the benefit of alcohol consumption for women has much stricter amount limits than for men. (65). One recent study found that women who consume light to moderate amounts of alcohol may have a lower risk of type 2 diabetes mellitus (66).

Women are more vulnerable than men to the toxic effects of alcohol. At all levels of alcohol consumption, women have a higher risk of alcohol-induced liver disease and cirrhosis than do men who drink comparable amounts (67). Women's risk of developing liver disease increases significantly when 7–13 drinks per week are consumed; men have to drink twice as much to face the same risk (67). Estrogen appears to increase the liver's sensitivity to the toxic effects of ethanol; metabolic differences between men and women also may play a role in increasing vulnerability to liver disease among female drinkers (68).

Alcohol consumption is linked to an increased risk of breast cancer. Recent data indicate that women who

drink between two and five drinks per day have up to a 41% increased incidence of breast cancer, and risk increases linearly with consumption throughout this range (69, 70). Higher levels of alcohol consumption were not associated with additional risk (70). The relationship between lower levels of alcohol consumption and breast cancer is less clear. Even one drink per day may be associated with a 10% increase in risk (71), although not all studies have demonstrated this (72).

Women are more vulnerable than men to alcoholic cardiomyopathy, developing this condition at lower levels of lifetime alcohol consumption, shorter durations of alcoholism, and lower daily doses of alcohol than alcoholic men (73). Women who die from alcohol-related causes lose more potential years of life than their male counterparts (74).

Alcohol is the most common teratogen to which a fetus is exposed, and alcohol consumption during pregnancy is a leading preventable cause of mental retardation, developmental delay, and birth defects in the fetus. This is not surprising given the high prevalence of alcohol use among women of childbearing age (49.8%) and the high rate of unintended pregnancy in the United States (49%) (8, 75). Birth defects associated with prenatal alcohol exposure can occur in the first 3–8 weeks of pregnancy, before a woman even realizes she is pregnant (76).

Ethanol freely crosses the placenta and the fetal blood–brain barrier. The deleterious effects of ethanol are presumed to be mediated by direct toxicity as well as through toxic metabolites, such as acetaldehyde. In addition, the poor nutritional status of women who use alcohol heavily may play a role in the teratogenic effect. There is substantial evidence that fetal toxicity is dose-related and that the exposure time of greatest risk is the first trimester (77). The most severe effects are on the fetal brain; however, this organ continues to develop throughout gestation. Although a clear threshold could not be defined, Ernhart and colleagues found a trend of increased abnormalities with increasing exposure (77). Anatomic abnormalities in the child were clearly defined among children whose mothers drank more than six drinks per day. Most of the effects of maternal alcohol use on the fetus are not immediately apparent.

There is no established safe level of alcohol use during pregnancy. Women who are pregnant or at risk for pregnancy should not drink alcohol. Although consumption of small amounts of alcohol early in pregnancy is unlikely to cause serious fetal problems, patients are best advised to refrain from alcohol entirely. Because brain growth continues throughout pregnancy, even women who drank heavily in early pregnancy can reduce the risk of further harm to the fetus by cessation of alcohol use.

During labor, acute alcohol intoxication poses a significant risk of pulmonary aspiration. Symptoms of acute alcohol withdrawal can occur 6–48 hours after consumption, producing severe physical symptoms, including vomiting, tachycardia, hypertension, delirium, seizures, and cardiac failure. The sequelae of chronic alcohol use, such as malnutrition, neuropathy, and coagulopathy, are to be considered when making a determination on appropriate anesthesia for labor and delivery (60).

Heavy use of alcohol may lead to a neonatal abstinence syndrome characterized by jitteriness, irritability, and poor feeding. These effects may occur within the first 12 hours of life. This syndrome is less common and less severe than that seen following opiate withdrawal. Short-term treatment with barbiturates is sometimes necessary to ameliorate the symptoms.

Fetal alcohol syndrome was first described in 1973; however, the deleterious effect of alcohol has been suspected for centuries. A congenital syndrome, FAS is characterized by alcohol use during pregnancy and three findings: 1) growth restriction (which may occur in the prenatal period, the postnatal period, or both), 2) facial abnormalities, and 3) central nervous system dysfunction (78). In addition to a history of maternal alcohol use during pregnancy, at least one finding from each of these three categories must be present to make the diagnosis of FAS (78). The facial abnormalities include shortened palpebral fissures, low-set ears, midfacial hypoplasia, a smooth philtrum, and a thin upper lip. Central nervous system abnormalities that are considered part of FAS include microcephaly; mental retardation; and behavioral disorders, such as attention deficit disorder.

Performance deficits in children with FAS are striking. Intelligence is profoundly affected in some; the average intelligence quotient of children with FAS is in the borderline range of functioning (ie, in the low 70s), although they can range from intellectually deficient (intelligence quotient scores less than 70) to average (intelligence quotient scores between 90 and 109) (79). Affected children may display fine motor

dysfunction. Irritability is common in infancy, and hyperactivity is a common finding in later childhood.

Skeletal abnormalities and structural cardiac defects are seen with increased frequency in the children of women who use alcohol during pregnancy but are not required for the diagnosis of FAS. These skeletal anomalies include abnormalities of position or function or both and, occasionally, abnormal palmar crease patterns. The most common cardiac structural anomalies are ventricular septal defects, but other cardiac anomalies also may occur.

Some children who are adversely affected by maternal alcohol use do not meet all the criteria for the diagnosis of FAS. These children may have an isolated physical abnormality and be classified as having an alcohol-related birth defect (ARBD). Cranio-facial birth defects occur mainly during embryogenesis. However, neurodevelopmental abnormalities, such as problems with cognitive development (intelligence, communication skills, memory, and learning ability), visual or spatial skills, and motor development occur beyond 8 weeks of gestation. This is called alcohol-related neurodevelopmental disorder (ARND) (formerly fetal alcohol effects) (80).

The exact risk incurred by maternal alcohol use is difficult to establish because the complex pattern of symptoms associated with FAS can make diagnosis difficult. Recent data indicate that the prevalence of FAS in the United States ranges from 0.3 to 1.5 cases per 1,000 live births, with a higher prevalence among Native American and African-American populations (13). Among women who already have a child with FAS, the risk of having another child with FAS in the absence of intervention is 75% for each pregnancy (81). Moreover, even low levels of alcohol consumption (two or fewer drinks per week) have been associated with increased aggressive behavior in children (82).

Many cases of FAS or ARND go undiagnosed until several years after the birth because symptoms often are not immediately apparent. Long-term effects of ARBD and ARND include failure to thrive, dental malalignment and malocclusion, as well as eustachian tube dysfunction from midfacial hypoplasia. Recurrent otitis media is a frequent complication. Ocular development may be impaired, resulting in severe degrees of myopia. Prenatal alcohol exposure has been linked to increased rates of problem drinking in young adulthood (83).

Marijuana

Marijuana is derived from the plant *Cannabis sativa*. Other forms of cannabis, which vary in potency, include sinsemilla, hashish, and hash oil. Its principal psychoactive ingredient is 1,9-tetrahydrocannabinol, which is present in large quantities in each marijuana cigarette. This lipophilic substance accumulates in fatty tissues for days before being metabolized by the liver and eliminated in the feces.

Marijuana usually is smoked as a cigarette (called a joint) or in a pipe or bong. Marijuana also has appeared in blunts, which are cigars that have been emptied of tobacco and refilled with marijuana, sometimes in combination with another drug, such as cocaine. Marijuana also can be mixed into foods or used to brew a tea. Compared with smoking tobacco, smoking cannabis involves inhaling more smoke for a longer period, resulting in a fivefold increase in concentrations of carboxyhemoglobin. Thus, marijuana smokers retain the products of combustion longer than the average cigarette smoker does (84).

Marijuana affects different organs systems of the body, including the pulmonary, cardiovascular, gonadal, immune, and nervous systems. Effects may vary with duration of use. The symptoms associated with the chronic use of marijuana are similar to those of tobacco use, such as daily cough and phlegm production, more frequent acute chest illnesses, a heightened risk of lung infections, and a greater tendency toward obstructed airways. Cancer of the respiratory tract and lungs can result from both tobacco and marijuana use; marijuana smoke contains 50–70% more carcinogenic hydrocarbons than does tobacco smoke (84). Marijuana smokers have more alterations in bronchial mucosa than nonsmokers, and several studies have suggested an association between marijuana smoking and head and neck cancers, but future long-term studies are needed (85). There is an association with marijuana use and respiratory cancer (86).

Marijuana also can have significant cardiovascular effects. Acutely, marijuana increases blood pressure levels and the heart rate (87). Marijuana causes increased cardiac output and decreased exercise performance and peripheral vascular resistance, which is not problematic in most healthy young women who use the drug but is very risky for those with cardiovascular disease (87).

Those who have taken high doses of marijuana may experience acute psychosis, which includes hallucina-

tions, delusions, and depersonalization. Although the etiology of these symptoms remains unknown, they appear to occur more frequently when a high dose of cannabis is consumed in food or drink rather than smoked.

Whereas findings in humans have been inconsistent, animal studies have shown that cannabinoids can alter several hormonal systems. Hormonal systems that are acutely altered in animals include activation of the hypothalamic–pituitary–adrenal axis and suppression of gonadal steroids, thyroid hormone, growth hormone, and prolactin (88).

Because of high lipid solubility and large molecular weight, cannabinoid metabolites can be detected in the urine of those who use the drug for days to weeks—much longer than for alcohol and most other illicit substances. Given that marijuana is a common component in polysubstance abuse, the presence of cannabinoid metabolites in the urine may identify patients who are at high risk for being current users of tobacco or other substances as well.

There is no evidence that marijuana is safe for the childbearing woman, but it does not appear to be a significant teratogen in humans. Marijuana may be detected in maternal amniotic fluid. Heavy cannabis use may increase the risk of low birth weight (89). Prenatal marijuana exposure may be linked to impairment in executive functioning (90) and other circumscribed deficits in cognitive functioning in the child (91). One long-term study of adolescents who were exposed to marijuana prenatally found that marijuana had different long-term effects than those exposed to cigarettes. Whereas tobacco affected functioning, marijuana appeared to have an impact on the application of skills, such as sustained attention, analytical skills, and problems of visual integration (90). Initial reports suggested an increased frequency of meconium-stained amniotic fluid and precipitous labor in those who heavily use marijuana, but these results have not been reproduced (92).

Cocaine

Cocaine is a lipophilic alkaloid extracted from the leaves of *Erythroxylon coca*. Highly addictive, it generally is consumed by snorting, "freebasing" (inhaling cocaine vapors combined with an organic solvent), smoking the alkaloid itself as "crack," and less commonly by injection. Cocaine's major site of action is at the nerve terminal, where it inhibits dopamine, norepinephrine, and serotonin uptake. This results in intense vasoconstriction, arrhythmia, and a concomitant increase in blood pressure levels (93). Associated adverse consequences are seizures, cerebrovascular accidents, psychosis, nasal septal perforation, malnutrition, and hyperthermia.

Cocaine appears to be metabolized through a number of different pathways in humans. Plasma and liver esterases act on cocaine to form ecgonine methyl ester, a water-soluble compound that accounts for 30–50% of the cocaine metabolites found in urine. In addition, there appears to be spontaneous nonenzymatic hydrolysis of cocaine to benzoyl ecgonine, which also is excreted primarily in the urine. This compound also accounts for 30–50% of the cocaine metabolites found in urine and is the compound that most commercially available enzyme assays are designed to detect in urine tested for evidence of recent cocaine use (94). Meconium analysis has been reported to have a high sensitivity in detecting prenatal exposure to cocaine, especially when coupled with maternal interview (55, 95).

Crack is a crystalline purified compound that is extracted from the powered form of cocaine by a solvent and crystallized with an inorganic base. Crack is water-soluble and heat labile, whereas cocaine is not. It can, therefore, be vaporized by heat and then inhaled or dissolved in water and injected intravenously, thus reaching peak serum concentration more rapidly than inhaled cocaine. Crack also is cheaper than cocaine. The cost of cocaine powder limits the number of doses an addict takes, while crack can be repeated far more often; another dose often is used to relieve the "let-down" after the first dose.

Cocaine use during pregnancy is linked with placental abruption, preterm birth, and low birth weight. This may be a primary effect of vasoconstriction and an increase in uterine contractions or may be associated with concomitant maternal cigarette smoking (96, 97). The initial reports of myriad pregnancy complications caused by cocaine and crack use have not been validated (96); however, cocaine use during pregnancy has been linked to microcephaly in the infant as well as subtle cognitive and motor development abnormalities in the child (97).

It is difficult to separate the role played by cocaine in adverse pregnancy outcomes from other factors associated with cocaine use, such as smoking, malnutrition, lack of prenatal care, older maternal age, and

presence of infectious disease in the woman (96). Cocaine does cross the placenta (96) and also passes into breast milk, but the effects on breastfeeding require further study (96, 98). Recent and well-controlled data suggest that prenatal cocaine exposure does not lead to either acute neonatal toxicity or a withdrawal syndrome (99).

During labor and delivery, it is important to consider the following for a woman who uses cocaine: cocaine-induced thrombocytopenia, ephedrine-resistant hypotension and hypertension, arrhythmias, and myocardial ischemia. The patient may have altered pain perception, experiencing pain despite adequate anesthesia levels (60).

Opioids

Opioids are a class of drugs derived from opium and synthetic compounds with similar actions. The prototypical opioid is morphine. Heroin (diacetylmorphine) is more potent on a gram-for-gram basis but is believed to exert its effects chiefly by being metabolized to morphine. Codeine is methylated morphine and also is metabolized to the parent compound. Other opioids, such as meperidine, methadone, and oxycodone, are structurally dissimilar to morphine but share its pharmacologic properties, probably because they all stimulate mu-opioid receptors. These agents produce euphoria, somnolence, and decreased sensitivity to pain. Adverse effects of opioid use include constipation, nephrotic syndrome, and overdose. Opioid use can lead to tolerance, in which an increased dose is needed to have the same effect.

Heroin

Heroin is the most widely abused opioid drug and can be injected, smoked, or snorted. Heroin often is sold combined ("cut") with other white powdery substances, some of which may be toxic. Additionally, this adulteration makes it difficult for users to accurately calculate how much of the active drug they are taking, thus running the risk of unintentional overdose.

Acutely, heroin use produces drowsiness, dry mouth, constipation, skin flushing, and respiratory depression. Chronic use can lead to liver disease and respiratory complications such as pneumonia; in addition, if the drug is injected, it can lead to increased risk of HIV, hepatitis infection, endocarditis, and abscesses.

The chief risk in heroin overdose is respiratory depression, which can be fatal; however, the effects of overdose can be rapidly reversed. Most heroin overdoses involve the concomitant use of heroin and other drugs, in particular alcohol and benzodiazepines (100).

Discontinuation of heroin use can lead to withdrawal, with symptoms including restlessness, muscle aches, nausea, vomiting, and craving for the drug. Withdrawal symptoms peak 2–3 days after cessation of use and markedly diminish after 1 week. Contrary to popular belief and numerous portrayals in television and film, heroin withdrawal is less severe than that associated with many other drugs and is almost never fatal.

Heroin use poses a significant dependence liability. However, it is certainly possible to terminate use, especially with access to proper treatment. Many heroin users "mature out" and spontaneously stop using it in their 30s and 40s. Young heroin users face greater obstacles to entering detoxification and rehabilitation programs because they often lack access to health care and a supportive social structure (101). Heroin users can be treated with maintenance doses of methadone, another opioid that does not produce the intense high of heroin.

Buprenorphine, a nonopioid, has recently been approved for the treatment of heroin dependence within an outpatient setting. Several thousand qualified U.S. physicians are currently dispensing buprenorphine and buprenorphine with nalorxone. (see "Resources" for online directory access). These medications, administered by the sublingual route, have been identified as a safe treatment to reduce the use of and craving for opiates (102); however, reimbursement for this treatment by Medicaid or Medicare currently is not available.

The use, misuse, and diversion of methadone and other opioid medications are increasing (22). According to recent Florida autopsy data, prescription drugs (particularly methadone and oxycodone) are more likely to be found in lethal levels than illegal drugs, 60% versus 40%, respectively (103).

Oxycodone

Oxycodone (oxycontin) is a synthetic opioid legitimately used to treat chronic pain. It has become popular as a recreational drug, particularly in rural areas. Oxycodone for nonmedical purposes is obtained

from diversion from legitimate sources. Oxycodone use can produce dependence, and as with other opioids, overdose can be fatal.

Fentanyl

Fentanyl, a synthetic opioid, is medically used in anesthesia and for treating pain but also is occasionally abused. Transdermal fentanyl patches, used to treat pain, are sometimes diverted for illicit use. Some medical personnel with access to anesthetic drugs have developed dependence on fentanyl, which they generally administer intravenously. Fentanyl users run a high risk of fatal overdose because the drug is 50–100 times more potent than morphine (96). Synthetic opioids are not detected on standard urine drug screens.

Opioid addiction during pregnancy poses serious health threats to both the woman and the fetus. Studies analyzing the pregnancy outcomes of heroin addicts have demonstrated rates of stillbirth, fetal growth restriction, preterm birth, and neonatal mortality three to seven times higher than those of the general population (104). Whether these problems are a direct effect of the narcotics and intermittent withdrawal or a result of the myriad health and social problems typical of narcotic addicts is difficult to establish. A recent study has begun to delineate environmental versus potential toxicological effects in children exposed prenatally to heroin. Children born to heroin-dependent women who were adopted soon after birth and raised in a positive environment had normal intellectual function, unlike those who remained with biological parents, but higher rates of inattention, behavioral problems, and attention deficit/hyperactivity disorder (ADHD) persisted (104).

Abrupt withdrawal from opiates during pregnancy is not recommended because maternal withdrawal symptoms threaten the fetus, and abrupt withdrawal may precipitate use of other street drugs, with even more problematic effect (105). For pregnant opioid-dependent women, addiction medicine specialists usually advocate methadone maintenance therapy at a dose that will prevent craving and eliminate withdrawal symptoms, generally 50–150 mg per day (36). Studies have indicated that neonatal withdrawal among infants of women who were on low-dose methadone while pregnant is similar to those of women who were on high-dose methadone (59). Methadone withdrawal during pregnancy is not recommended because of the increased risk of spontaneous abortion and premature labor (36). Buprenorphine appears to be safe and effective during pregnancy (pregnancy category C) according to a recent review (106).

Discussion of a labor and delivery plan with the opioid user may decrease intrapartum complications. Women with an opioid addiction, fearing withdrawal during labor, may overdose before hospital admission. To prevent acute opioid withdrawal syndrome, opioid replacement therapy should be continued throughout labor. Thrombosed peripheral veins may require the use of a central venous access (60).

The newborn infant of a narcotic addict is at risk for neonatal abstinence syndrome, a severe, potentially fatal, narcotic withdrawal syndrome. As many as two thirds of infants born to heroin addicts will develop signs and symptoms of neonatal abstinence syndrome. Approximately 60% of infants born to women on methadone maintenance exhibit neonatal abstinence syndrome; however, withdrawal symptoms for these infants are less severe than for infants of women who use street heroin (105). Narcotic abstinence syndrome is characterized by a high-pitched cry, poor feeding, hypertonicity, tremors, irritability, sneezing, sweating, vomiting, diarrhea, and, occasionally, seizures. In cases of maternal heroin use, the signs of neonatal abstinence syndrome usually appear 24–72 hours after birth. Signs of neonatal abstinence syndrome occur 1–2 days later in infants born to women taking methadone because it has a longer half-life. Occasionally, neonatal abstinence syndrome symptoms do not appear until 10 days of life—after the infant has been discharged.

Inhalants

Use of inhalants ("glue sniffing," solvent abuse) tends to be found primarily among adolescents. These substances are lipophilic and readily pass through the respiratory tract. Acutely, inhalant use may be accompanied by arrhythmias leading to sudden death; suffocation also poses a serious risk of fatality. Chronic use may cause bone marrow toxicity, liver damage, renal failure, peripheral neuropathy, atrophy, parethesias, cerebellar signs, and organic brain syndrome.

The possibility exists for adverse effects of inhalant use in pregnancy. Data from occupational exposure to some of the abused solvents have suggested an increased risk of spontaneous abortion and fetal malfor-

mations. There are no well-controlled studies in this area. Published case reports suggest an association with fetal growth restriction and craniofacial and neurobehavioral abnormalities (107). Among children exposed to inhalants prenatally, there also is some evidence of cognitive, speech, and motor deficits (107). When maternal inhalant use is suspected, it may be beneficial for the clinician to perform a neurologic examination before intrapartum anesthesia administration to detect any sensory or motor deficits (60).

Stimulants

Stimulant drugs include methamphetamine, methylphenidate, ephedra, and khat. Stimulants are sympathomimetics that act on the noradrenergic and dopaminergic neurons of the central and peripheral nervous system, increasing neurotransmitter release and blocking reuptake. They produce feelings of euphoria and energy that users experience as pleasurable.

The central nervous system effects of stimulants may have significant implications regarding the choice of anesthesia for labor and delivery. Fetal distress, placental abruption, and other obstetric emergencies secondary to stimulant abuse may necessitate an emergency cesarean delivery. Physiologic interactions should be considered on a case-by-case basis (60).

Methamphetamine

Methamphetamine (also known as meth, ice, and crystal meth) use is most prevalent in the western United States, Midwest, and rural areas, and is increasing elsewhere. Methamphetamine is inexpensive and readily available because clandestine laboratories can be set up almost anywhere. Methamphetamine can be smoked, sniffed, administered orally, or injected; preference varies by region. Many methamphetamine users alternate between brief, intense periods of frequent drug administration, a "binge," and abstinence at other times. During periods of repeated use, tolerance to the drug develops, enabling users to administer amounts that would be fatal under other circumstances.

Acutely, methamphetamine use can result in blood pressure changes, tachycardia, arrhythmias, insomnia, irritability, nausea, vomiting, anorexia (93), and, rarely, stroke (108). Methamphetamine may exacerbate tics, such as those associated with Tourette's syndrome (93). Chronic use can be detected by hair analysis (109). Ephedrine and certain monoamine oxidase inhibitors can result in false-positive findings for methamphetamine on drug screens (96).

Methamphetamine can produce psychiatric symptoms, such as psychosis, hallucinations, anxiety, panic, depression, self-mutilation (110), and skin picking (111). There have been occasional reports of recurrences of methamphetamine-induced psychosis or flashbacks, even after discontinuation of the drug (112). Methamphetamine use may be linked to abnormal brain chemistry, neuronal damage, and psychotic symptoms that persist even after periods of abstinence (113).

Discontinuation of methamphetamine use can produce withdrawal, with symptoms such as depression anxiety, fatigue, paranoia, and aggression (111). In treatment, relapse of former users is common, given the dysphoria and craving they experience, and the widespread availability of the drug (114). Studies on d-amphetamine indicate that women experience more subjective stimulation from the drug during the follicular phase of the menstrual cycle; thus, women who are trying to discontinue use may be more successful if they stop during the luteal phase, when the drug effects are less potent (115).

Methamphetamine use in pregnancy is associated with an increase in growth restriction; this effect may be dose-related and is exacerbated if the woman also smokes cigarettes (116). There are occasional reports of withdrawal symptoms in the neonate (116). Methamphetamine crosses into breast milk, but the effects of this on the infant require further study (96, 98).

Amphetamines

Amphetamines may appeal to women for a variety of reasons. Unlike most other drugs, many women report that the use of amphetamines increases their enjoyment of sex and their likelihood of having sex. Some women may be more likely to have unsafe sex while under the influence of this drug (117). Amphetamines may be medically used to suppress appetite; some women may view the weight loss resulting from illicit use as desirable. D-amphetamine improves concentration and performance on repetitive tasks (96); this effect, combined with the decreased need for sleep produced by the drug, has been posited as a reason why the drug may be seen by some women as a way to help cope with a busy and stressful life.

Methylphenidate

Methylphenidate is a phenylethylamine structurally and pharmacologically similar to amphetamines. It is the most commonly used drug in the treatment of ADHD. Methylphenidate is classified as a Schedule II drug, indicating a high potential for abuse. Methylphenidate is used recreationally to produce an amphetaminelike high; it can be taken orally, snorted, or dissolved and injected (96). Illicitly available methylphenidate has been diverted from legitimate supplies, such as in the case of children selling their medication to their classmates. The nonmedical use of methylphenidate is most prevalent among young individuals. The acute effects of methylphenidate include tachycardia, agitation, irritability, and hypertension (118). At least one case of death linked to overdose from nasal administration has been reported (119). Concerta, the extended-release form of methylphenidate, may have less abuse potential (120).

Ephedra

Ephedra, also sold under the names ma huang and herbal ecstasy, is a naturally occurring stimulant used as a dietary supplement, weight loss aid, a substitute for illegal stimulants, and in traditional Chinese medicine. The active components of ephedra are ephedrine and related alkaloids (96). Commercial preparations often combine ephedra with other substances, such as caffeine, which increase its stimulant effects. In December 2003, the FDA issued a consumer alert on the safety of dietary supplements containing ephedra that calls for consumers to immediately stop buying and using ephedra products. The FDA also has banned the sale of dietary supplements containing ephedrine alkaloids because they present an "unreasonable risk of illness or injury" (121).

The health risks of ephedra include cardiovascular complications, stroke, myocardial infarction, and sudden death (122). These risks are not limited to individuals with a history of cardiovascular problems or to those who have taken large doses of ephedra-containing products (122). Combined ephedra-caffeine preparations have cardiovascular effects similar to synthetic amphetamines; these effects can be seen after a single dose (123). It is important to note that a reputable laboratory produced the preparation used in the cited trial specifically for this purpose and the concentration of active ingredients was known and standardized. This had not been the case in commercially available ephedra products, where the amount of ephedrine varied greatly from brand to brand and even from lot to lot, which increased the likelihood of accidental overdose and concomitant adverse effects (124). There currently are no available data on the use of ephedra during pregnancy.

Khat

Khat (also spelled "qat") is a natural stimulant related to ephedrine and amphetamine. Khat is widely used in East Africa and on the Arabian peninsula, where khat leaves are chewed over a period of several hours to slowly release the drug cathionine (96). Because of its anorexic effects, Muslims may use khat during Ramadan fasting to ward off hunger. Currently, there are little data on the safety of khat use in humans, although anecdotal evidence suggests an association with increased susceptibility to myocardial infarction (125). Khat is illegal and not commonly used in the United States, but knowledge of this drug may be useful for health care providers who work with immigrant populations native to regions where khat use is popular. Khat chewing during pregnancy may be linked to low-birth-weight neonates (126).

Hallucinogens

Lysergic Acid Diethylamide

Lysergic acid diethylamide (also known as acid and LSD) induces perceptual changes by binding to 5-hydroxytryptamine receptors (96). Lysergic acid diethylamide is produced in underground laboratories and generally sold soaked on squares of blotter paper and taken orally (96). Risk factors for LSD use in sexually active young women include white ethnicity, being younger than 18 years, a history of physical abuse, and severe symptoms of depression (127). It is estimated that approximately one half of all young women who report trying lysergic acid diethylamide do not continue using it (127).

Lysergic acid diethylamide is not associated with the development of dependence, perhaps because frequent LSD administration markedly decreases the drug's effects. The available evidence does not suggest that LSD use results in long-term neurotoxicity, but more study is needed to definitively answer this question (128). Lysergic acid diethylamide overdose is unlikely (96). Hallucinogen-induced persistent perceptual disorder, popularly known as "flashbacks," has been reported as a consequence of LSD use; however,

neither the etiology of this phenomenon nor the percentage of affected users is currently known (129). There is no evidence that LSD or other hallucinogens cause chromosomal damage, as was once reported (130).

Lysergic acid diethylamide is not detected on standard drug screens (96). Additionally, other substances, such as fentanyl and mucolytics, may result in false-positive results on urine screens for LSD (131).

Although there are no known deleterious effects of this group of drugs on human pregnancy, there have been few controlled studies, and the drug should be considered dangerous until proved otherwise. There have been no studies on the potential long-term effects on neurodevelopment in the neonate. The psychotomimetic effects of LSD are produced at extremely low concentrations. It is believed that LSD passes into breast milk; therefore, LSD is contraindicated during lactation (132).

Phencyclidine

Phencyclidine (PCP), often classified as a hallucinogen, is in fact a dissociative anesthetic that acts as an N-methyl-D-aspartate antagonist at low doses and an indirect agonist at sigma receptors at high does. Synthesized illicitly, PCP is most often smoked but also can be snorted, injected, or swallowed. Occasionally, leaves soaked in PCP are sold as marijuana. Acutely, PCP causes hallucinations and methamphetaminelike effects (96). Phencyclidine intoxication is associated with violent acts, but this effect is more common in individuals who have a history of violent behavior (133). Other side effects may include paranoia, delusions, and suicidal thoughts. Most PCP-related deaths also involve accidents or trauma; there are few overdose fatalities caused by PCP alone (96).

Phencyclidine use during pregnancy has been associated with irritability, jitteriness, hypertonicity, poor feeding, and abnormal neurobehavior in the offspring resolving by age 2 years (132). Women consuming PCP should not breastfeed because the drug is passed into the breast milk (132).

Sedatives and Hypnotics

Most sedative and hypnotic drugs of abuse, such as benzodiazepines and barbiturates, are legal prescription drugs that may be misused for their psychoactive effects. Benzodiazepines are gamma-aminobutyrate-agonists widely used as anxiolytics, sedatives or hypnotics, muscle relaxants, and anticonvulsants. They also are used in alcohol detoxification. Commonly prescribed benzodiazepines include alprazolam, diazepam, lorazepam, clonazepam, and chlordiazepoxide.

Although benzodiazepines have a legitimate role in medical treatment, they also have considerable dependence liability. Benzodiazepines should not be used as a long-term treatment, especially when other less addictive drugs are available. For example, selective serotonin reuptake inhibitors also are effective against anxiety, without the risk of abuse and dependence. The attitude of the physician, as perceived by the patient, influences the frequency and duration of use of benzodiazepines (134); thus, good communication about the proper use of these drugs is essential. There is considerable use of benzodiazepines by individuals for whom the drug was not prescribed; in these cases, benzodiazepines are obtained by diversion from medical use.

Benzodiazepines are prescribed more often to women than to men; unlike most other drugs, benzodiazepine dependence is more common in women than men (135). Benzodiazepine dependence is more likely to develop when the drugs are used for long periods or at high doses (135), an important consideration to keep in mind when prescribing. There is an increased risk of dependence in individuals who abuse alcohol and other drugs or who also take antidepressants (135). The role of benzodiazepine half-life in the dependence liability of a particular drug is a subject of debate (135). Patients who use benzodiazepines daily or almost daily, such as patients with chronic illnesses, have higher rates of prolonged use (136).

Benzodiazepines produce subjective effects similar to those of alcohol and cause dose-dependent performance impairment (137). When used alone, benzodiazepines are relatively safe against overdose but can be fatal when combined with alcohol (138).

The abrupt cessation of benzodiazepine use can result in potentially fatal withdrawal symptoms, in particular seizures. Benzodiazepine doses should be tapered off gradually to avoid these complications. Side effects seen during even tapered withdrawal may include insomnia, anxiety, headache, and agitation, but it is unclear whether these are caused by the withdrawal itself or the underlying condition for which the

drug was used (24, 135). Although older women do not fit the stereotype of a population likely to abuse drugs, they are at risk for prescription drug abuse, in particular benzodiazepines.

Benzodiazepines often are prescribed inappropriately to older patients, who are at risk for prolonged use of the drug (136). Older individuals who use benzodiazepines show an increased risk of functional decline, but this may be caused by the underlying condition for which the benzodiazepine was prescribed, and not to the drug itself (139). Increased rates of urinary incontinence are associated with benzodiazepine use in the elderly (140).

In pregnancy, as at other times, benzodiazepines should be used at the lowest dose necessary and for the shortest amount of time possible. Prescribing a smaller dose to be taken two or three times per day, rather than one larger dose once per day, may reduce the incidence of problems relating to high peak concentrations of benzodiazepine. It is preferable to use drugs with known histories and safety records (141).

Most of the data on benzodiazepines in pregnancy come from studies of diazepam (pregnancy category D). The available data indicate that diazepam probably is not teratogenic. Some older studies suggested that diazepam might increase the risk of cleft lip or palate and inguinal hernia, but this has not been confirmed (132). Diazepam should be avoided or tapered in the weeks before delivery to minimize the risk of withdrawal or floppy infant syndrome. Diazepam is not recommended during breastfeeding because it is passed into breast milk and may cause lethargy in the infant (141).

Club Drugs

There are numerous club drugs, including MDMA (ecstasy), flunitrazepam (Rohypnol), gamma-hydroxybutyrate (GHB), and ketamine. In addition to the recreational use associated with dance parties and raves (underground dance and drug events), many club drugs reportedly have been used to facilitate acquaintance rape (see "Sexual Assault" chapter). However, whereas media attention focuses heavily on "date rape drugs" such as GHB, flunitrazepam, and ketamine, clinicians need to be aware—and educate their patients—that the number one date rape drug by far is alcohol (142).

Ecstasy

Ecstasy, also known as X or E, is perhaps the best-known club drug and often is used at raves, either alone or in combination with other drugs. It is taken orally in pill form (96). It is important to note that although ecstasy is supposed to consist of MDMA only, products sold as ecstasy often contain a variety of other substances instead of or in addition to MDMA. Commonly substituted compounds include 3,4-methylenedioxyamphetamine, 3,4-methylenedioxyethamphetamine (known as Eve), and paramethoxyamphetamine. Some of these alternate drugs, especially paramethoxyamphetamine, are significantly more toxic than MDMA, and their use has resulted in fatalities (143). Even with the use of testing kits, it is difficult for consumers to know if the ecstasy they ingest is in fact MDMA (144), which itself has an undeserved reputation of safety among users. Although most ecstasy users use multiple substances at the same time, there have been MDMA-related deaths in which MDMA is the only drug detected.

Subjective effects often reported by MDMA users include feelings of stimulation, hallucinations, a sense of well-being, feelings of empathy and closeness to others (145), as well as the stimulatory properties common to amphetamines. Because of this pattern of subjective experience, MDMA and similar drugs often are classified as enactogens. There are isolated reports of MDMA dependence; however, many individuals who start using MDMA as adolescents or young adults spontaneously stop in their 20s (146).

Use of MDMA can lead to lethally high body temperatures, especially when taken during strenuous physical activity like dancing or in a warm environment, such as a crowded nightclub (147). The risks of MDMA-associated hyperthermia are widely known among consumers of this drug and drinking large doses of water often is suggested as a remedy. However, when combined with excessive fluid consumption, MDMA use can bring about life-threatening hyponatremia, possibly by causing inappropriate secretion of antidiuretic hormone (148). Use of MDMA also produces acute cardiovascular and hormonal effects, increasing blood pressure level; heart rate; and levels of prolactin, cortisol, and dehydroepiandrosterone (145). Other side effects of MDMA include bruxism, anorexia, and ataxia (143). It has been suggested that MDMA may suppress the immune system (149). Rarely, liver damage has been reported,

although the role of MDMA itself, as opposed to contaminants or other co-administered drugs, is unclear (96).

The most worrisome side effect of MDMA is its potential for neurotoxicity. It appears to cause persistent impairment of the brain's serotonergic system (150). It is possible, but not certain, that the brain may recover eventually from these changes if MDMA use is discontinued (150). Users of MDMA perform more poorly on tests of cognitive function than do users of other drugs (151). Users of MDMA also have higher rates of anxiety disorders, eating disorders, and major depression than the general population, but it is not known whether the increased incidence of these disorders is causally associated with their drug use (152).

Because MDMA, like other club drugs, is used recreationally by young individuals, it is ingested by many women of childbearing age. A prospective follow-up of 136 infants exposed to MDMA in utero suggests it increases the risk of congenital abnormalities, particularly cardiovascular and musculoskeletal (153). However, women who use MDMA during pregnancy seem to have higher rates of other risk factors for complications, such as smoking, heavy drinking, and exposure to other drugs, making determination of the causal role of MDMA difficult (154).

Flunitrazepam

Flunitrazepam, a benzodiazepine, is used recreationally to produce pleasurable subjective effects similar to those of alcohol (155). Sometimes referred to by the street names "roofies" or "rophies," this drug is taken orally in pill form or dissolved into a drink. Flunitrazepam is not legally available in the United States; its use appears more prevalent in regions near the Mexican border or in areas with high rates of travel to Mexico or other countries where the drug is sold legally (156). Flunitrazepam is widely available in Europe, Mexico, and Columbia for the treatment of severe sleep disorders.

Flunitrazepam acts rapidly and produces visual and gastrointestinal disturbances, urinary retention, disinhibition, relaxation of voluntary muscles, hypotension, and psychomotor impairment, the actual degree of which often is underestimated by users (157). Flunitrazepam generally is taken with alcohol or other drugs (155), a finding of concern given that benzodiazepines potentiate the effects of alcohol, and, thus, increases the risk of overdose. Like other benzodiazepines, flunitrazepam can cause dependence (158) and produce withdrawal symptoms when discontinued (159). Many recreational flunitrazepam users are unaware of the health risks associated with this drug (155). The effects of flunitrazepam in pregnancy are unknown and the drug clearly is passed into breast milk (93).

Gamma-hydroxybutyrate

Gamma-hydroxybutyrate (GHB) occurs naturally within the body as a by-product of gama-aminobutyric acid (GABA) metabolism. Exogenous GHB, classified as a dissociative anesthetic (96), was recently approved by the FDA as a treatment for narcolepsy (160). The nonmedical use of GHB originally became popular among bodybuilders because of its strength-enhancing properties, and then crossed over to the dance club and rave scene when its intoxicating effects became known (96).

Gamma-hydroxybutyrate produces effects similar to those of alcohol (161); users report feelings of euphoria (162). Exogenous GABA binds to GHB and GABA receptors and may act by increasing the GABA pool in the central nervous system (163). Although many individuals use GHB only occasionally (162), some users report taking the drug every few hours around the clock because of its short half-life (161).

Most GHB intended for recreational purposes is synthesized in clandestine laboratories; it often is sold under the names "liquid ecstasy," "grievous bodily harm," and "Georgia home boy." Gamma-hydroxybutyrate is taken orally (96), most commonly in liquid form; some users report a salty or soapy taste (96). Because of its illicit manufacture, the actual concentration of the drug can vary widely (162).

Many case reports indicate that GHB use can lead to dependence on the drug (164). Acute GHB intoxication can produce vomiting, bradycardia, and respiratory depression. Gamma-hydroxybutyrate acts synergistically with alcohol and other central nervous system depressants, thus increasing the risk of respiratory depression (163), a serious concern given that GHB often is used in combination with other drugs (162). Many users report experiencing an overdose on at least one occasion (162). The main risk in overdose is respiratory depression, sometimes to the point of coma (163). Most users who come to medical attention recover without lasting ill effects.

Table 12. Effects of Commonly Abused Substances

	Nervous System	Cardiovascular System	Gastrointestinal/ Renal System	Musculoskeletal System	Behavior
Depressants					
Alcohol	Impaired psychologic and cognitive functioning (1)	Women achieve higher blood alcohol concentration levels more quickly when consuming the same amount as men (2).	Women have more periods of alcohol hepatitis leading to cirrhosis or cancer, and are at greater risk of liver disease by drinking less and over a shorter time (3).	Decreases bone formation ***Moderate*** Increases parathyroid hormone, calcitonin, and estrogen (4) Decreases bone loss in post-menopausal women (5) ***Chronic*** Decreases vitamin D formation (4)	Psychologic and social effects are more severe for women. Increased psychosexual dysfunction, anxiety, low self-esteem and bulimia, suicidal ideation, and self-harm (6)
Barbiturates	***Short-term*** Central nervous system depression, death, shock syndrome, apnea ***Chronic*** Insomnia, weight loss, and seizures	***Short-term*** Tachycardia, hypotension, circulatory collapse, vasodilator ***Chronic*** Postural hypotension ***Delivery*** Postpartum hemorrhage	***Short-term*** Anuria ***Chronic*** Nausea and vomiting	***Short-term*** Areflexia ***Withdrawal*** Weakness ***Chronic*** Muscle twitches	***Short-term*** Paradoxical excitement, euphoria in those with severe pain, excitement or hyperactivity in children ***Chronic*** Anxiety, severe hallucinations, and delirium
Benzodiazepines	Psychosis, delirium, depersonalization ***Short-term*** Slurred speech, confusion, coma, seizures (1) ***Withdrawal*** Dysphoria, anorexia, insomnia, blurred vision, memory and concentration impairment, paresthesia, hallucinations (1)	***Short-term*** Hypotension (1)	***Withdrawal*** Vomiting, diarrhea, and abdominal cramps	***Short-term*** Impaired coordination, diminished reflexes (1) ***Dependence*** Ataxia ***Withdrawal*** Tremors, muscle cramps (1)	Anxiety, agitation, irritability, confusion, abnormal behavior, hyperexcitability, excessive extroversion, and worsening depression or suicidal ideation (1)
Flunitrazepam	***Short-term*** Visual disturbances and anterograde amnesia	Hypotension	***Short-term*** Gastrointestinal disturbances and urinary retention	***Short-term*** Disinhibition and relaxation of voluntary muscles	—
Stimulants					
Cocaine	***Short-term*** Unconsciousness, convulsions, and death	***Short-term*** Increased heart rate	***Short-term*** Nausea and vomiting	***Short-term*** Tremors and increased reflexes	***Short-term*** Nervousness, restlessness, excitement, euphoria, dysphoria, hallucinations, and anxiousness

Reproductive System	Skin	Respiratory System	Passed Into Breast Milk?	Interactions/Immune Response	Effects on Pregnancy and Neonate
Short-term Impairs libido and sexual gratification (7) Unintended pregnancy (8) ***Chronic*** Inadequate functioning of ovaries, hormonal deficiencies, sexual dysfunction, and infertility (9, 10, 11) Increased risk of breast cancer.	Acceleration of the aging process (12)	Strongly increases the risk of cancers of the oral cavity, pharynx, and larynx (13)	Yes	Depresses immune response (14)	Smaller weight, height, head circumference, palpebral fissure width (15) Increased risk for attention deficit hyperactivity disorder (16) Decreased learning and memory skills (15) Risk of stillbirth and infant mortality (17)
Impairs libido and sexual gratification (18)	***Short-term*** Cold, clammy, bulbous, cutaneous lesions, sweat gland necrosis	***Short-term*** Respiratory depression, respiratory arrest, central hypoventilation, laryngospasm, bronchospasm, and coughing	Yes	Decreased effectiveness of oral contraceptives Interacts with other central nervous system depressants, corticosteroids, tricyclic antidepressants, disulfiram, oral anticoagulants, and codeine (18) Contraindicated with griseofulvin and doxycycline (18)	Increased fetal abnormalities, hemorrhagic disease of the newborn, withdrawal symptoms, and respiratory distress (19)
Changes in libido, menstrual irregularities, failure to ovulate, gynecomastia, and galactorrhea (1)	***Withdrawal*** Sweating	***Short-term*** Respiratory depression, apnea	Yes	Interactions with alcohol, disulfiram, azole antifungal, macrolide antibiotics, human immunodeficiency virus protease inhibitors, calcium channel blocking agents, fluvoxamine, nefazodone, and sympathomimetic drugs (1) ***Chlordiazepoxide*** May cause a false-positive result in the Granindex pregnancy test (19)	***Chronic use*** Increased risk of congenital malformations, withdrawal symptoms in the newborn (19) ***Use before delivery*** Increased fetal heart rate, hypoactivity, hypotonicity, hypothermia, apnea, feeding problems, and hyperbilirubinemia (19)
—	—	—	Yes	Side effects increased with alcohol	—
Data not adequate to prove reproductive damage in humans	***Chronic*** Ischemic mucosal damage and perforation of septum	***Short-term*** Irregular Cheyne-Stokes respiration	Yes	Contraindicated with epinephrine or vasopressors	Placental abruption, maternal death (20) Subtle cognitive and motor changes (21)

(continued)

Table 12. Effects of Commonly Abused Substances *(continued)*

Stimulants *(continued)*

	Nervous System	Cardiovascular System	Gastrointestinal/ Renal System	Musculoskeletal System	Behavior
Methamphetamine	***Short-term*** Insomnia, dizziness, headache, blurred vision, and anorexia (1) ***Long-term*** Neurotoxic symptoms similar to Parkinson's (22) Dependence and addiction, psychosis (23, 24)	***Short-term*** Hypertension, hypotension, tachycardia, palpitations, arrhythmia, and stroke (21) ***Injection users*** Pericarditis (23)	***Short-term*** Nausea, vomiting, abdominal cramps, diarrhea, constipation, dry mouth, and unpleasant taste (1)	***Short-term*** Tremor, exacerbation of motor tics, vocal tics, and Tourette's disorder	***Short-term*** Nervousness, irritability, talkativeness, hyperexcitability May have violent behavior and paranoia (23)
Methylphenidate	***Short-term*** Headache, seizures, and coma (1) ***Long-term*** Insomnia	***Short-term*** Angina, tachycardia, cardiac arrhythmia, and palpitation (1) ***Long-term*** Anemia	***Short-term*** Vomiting and nausea (1) ***Long-term*** Hepatic coma and abnormal liver function	***Short-term*** Hypereflexia and twitching (1) ***Long-term*** Tics in children with attention deficit hyperactivity disorder (1)	***Short-term*** Confusion, delirium, euphoria, hallucinations, toxic psychosis, and agitation (1) ***Long-term*** Nervousness, jitteriness, and social withdrawal (1)
Nicotine	***Toxicity*** Dizziness (1) ***Withdrawal*** Difficulty concentrating, depression, headache, drowsiness, and electroencephalogram changes (1)	Increased cardiovascular disease (1) ***Withdrawal*** Bradycardia, hypotension	***Toxicity*** Abdominal pain (1) ***Withdrawal*** Gastrointestinal disturbances (1)	***Toxicity*** Tremor and weakness (18)	***Toxicity*** Insomnia (1) ***Withdrawal*** Irritability, anxiety, restlessness, impatience, hostility, and frustration (1)
Amphetamine	***Acute*** Psychosis, disorientation, delusions, and hallucinations (1) ***Chronic*** Dependence, can look like schizophrenia (1)	***Acute*** Palpitations, tachypnea, hypertension or hypotension, heart block, extra systoles, and chest pain (1)	***Acute*** Nausea, vomiting, diarrhea, and abdominal cramps (1)	Tremor, exacerbation of motor and phonic tics of Tourette's disorder	***Acute*** Confusion, delirium, belligerence, restlessness, panic, suicidal or homicidal tendencies ***Chronic*** Continuous chewing or teeth grinding movements (1)
MDMA	Confusion, insomnia, drug craving, and blurred vision (25) ***Long-term*** Brain cell damage and paranoia	Tachycardia, hypertension, and heart failure (25)	Hepatic failure, nausea and vomiting, electrolyte disturbances, and kidney failure (26)	Muscle tension and involuntary teeth clenching (25)	Confusion, amnesia, impaired cognition, impulsiveness, aggression, depression, and anxiety

Reproductive System	Skin	Respiratory System	Passed Into Breast Milk?	Interactions	Effects on Pregnancy and Neonate
Changes in libido	***Injection users*** Skin abscesses (23)	Rapid respiration (22)	Yes (18)	Contraindicated with monoamine oxidase inhibitors and history of drug abuse (18)	Teratogenic and embryocidal in animals. Preterm delivery, low birth weight, agitation with neonatal withdrawal (10) Neurotoxic response in male offspring (23)
Adequate data not available to prove in humans	***Street use*** Superficial abscesses (1) **Long-term** Rash, exfoliate dermatitis, and easy bruising (1)	***Street use*** Pulmonary talc granulomata (1) ***Long-term*** Upper respiratory tract infection (1)	Most likely yes	Contraindicated with monoamine oxidase inhibitors (1) Inhibits metabolism of tricyclic antidepressants, selective serotonin reuptake inhibitors, coumarin, anti-coagulants, anti-convulsants ***Other interactions*** Pressor agents	Adequate studies not available to prove teratogenic in humans (18).
Earlier menopause Decreases fertility in women and men	***Toxicity*** Rash and sweating (1)	Chronic obstructive pulmonary disease and lung cancer (1)	Yes	Amitriptyline, desipramine, aminophylline, clomipramine, doxepin, amoxapine, dyphylline, theophylline, riluzole, oxtriphylline, and imipramine Contraindicated with oral contraceptives in female smokers older than 35 years	Increased risk for stillbirth, low birth weight neonates, fetal growth restriction, spontaneous abortion, and perinatal mortality (1)
Adequate data not available to prove in humans	***Chronic*** Ulcers of lip and tongue (1)	Pulmonary hypertension, respiratory failure (1)	Yes	Contraindicated with monoamine oxidase inhibitors, general anesthesia (1), tricyclic antidepressants, and antihypertensives (18)	Intrauterine growth restriction, premature delivery, increased maternal and neonatal morbidity
Increased libido and decreased sexual performance	Hyper-thermia , sweating, and chills (25)	Tachypnea	Yes	Alcohol, cocaine, phencyclidine, and lysergic acid diethylamide	Possible increased risk of cardiovascular and musculoskeletal defects (27) Possible impaired memory and cognition (28)

(continued)

Table 12. Effects of Commonly Abused Substances *(continued)*

	Nervous System	Cardiovascular System	Gastrointestinal/ Renal System	Musculoskeletal System	Behavior
Stimulants *(continued)*					
Khat	Hyperactivity, psychosis, and mydriasis (29)	Risk of myocardial infarction, tachycardia, and hypertension (29, 30)	Anorexia and constipation (29)	Hyperactivity (29)	Loquacity, emotional instability, manic behavior (29)
Opiate Agonists					
Methadone	***Short-term*** Miosis ***Long-term*** Severe psychologic or physical dependence	Red eyes caused by vasodilatation Females have serum concentrations 25% higher than men	Decreased gastric motility, constipation, reduction in gastric, biliary, and pancreatic secretions	Twitching (18)	Nervousness and confusion (18)
Opiods					
Codeine, fentanyl, morphine, and oxycodone	Euphoria, sedation, and dysphoria (18)	Bradycardia and orthostatic hypotension (18)	Vomiting, nausea, constipation, abdominal pain, diarrhea, and difficulty urinating (18)	Smooth muscle hypotonicity; skeletal and thoracic muscle rigidity	Confusion, anxiety, and depression (18)
Heroin	Euphoria, drowsiness, and coma; highly addictive	Hypotension, bradycardia, venous sclerosis, and septicemia	Constipation and stomach cramps	Muscle cramps	Disorientation, delirium, and reduced anxiety ***Withdrawal*** Anxiety and irritability
Hallucinogens					
Lysergic acid diethylamide (LSD)	Heightened sensorium, synesthesia, hallucinations, sleeplessness, and dilated pupils (34)	Tachycardia and hypertension	Anorexia and dry mouth (34)	Tremors (34)	Paranoia, unpredictable, changing emotions, long lasting psychoses (34)
Phencyclidine (PCP)	***Short-term*** Delusions, suicidal thoughts, and hallucinations ***High dosage*** Seizures and coma	***Moderate dosage*** Hypertension and tachycardia ***High dosage*** Hypotension and bradycardia	Nausea and vomiting ***High dosages*** Acute renal failure	Muscle rigidity and loss of coordination (35) ***Adolescents*** Interference with growth and developmental hormones (35)	***Short-term*** Paranoia, violence, agitation, irritability, and feeling invulnerable Addictive craving and compulsion (35)

Reproductive System	Skin	Respiratory System	Passed Into Breast Milk?	Interactions	Effects on Pregnancy and Neonate
Adequate data not available to prove in humans.	Adequate data not available to prove in humans	Adequate data not available to prove in humans	Adequate data not available to prove in humans	Ampicillin, Amoxycillin (31)	Decreased maternal weight gain and risk of low birth weight (32)
Adequate data not available to prove in humans (18)	Puritis, flushing, and sweating (18)	Cough suppression, depressed respiration	Yes	Antianxiolytics, antipsychotics, barbiturates, monoamine oxidase inhibitors, central nervous system depressants, protease inhibitors, alcohol	Respiratory depression (18) Effective prenatal maintenance treatment decreases newborn complications (33)
Possible impaired fertility and reduced sex drive (18)	Uticaria (1)	Respiratory depression and hypoventilation (18)	Yes, may cause drowsiness and respiratory depression in infant (18).	Potentiate central nervous system depressants, phenothiazines, tricyclic antidepressants, monoamine oxidase inhibitors, and alcohol (18) ***Fentanyl*** Macrolide antibiotics, certain azole derivatives, antinfective agents, most human immunodeficiency virus protease inhibitors (18)	Respiratory depression, withdrawal, irritability, excessive crying, tremors, hyperreflexia, fever, vomiting, and diarrhea (18) Morphine shown to be teratogenic in rodents (19)
Adequate data not available to prove in humans	Cyanosis of nails and lips, flushing of skin, severe itching, and boils	Slow, shallow, labored breathing	Yes	Immune reactions with the substances added to heroin may contribute to arthritis	***Withdrawal*** Intrauterine death from meconium aspiration, low birth weight, increased perinatal mortality Impaired behavioral, perceptual, and organizational abilities
None documented	Hyperthermia and sweating (34)	Hyperventlation is common	Yes	—	—
Enhances sexual pleasure	Flushing and profuse sweating (35)	Rapid, shallow respirations (35)	Yes	Alcohol, crack cocaine, heroin, and MDMA	Irritability, jitteriness, hypertonicity, and poor feeding

(continued)

Table 12. Effects of Commonly Abused Substances *(continued)*

	Nervous System	Cardiovascular System	Gastrointestinal/ Renal System	Musculoskeletal System	Behavior
Hallucinogens *(continued)*					
Marijuana	Impaired memory and learning, tolerance Impaired balance, posture, psychosis, toxic psychosis (36)	Dilated blood vessels in eyes, hypertension, tachycardia, and increased risk of myocardial infarction (36)	Higher THC serum levels and increased central nervous system effects when digested	Impaired coordination (36)	Depression, anxiety, personality disturbances, and memory loss Long-term use can lead to addiction (36).
Dissociative Anesthetics					
Ketamine	Distorted perceptions of sight and sound, hallucinations, flashbacks, amnesia Cerebral anoxia with large doses (37, 38)	Hypertension and heart rate abnormalities (38)	***Large doses*** Vomiting (38)	Impaired coordination and muscle rigidity (38)	Impaired perception and paranoid ideation (37) Dependence and tolerance with frequent use (37, 38)
Inhalant					
Various substances	Damage to nerve sheath (toluene), cognition, vision, and hearing Dementia Lack of oxygen to brain (nitrous oxide) Glassy, glazed, or watery eyes and loss of appetite	Irregular and rapid heart rhythms, cardiac failure, Sudden Sniffing, Death (butane, propane, aerosols), red blood cell damage (amyl nitrite, butyl nitrate, benzene), increased risk of leukemia (benzene), reduced oxygen carrying capacity of blood (methylene chloride), blackouts, depression of heart muscle function (nitrous oxide, hexane)	Liver damage (freon, toluene), cirrhosis of the liver (trichloroethylene), and kidney damage (toluene)	Alterations in motor coordination and limb spasms (nitrous oxide, hexane)	Behavioral changes, slurred speech, problems in school, excitability, and irritability
Steroids					
Testosterone	Psychotic manifestations, affective disorders (1)	Cardiovascular disease (1)	Hepatotoxicity and fluid retention (1)	Tears of muscles and tendons Inhibition of bone growth in adolescents	Increased aggression and antisocial behavior (1)

Reproductive System	Skin	Respiratory System	Passed Into Breast Milk?	Interactions	Effects on Pregnancy and Neonate
Potentially affects reproductive hormones in females (36)	Associated with burning and stinging of the mouth and throat (36)	Increased respiratory infections, cough with phlegm production, chronic obstructive-pulmonary disease, and increased risk of head and neck cancers (36)	Yes	Immune system impairment (36)	Altered response to visual stimuli and increased tremulousness Children have more behavioral problems (36)
Enhancement of sexual and sensory experience (37)	Increased salivary secretions	Respiratory depression (38) and increased bronchial secretions	Most likely yes	Fentanyl (39)	Depression of the newborn if used at the time of delivery (19)
Reproductive system damage (benzene, trichloroethylene), associated with unsafe sex, increased risk of HIV, AIDS, and hepatitis	Paint or other products on face, spots or sores around nose or mouth	Asphyxiation, suffocation, choking and respiratory obstruction (freon)	Yes	Suppressed immunologic function (amyl nitrite, butyl nitrate, benzene)	—
Clitoral enlargement, menstrual irregularities, androgenic alopecia, deepened voice, breast atrophy, and inhibition of gonadotropin secretion (1)	Acne	Insufficient data	Not known (1)	Increases oral anticoagulant action Interferes with total serum thyroxine measurement (1)	Clitoral hypertrophy, abnormal vaginal development, and persistent urogenital sinus (1)

(continued)

Table 12. Effects of Commonly Abused Substances *(continued)*

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Gamma-hydroxybutyrate withdrawal syndrome is similar to that seen in withdrawal from alcohol and benzodiazepines (161, 163). Symptoms include agitation, psychosis, tachycardia, hallucinations, hypertension, and insomnia (163, 164). Withdrawal appears to occur more commonly in individuals who use GHB regularly, taking it around the clock, rather than those who binge occasionally (163).

The legal, readily available, industrial solvents gamma-butyrolactone and 1,4-butanediol are sometimes substituted for GHB because they are rapidly converted to GHB when ingested and produce similar effects (96, 163). Both substances are associated with withdrawal syndrome similar to that of GHB (165). Gamma-butyrolactone is sometimes referred to as "Blue Nitro." There are no data on the safety of GHB in pregnancy.

Ketamine

Ketamine is a dissociative anesthetic used legally in veterinary and human medicine, where it is classified as a Schedule III drug. An N-methyl-D-aspartate-receptor antagonist, ketamine produces changes in perception, hallucinations, depersonalization, and derealization (166). The nonmedical use of ketamine often is associated with dance parties and raves, where it frequently is used in combination with other drugs (167). Individuals who partake of the drug in such venues often refer to it by the names "Special K," "Vitamin K," and "Cat Valium." Ketamine is administered mainly by snorting and less frequently by injection and orally (167). Illicitly used ketamine is obtained by diversion from legal sources (96).

At high doses, ketamine can produce tachycardia, rhabdomyolysis (168), vomiting, amnesia, delirium, and agitation (167); however, the use of ketamine poses few overdose risks, except possibly aspiration from vomiting in unconscious users (96). The case literature contains reports of ketamine dependence (169), and regular, chronic use of ketamine may be linked to memory impairment (170).

There are no data on the safety of ketamine use during pregnancy. However, animal studies suggest that N-methyl-D-aspartate-blocking drugs damage the developing fetal brain in rats (171).

Sexual Assault

Considerable media attention has focused on the use of flunitrazepam, GHB, and ketamine as "date rape drugs" because of their ability to produce amnesia, weakness, and loss of consciousness (157, 172). These drugs can be introduced into a victim's drink without her knowledge because they lack odor and strong taste, and in the case of GHB and ketamine, color. To reduce the likelihood of criminal misuse of flunitrazepam, the manufacturer now adds a dye to the odorless and tasteless drug so that it will turn blue when slipped into a drink. The obstetrician–gynecologist should counsel adolescents and women who date that they should never drink anything that is blue, leave a drink unattended, or accept a drink directly from a stranger. Despite their notoriety, only a small minority of acquaintance rape cases (less than 5%) involves the use of these drugs (142, 173) (see "Sexual Assault" chapter).

Standard urine drug screens do not detect flunitrazepam, GHB, or ketamine. When it is necessary to confirm the presence of these drugs, as for forensic reasons, special urine tests are available (174, 175). However, even specialized testing can produce misleading results. Flunitrazepam may be mistaken for other benzodiazepines, and testing is unreliable below a certain threshold (176). The presence of ketamine may result in a false positive test result for PCP. Hair analysis may be useful in sexual assault cases because it can detect a single exposure to a drug (177, 178).

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Resources

ACOG Resources

American College of Obstetricians and Gynecologists. Illegal drugs and pregnancy. ACOG Patient Education Pamphlet AP104. Washington, DC: ACOG; 2002.

American College of Obstetricians and Gynecologists. Having a baby. ACOG Patient Education Pamphlet AP103. Washington, DC: ACOG; 2001.

American College of Obstetricians and Gynecologists. Alcohol and pregnancy. ACOG Patient Education Pamphlet AP132. Washington, DC: ACOG; 2000.

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Other Resources

The resources listed as follows are for information purposes only. Referral to these sources and web sites does not imply the endorsement of ACOG. This list is not meant to be comprehensive. The exclusion of a source or web site does not reflect the quality of that source or web site. Please note that web sites are subject to change without notice.

Alcoholics Anonymous World Service, Inc.
PO Box 459, Grand Central Station
New York, NY 10163
Tel: (212) 870 3400
Web: www.alcoholics-anomymous.org

Alcoholics Anonymous (AA) is a fellowship of individuals who share with each other that they may solve their common problem and help others to recover from alcoholism. For professionals working with people who have special needs, AA material and literature are available in Braille, videos in American Sign Language, easy-to-read pamphlets, and most languages. The AA number can be found in any local telephone directory and the local office can supply meeting information and directions.

American Council for Drug Education
164 West 74th Street
New York, NY 10023
Tel: 800-488-DRUG
Web: www.acde.org/

The American Council for Drug Education's prevention and education efforts seek to diminish substance abuse and its impact by translating the most current scientific research into fact-based programs and materials available to all those seeking information on drugs.

American Society of Addiction Medicine
4601 North Park Avenue, Upper Arcade Suite 101
Chevy Chase, MD 20815
Tel: (301) 656-3920
Fax: (301) 656-3815
Web: www.asam.org/

The American Society of Addiction Medicine (ASAM) is an association of physicians dedicated to improving the treatment of alcoholism and other addictions, educating physicians and medical students, promoting research and prevention, and enlightening the medical community and public about these issues. The ASAM recently published the third edition of its textbook, *Principles of Addiction Medicine*, providing an overview of the diagnosis and treatment of addictive disorders, as well as the management of co-occurring medical and psychiatric conditions.

Diversion Control Program
Drug Enforcement Administration
U.S. Department of Justice
Web: www.deadiversion.usdoj.gov

The Diversion Control Program offers a current list and facts about drugs and chemicals of concern.

Hazelden Foundation
CO3, PO Box 11
Center City, MN 55012-0011
Web: www.hazelden.org

The Hazelden Foundation is a nonprofit organization providing high quality, affordable rehabilitation, education, prevention, and professional services and publications in chemical dependency and related disorders. Hazelden is an international provider of treatment, recovery, research and training, offering programs, services, and publications for individuals, families, and communities affected by chemical dependency.

Join Together
One Appleton Street, 4th floor
Boston, MA 02116-5223
Tel: (617) 437-1500
Web: www.jointogether.org

Join Together supports community-based efforts to reduce, prevent, and treat substance abuse nationally and offers up-to-date information on substance abuse news, research and policy to the professional. More recently, Join Together is focusing on strengthening community capacity to expand high-quality drug and alcohol treatment.

Latino Council on Alcohol and Tobacco Prevention
1616 P Street, NW
Washington, DC 20036
Tel: (202) 265-8054
Fax: (202) 265-8056
Web: www.nlcatp.org

The Latino Council on Alcohol and Tobacco Prevention is dedicated to preventing or eliminating tobacco use and reducing alcohol abuse in the Latino community through community education, technical assistance, policy analysis, and advocacy. The Council has an extensive clearinghouse of documents and videos related to alcohol and tobacco issues available at free or low cost.

Monitoring the Future
Web: www.monitoringthefuture.org/

Monitoring the Future, begun in 1975, is a long-term study of American adolescents, college students, and adults through age 40. It is conducted by the University of Michigan's Institute for Social Research and is supported under a series of investigator-initiated, competing research grants from the National Institute on Drug Abuse.

Narcotics Anonymous World Service, Inc.
PO Box 9999
Van Nuys, CA 91409
Tel: (818) 773-9999
Web: www.na.org

A sister organization to Alcoholics Anonymous, Narcotics Anonymous World Service utilizes the same meeting structure and format offering mutual support to combat addiction.

National Association for Children of Alcoholics
11426 Rockville Pike, Suite 100
Rockville, MD 20852
Tel: 888-55-4COAS; (301) 468-0985
E-mail: nacoa@nacoa.org
Web: www.nacoa.org

The National Association for Children of Alcoholics is the national nonprofit membership organization working on behalf of children of alcohol and drug dependent parents. Its mission is to advocate for all children and families affected by alcoholism and other drug dependencies.

The National Center on Addiction and Substance Abuse
Columbia University
633 Third Avenue, 19th floor
New York, NY 10017-6706
Tel: (212) 841-5200
Web: www.casacolumbia.org

The National Center on Addiction and Substance Abuse at Columbia University encourages and disseminates research on the societal and individual costs of substance abuse, and develops and distributes messages and tools to educate the public and assist treatment professionals.

National Council on Alcoholism and Drug Dependence, Inc.
20 Exchange Place, Suite 2902
New York, NY 10005
Tel: (212) 269-7797; 24 Hour Hotline 800-622-2255
Fax: (212) 269-7510
Web: www.ncadd.org

The National Council on Alcoholism and Drug Dependence provides education, information, and assistance to the public. It advocates prevention, intervention, and treatment through offices in New York City and Washington, DC, and a nationwide network of affiliates. It also staffs a 24-hour information hotline that will refer the caller to a local affiliate office. Callers can also leave their name and address to receive written information about alcohol and other drug abuse.

National Institute on Alcohol Abuse and Alcoholism
5635 Fishers Ln, MSC 9304
Bethesda, MD 20892-9304
Web: www.niaaa.nih.gov/

The National Institute on Alcohol Abuse and Alcoholism provides leadership in the national effort to reduce alcohol-related problems by conducting research, coordinating research activities, translating and disseminating research findings, and collaborating with other entities involved in alcohol-related work. Publications of note include:

Women and Alcohol: An Update, which is available at http://www.niaaa.nih.gov/publicatons/arh26-4/toc26-4.htm. It features research about sex differences and genetic risk, minority populations, elderly women, osteoporosis risk factors, prenatal alcohol exposure, and other issues.

Alcohol: A Women's Health Issue, which is available at http://www.niaaa.nih.gov/publications/brochurewomen/women.htm. This is a 20-page illustrated public education brochure.

Drinking and Your Pregnancy, which is available at http://www.niaaa.nih.gov/publications/brochure.htm. This is a 2–page public education facts sheet in a question and answer format.

NIAAA has an alcohol policy information system, which is available at: http://www.alcoholpolicy.niaaa.nih.gov. This tool provides information on U.S. state and federal laws and regulations related to alcohol. It also has an underage drinking research initiative (http://www.niaaa.nih.gov/about/underage.htm). This web site includes statistics, publications, other resources, and links.

National Institute on Drug Abuse
National Institutes of Health
6001 Executive Boulevard, Room 5213
Bethesda, MD 20892-9561
Tel: (301) 443-1124
Web: www.drugabuse.gov

The National Institute on Drug Abuse supports and conducts research across a broad range of disciplines and ensures the rapid and effective dissemination and use of the results of that research to significantly improve drug abuse and addiction prevention, treatment, and policy. The institute publishes a monthly review of scientific substance abuse research papers.

Office of National Drug Control Policy
Web: www.whitehousedrugpolicy.gov/

The Office of National Drug Control Policy provides information on specific drugs, including data, health effects, and monitoring activity.

Physician Leadership On National Drug Policy
Center for Alcohol and Addiction Studies
Brown University, Box G-BH
Providence, RI 02912
Tel: (401) 444-1817
E-mail: plndp@brown.edu
Web: www.plndp.org

The Physician Leadership On National Drug Policy is a national organization of physician leaders involved with health care policy. It has undertaken research reports and has educational materials available for clinicians. Among other resources, the web site contains an online, downloadable curriculum on substance abuse and women.

Soberrecovery.com—Recovery Resources On-Line
Web: www.soberrecovery.com

Soberrecovery is a web site offering a directory of resources on treatment programs and recovery options for the addicted person, their family, professional care providers, and the community. It includes a section for adolescent treatment and programs. The site has a chat room and direct links to treatment facilities and recovery programs and lists of AA/NA and other support meetings.

Substance Abuse and Mental Health Services Administration
5600 Fishers Lane
Rockville, MD 20857
Tel: (301) 443-0365
Web: www.samhsa.gov

The Substance Abuse and Mental Health Services Administration (SAMHSA) is the federal agency charged with improving the quality and availability of prevention, treatment, and rehabilitative services to reduce illness, death, disability, and cost to society resulting from substance abuse and mental illnesses. SAMHSA has a substance abuse facility locator through which a telephone service links the caller to a variety of hotlines (Hotline: 1-800-662-HELP; 1-800-662-9832 [Español]; 1-800-228-0427 [TDD]) that provide treatment referrals. It is available 24 hours a day. The on-line resource (http://findtreatment.samhsa.gov) for locating drug and alcohol abuse treatment programs lists private and public facilities that are licensed, certified, or otherwise approved for inclusion by their state substance abuse agency and treatment facilities administered by the Department of Veterans Affairs, the Indian Health Service, and the Department of Defense. This site also identifies and links user to physicians within a state or geographic area licensed to dispense buprenorphine. A listing of buprenorphine dispensing physicians can be found at http://buprenorphine.samhsa.gov/bwns_locator/. These resource links are updated frequently.

SAMHSA Fetal Alcohol Spectrum Disorders Center for Excellence
1700 Research Boulevard, Suite 400
Rockville, MD 20850
Tel: (866) 786-7327
Web: www.fascenter.samhsa.gov

The SAMHSA Fetal Alcohol Spectrum Disorders Center for Excellence provides resources and information on fetal alcohol syndrome to expand the knowledge base and promote best practices. It also supports individuals, families, and communities affected by fetal alcohol syndrome in an effort to improve quality of life.

U.S. Food and Drug Administration
Department of Health and Human Services
Web: www.fda.gov/cder/

The U.S. Food and Drug Administration offers detailed information for providers and consumers on drugs, including over-the-counter drugs.

Treatment and Research Facilities

Division of Addiction Medicine at the University of Florida
University of Florida
PO Box 100183
Gainesville, FL 32610-0183
Tel: (352) 392-6681
Fax: (352) 392-8217
Web: www.psychiatry.ufl.edu/addiction/site/index.htm

The goal of the Division of Addiction Medicine at the University of Florida is to develop a new awareness in the medical community of the significance of the role of prevention and intervention in nicotine, alcohol, and other drug use and is accomplished by enhancing understanding and competency in addiction medicine and drug prevention education of medical students, medical residents, primary care practitioners, and psychiatric specialists.

Fetal Alcohol and Drug Unit
Department of Psychiatry and Behavioral Medicine
University of Washington, School of Medicine
180 Nickerson Street, Suite 309
Seattle, WA 98109
Tel: (206) 543-7155
Fax: (206) 685-2903
Web: depts.washington.edu/fadu/

The Fetal Alcohol and Drug Unit at the University of Washington is dedicated to the prevention, intervention, and treatment of fetal alcohol syndrome (FAS) and alcohol-related neurodevelopmental disorder (ARND). It works to research fetal alcohol and drug effects across the life span, to disseminate information on fetal alcohol and drug effects, to provide consultation for persons of any age thought to be affected by prenatal exposure to alcohol, and to provide training in human behavioral teratology. The unit also provides staffing and curricula for workshops, invited lectures and conferences on FAS/ARND prevention, and intervention at the regional, national, and international level.

Smoking and Women's Health

Key Points

- Cigarette smoking is the largest single risk factor for premature death and avoidable illness in developed countries.
- Smoking in U.S. women has attributed to a 600% increase in the rate of lung cancer deaths; smoking in U.S. women also increases the risk of myocardial infarction to twice that of men.
- Screening for tobacco use can be done efficiently as a vital sign at every clinical visit.
- A brief smoking cessation intervention known as the 5A's is recommended for screening and treating tobacco dependence. Follow-up can then be done at every clinical encounter.
- Smoking cessation interventions delivered by health care providers (eg, physicians, dentists, nurses, psychologists, social workers) markedly increase cessation rates compared with interventions with no health care provider involvement.
- Pharmacologic treatment for smoking cessation (including nicotine replacement therapy and bupropion sustained release) should be offered to all women attempting smoking cessation unless it is contraindicated. These products increase quit rates 1.5- to 2-fold regardless of the treatment setting. They may be used in combination for those experiencing difficulty quitting.
- Comprehensive, individualized smoking cessation programs coupled with the use of nicotine replacement therapy when indicated and proper follow-up care can help women to stop smoking and avoid relapse.
- The clinician may find it helpful to address depression and fear of weight gain in the smoking patient. These are common deterrents to smoking cessation for women.
- Clinicians should routinely assess and intervene with adolescents on tobacco initiation and use, including offering multiple strategies for cessation.

Smoking cessation interventions delivered by health care providers markedly increase cessation rates.

Cigarette smoking is the largest single risk factor for premature death and avoidable illness in developed countries (1). Approximately one fifth of the deaths in the United States are attributable to smoking (2), amounting to more than 440,000 deaths per year (3). The major smoking-attributable deaths involve lung cancer, other respiratory conditions, and cardiovascular disease (1). Multiple studies demonstrate, however, that tobacco use renders deleterious effects on most human organ systems, not only the heart and lung.

Causes of persistent cigarette smoking are multifactorial: pharmacologic, behavioral, genetic, and psychologic. Of all of these factors, nicotine dependence is the most significant reason that smokers sustain tobacco use (4). Despite the overwhelming medical evidence about the harmful effects of smoking, an estimated 22% of women continue to smoke (4). Nicotine addiction often begins early in life, with more than 2,000 additional children and adolescents becoming regular users of tobacco products each day (5). This is especially important because those who start smoking earlier in life are more likely to smoke heavily and become dependent on nicotine than those who begin later in life (6). Approximately 28% of high-school girls in 2001 reported current cigarette smoking (7). Among daily smokers, 81% began smoking at age 18 years or younger, with some studies reporting the average age of initiation of smoking in women to be age 12 or 13 years (6).

Tobacco use results in substantial medical care costs. The Centers for Disease Control and Prevention estimates the annual U.S. costs attributable to smoking to be greater than $50 billion, and the cost of lost productivity and earnings to be at least another $47 billion per year (8). The tobacco industry has been successfully marketing to women since the late 1920s, portraying cigarette smoking to be glamorous, adventurous, slimming, and a symbol of freedom and emancipation. The smoking initiation rate for adolescent girls has corresponded to the yearly increase of this targeted marketing to women (4). In 2004, the American College of Obstetricians and Gynecologists' (ACOG's) Executive Board reaffirmed the 1990 policy stating that it "opposes the unconscionable targeting of women of all ages by the tobacco industry" (see Appendix B).

Women who stop smoking achieve a significant reduction in the risk of disease and premature death (4). Studies show that nearly 75% of women smokers desire to quit, yet only one half of smokers have received advice from their health care providers about smoking cessation (9). Obstetrician–gynecologists can play a key role in promoting smoking prevention and cessation. As primary health care providers for women, obstetrician–gynecologists can be effective in educating women on the health consequences of tobacco use, advising smokers to quit, and assisting patients with smoking cessation counseling and pharmacotherapy.

Effects of Smoking on Women

Smoking is one of the most studied of human behaviors. Thousands of studies have documented its health consequences, yet most have not reported results by sex (4). Nicotine activates the brain's mesolimbic dopaminergic reward system (10) and produces dependence, resulting in withdrawal symptoms with abrupt cessation. Nicotine has been implicated in the development of various diseases through its effects on the microvasculature and on the function of platelets, fibroblasts, red blood cells, and other blood components. In addition, cigarette smoke contains carbon monoxide and at least 60 other toxic substances that exert harmful effects in many human tissues through direct and indirect mechanisms (11). Seven of these compounds are known human carcinogens (12).

Cancer

Cigarette smoking is a major cause of cancer. In most cases, the relative risk for development of cancer increases with dose of tobacco exposure (13). Smoking is responsible for approximately 90% of all lung cancer deaths in U.S. women. In the past 50 years, lung cancer deaths have increased 600% in women and represent the leading cause of cancer mortality for U.S. women (4). The association between lung cancer and tobacco use is dose-dependent; lung cancer risk increases with quantity and duration of lifetime smoking. A higher relative risk also exists with deeper inhalation of smoke and use of nonfiltered cigarettes (14). Adenocarcinoma has become the most common type of lung cancer in smokers (15).

The 2004 Surgeon General's report, *The Health Consequences of Smoking*, states a causal relationship with smoking for cancer of the bladder, cervix, esophagus, renal cell, renal pelvis, larynx, lung, pancreas,

and stomach. There is a causal relationship between smoking and acute myeloid leukemia (15). Evidence is suggestive but not sufficient to infer a causal relationship between smoking and colorectal and liver cancers (15). It is yet unclear how and if smoking contributes to a greater risk for some breast cancers.

Smoking predisposes women to the development of a wide range of cervical abnormalities. Tobacco-specific carcinogenic nitrosamine 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone has been identified in the cervical mucus of women who smoke cigarettes (11). After adjusting for the presence of human papillomavirus (HPV), recent studies report a significant increase in cervical cancer risk in smokers (16). Women who smoke and are infected with oncogenic HPV have a 3.3 relative risk (light smokers 95% confidence interval [CI], 1.6–6.7) to 4.3 relative risk (heavy smokers 95% CI, 2–9.3) of developing invasive cervical cancer (17). Current smoking is a possible co-factor for the development of a significant cervical intraepithelial neoplasia lesion following infection with HPV (4, 18).

Smoking also appears to be a risk factor for mucinous epithelial ovarian cancer, with a 1.9 relative risk (95% CI, 1.3–2.9) (19). Endometrial cancer occurs less frequently in cigarette smokers. The negative association is thought to be caused by the antiestrogenic effect of tobacco use (20).

Other Lung Disease

Cigarette smoking is a primary cause of chronic obstructive pulmonary disease among women, and the risk increases with the amount and duration of smoking. Close to 90% of mortality from chronic obstructive pulmonary disease in the United States can be attributed to smoking, and this rate has been increasing among women in the past 20–30 years. Adolescent girls who smoke have reduced rates of lung growth, and adult women who smoke experience a premature reduction in lung function (15).

Cardiovascular Disease and Stroke

Cigarette smoking is a significant, independent risk factor for cardiovascular disease. The risk increases with the number of cigarettes smoked daily, the total number of years smoking, the degree of inhalation, and early age at initiation of smoking (4). Tobacco use predisposes women to coronary heart disease (CHD), cerebrovascular disease, myocardial infarction, peripheral vascular disease, carotid atherosclerosis, abdominal aortic aneurysm, stroke, and hypertension. The relative risk for CHD mortality varies by age, sex, and race, ranging from 1.2 to 3 for different demographic groups compared with respective groups that have never smoked (21). In the U.S. Nurses' Health Study, even women who smoked as few as one to four cigarettes per day had twice the risk for CHD as women who had never smoked (22). In women younger than 50 years, the smoking-attributable risk of MI was found to be as high as six times that of nonsmokers. The presence of diabetes increases the relative risk for developing CHD to 7.67 for a woman who smokes 15 or more cigarettes per day as compared with those who never smoked (23). Several recent studies have demonstrated that women smokers are affected more adversely than men, with an increased relative risk of MI twice that of their male counterparts (24–26).

The relative risk of all types of stroke among smokers is approximately 2.5 compared with nonsmokers. The risk of stroke caused by subarachnoid hemorrhage in smokers may be as high as five times that of individuals who do not smoke (27). The evidence is sufficient to infer a causal relationship between smoking and abdominal aortic aneurysm (15).

Overall, women who used oral contraceptives (OCs) were reported to have approximately two times the risk of MI of nonusers. Smokers who used OCs had a risk for MI between 10 and 14 times that of women who neither used OCs nor smoked (28). Because women older than 35 years are already at higher risk of MI and cerebrovascular accidents, OCs are not recommended for smokers older than 35 years (29).

Smoking cessation reduces the risk of cardiovascular disease and stroke, with a substantial decrease in risk noted within 2 years after smoking cessation (30). This beneficial risk reduction applies no matter what age women stop smoking.

Menopause

Women who smoke undergo natural menopause on average 1.5–2 years earlier than nonsmokers (31). Cigarette smoking appears to exert a significant antiestrogenic effect, possibly because of increased 2-hydroxylation of estradiol resulting from the induction of cytochrome P450 (32).

Osteoporosis

Tobacco use also presents a risk factor for low bone mineral density leading to osteoporotic fracture in

postmenopausal women. Rates for bone loss are 1.5–2 times greater in current female smokers. Of all hip fractures, one in eight is attributable to cigarette smoking. In current smokers, the risk of hip fracture is estimated to be 17% greater than nonsmokers at age 60 years, increasing to 71% greater at age 80 years (33). Studies suggest that lower bone density in smokers is a partial result of decreased calcium absorption; smokers do not absorb dietary or supplemental calcium as efficiently as nonsmokers (34).

Reproductive Health

Cigarette smoking is a causal factor for decreased fertility in women (15). In a recent analysis of 12 studies, women cigarette smokers were observed to have a 60% increase in the risk of infertility (35). The effect of smoking on fertilization and pregnancy rates has varied widely in studies, but some studies suggest that smoking may be detrimental to those trying to conceive (4). These effects may be related to reported findings of lower peak serum estradiol levels during ovarian stimulation or reduced motility and ciliary function of the epithelium lining of the fallopian tube (36). The compounds found in tobacco smoke affect oocyte and sperm production, tubal motility, embryo cleavage, blastocyst formation, and implantation (37). For women attempting in vitro fertilization, studies have shown smokers to be approximately one half as successful as nonsmokers, and diminished ovarian reserve has been suggested as a key mechanism (37). After conception, women who smoke experience higher rates of spontaneous abortion and ectopic pregnancy than nonsmokers (37, 38).

Menstrual irregularity, secondary amenorrhea, and dysmenorrhea occur more frequently in smokers than in nonsmokers. There is limited or inconsistent evidence to suggest that smoking decreases the risk for endometriosis and uterine fibroids. A protective effect is plausible because of its systemic antiestrogenic effect, but this mechanism has not been examined extensively (4).

Effects on Pregnancy

Maternal smoking during pregnancy is the most important modifiable risk for adverse fetal health. As a result, ACOG recommends that substance use, including tobacco use, be included in counseling during a women's reproductive years, particularly as part of preconceptional care (39). The perinatal complications associated with maternal tobacco use include preterm delivery, premature rupture of membranes, spontaneous abortion, ectopic pregnancy, low birth weight, intrauterine growth restriction, placental abruption, placenta previa, stillbirth, and sudden infant death syndrome (SIDS) (15). A causal relationship is suggested between maternal smoking and oral clefts (15).

An estimated 12% of U.S. women smoke during pregnancy, with rates as high as 19% for adolescents and 28% for those with 9–11 years of education (5). The continued use of tobacco products during pregnancy accounts for 15% of all preterm births, 20–30% of all low-birth-weight infants, and a 150% overall increase in perinatal mortality (38). Carbon monoxide and nicotine are thought to be the main ingredients in cigarettes responsible for adverse fetal effects linked to smoking. These products cause decreased availability of oxygen to maternal tissues and to the fetus.

It is estimated that 70% of women who discontinue tobacco use during pregnancy will relapse within 1 year of childbirth (40). Relapse prevention strategies for former smokers are most effective if begun in the third trimester of pregnancy and continued throughout the postpartum period (41). Postpartum relapse prevention strategies include close monitoring of smoking status, providing opportunities to congratulate abstinence and support success, reinforcing steps taken towards quitting, and advising those still considering a cessation attempt. In addition, cessation resources may be directed to include domestic partners who smoke because environmental tobacco smoke affects the child's health and increases the risk of relapse in the postpartum patient. Tobacco cessation telephone counseling offered nationally and by many states also may prove helpful to prevent relapse during this vulnerable period (see "Resources"). An important predictor of abstinence from tobacco use following pregnancy is continued breastfeeding. (See ACOG Educational Bulletin No. 260 "Smoking Cessation During Pregnancy" for additional information on tobacco use and cessation during pregnancy and the "Resources" section at the end of this chapter.)

Effects on Children

The smoke from cigarettes of women who smoke in the presence of their infants and children contributes to many health issues. Infants exposed to secondhand smoke are more susceptible to respiratory diseases, otitis media, asthma, and SIDS (4). Among children with established asthma, secondhand smoke exposure

may cause additional episodes and increase its severity (42).

Smoking Cessation

Tobacco users experience multiple interactions with clinical providers. Seventy percent of adult smokers reported at least one visit to a physician in the preceding 12 months, with more than two thirds reporting more than one visit (43). Additionally, more than 75% of women want to quit smoking, and 47% of female smokers have made an attempt to quit within the past year (4). According to a recent study, patients welcomed counseling about smoking cessation from their primary care physicians and are more satisfied with physicians who provide counseling (44). Yet observations of health care providers indicate that clinicians often fail to assess and treat tobacco dependence. Approximately one half of patients report never having been asked about their smoking status (4). When smoking is recognized, very few tobacco users are offered assistance to quit.

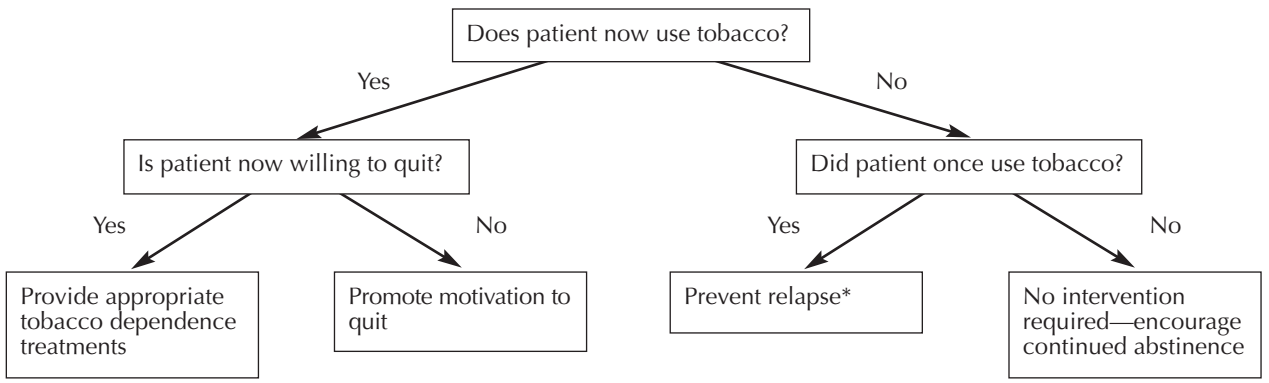
Many barriers exist to smoking cessation counseling and therapy. Only 21% of practicing physicians indicate that they have received adequate training to help their patients stop smoking (43). In addition, practitioners may feel that current time constraints in clinical practice limit the possibility of a smoking cessation intervention. However, effective smoking cessation interventions can be brief; studies have shown that as little as 3 minutes of counseling enhances cessation rates (45). All health care professionals can be effective in their efforts to address smoking prevention and smoking cessation within the context of routine care.

Specific Issues on Cessation for Women

Women experience more difficulty than men with smoking cessation, especially in the initial cessation period, and are more prone to relapse (46). In addition to concerns about weight control and possibility of depression, women may experience variability in mood and withdrawal as a function of the menstrual cycle phase (4). Some studies show that women may require greater social support to achieve abstinence (4). Smoking-associated environmental cues appear to influence smoking behavior more in women than in men. Therefore, social support to modify the environment assumes greater importance. Women also may fear discord in relationships because of smoking cessation. A woman may feel her tobacco-using partner would be threatened by her quit attempt. In addition, she may fear isolation from friends with whom she shares smoking breaks. Once voiced, the woman often is able to strategize how she might best cope with envisioned relational issues brought about by her smoking cessation.

Guidelines for Intervention

The Agency for Health Care Research and Quality has published specific recommendations for clinicians providing smoking cessation therapy (Fig. 9). Effective



*Relapse prevention interventions are not necessary in the case of the adult who has not used tobacco for many years.

Fig. 9. Algorithm for treating tobacco use. (Fiore MC, Bailey WC, Cohen SJ, Dorfman SF, Goldstein MG, Gritz ER, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville [MD]: U.S. Department of Health and Human Services. Public Health Service; 2000.)

interventions begin with screening all patients for tobacco use on a regular basis and offering them treatment. The Agency for Health Care Research and Quality recommends a brief smoking cessation intervention known as the 5 A's (Box 15) for screening and treating tobacco dependence. The 5 A's are applicable to outpatient office visits. This intervention is not only clinically effective, but it also is extremely cost-effective relative to other commonly used disease prevention interventions and medical treatments (47). 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 providers (eg, physicians, dentists, nurses, psychologists, social workers) markedly increase cessation rates compared with interventions with no health care provider involvement (eg, self-administered interventions) (47).

In those individuals unwilling to consider smoking cessation, providers can enhance the motivation to quit by reviewing the multiple health risks associated 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 intervening with women who smoke.

For patients who have recently quit, relapse prevention is especially important because of the chronic relapsing nature of tobacco dependence (43). 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 they have encountered from quitting (43). The clinician also can recommend that the patient avoid situations in which women typically smoke, such as drinking coffee or alcohol.

Counseling and Behavioral Therapy

Counseling in multiple forms has been shown to enhance smoking cessation rates. Social support from partners, family, friends, coworkers, or service providers and general problem solving counseling both produced abstinence rates of 16% compared with 11% in patients with no counseling or behavioral therapy (43). Patients who do not receive social support have more difficulty quitting smoking and are more prone to relapse.

Box 15 Smoking Cessation Guidelines for Clinicians

The 5 A's Approach

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).
4. Provide self-help smoking cessation materials.

Arrange follow-up
Schedule follow-up contact, preferably within the first week after the quit date.

U.S. Department Health and Human Services. Treating tobacco use and dependence: a systems approach. A guide for health care administrators, insurers, managed organizations, and purchasers. US PHS, Washington, DC: US DHHS; 2000.

In smoking cessation treatment, the following types of counseling can be incorporated into patient interactions:

- Practical counseling and problem solving skills: educate patients on the importance of total abstinence from smoking; anticipate and avoid triggers; remove all tobacco from their environment; identify and avoid risk factors for relapse, such as alcohol, exposure to other smokers, and time pressure; and address fears about weight gain and stress management.
- Social support as a part of treatment: communicate caring and encouragement.

- Social support outside of treatment: encourage a smoke-free home; provide information on community resources; and reinforce the useful role of supportive family and friends (43).
- Telephone and web-based tobacco counseling: encourage patients to use the counsel and support of the telephone tobacco quit line offered by many states as well as the interactive tobacco cessation web sites (see "Resources" for details).

Many smokers benefit from self-help smoking materials and community-based peer support programs, such as Nicotine Anonymous, as an adjunct to other strategies, including health care provider advice and counseling (43). (See "Resources" for a list of some available smoking cessation materials.)

Pharmacotherapy

Numerous effective medications for smoking cessation currently are available. In most cases, it is inappropriate to reserve pharmacotherapy until patients have made an attempt to quit on their own because 90–95% of unaided quit attempts end in failure (43). All smokers trying to quit should be offered pharmacotherapy, except those who are pregnant, breastfeeding, those with medical contraindications, and those smoking fewer than 10 cigarettes daily (43).

Nicotine replacement therapy and bupropion sustained release are considered first-line therapy by the U.S. Food and Drug Administration (FDA). Each has been documented to increase significantly the rate of long-term smoking abstinence and are proved to be cost effective to treat tobacco dependence as compared with advice or counseling alone (48). In fact, both bupropion and nicotine replacement therapy are considered to be among the most cost effective of all health care interventions (49). In the event that these agents alone or in combination are ineffective, clonidine and nortriptyline are second-line agents that may be considered. Table 13 presents a summary of currently available pharmacotherapies for smoking cessation and the estimated abstinence rates for each treatment option.

First-Line Medications

The FDA has approved first-line pharmacotherapies for tobacco dependence as safe and effective (4). These drugs are in nicotine replacement products: nicotine patch, gum, nasal spray, inhaler, sublingual tablets and lozenges, and bupropion sustained release. First-line medications have shown to be efficacious and should be recommended as an initial approach to tobacco cessation, except when contraindicated. The effectiveness of pharmacologic treatments is enhanced when coupled with advice and counseling (43). Few studies have followed-up for longer than 1 year on the rate of abstinence from tobacco after using pharmacotherapies.

Nicotine Therapy. All of the commercially available forms of nicotine replacement therapy are effective as part of a strategy to promote smoking cessation. These products increase quit rates 1.5-fold to 2-fold regardless of the treatment setting (50). Nicotine replacement therapy provides a controlled amount of nicotine in a form that does not contain the other 4,000 harmful components of tobacco smoke (51). Nicotine-containing medications can provide relief of withdrawal symptoms while smokers adapt to life without cigarettes. In active cigarette smoking, nicotine is absorbed rapidly with large variability in plasma concentrations. By contrast, nicotine replacement therapy administration results in slower, lower, and less variable plasma concen-trations. Nicotine replacement therapy should be recommended for smokers who are likely to be nicotine dependent except when contraindicated. Special consideration about the degree of the patient's nicotine dependence needs to be given those who smoke fewer than 10 cigarettes per day, are pregnant or breastfeeding, or are adolescents (see section on adolescent smokers) (43, 52). Most often, nicotine dependence is found in those who smoke greater than one pack of cigarettes per day, smoke within 30 minutes of getting up in the morning, or who have experienced nicotine withdrawal symptoms with prior attempts at cessation (43).

Nicotine replacement therapy is contraindicated for patients with hypersensitivity or allergies to nicotine, recent MI, worsening angina, or life-threatening arrhythmia. Continued smoking while using nicotine replacement therapy has not been proved to cause an increase in cardiovascular events (53). All nicotine replacement therapy products should be used with caution, however, in those with existing myocardial disease (43).

Nicotine gum and patches are the most studied forms of nicotine replacement therapy. Nicotine gum

Table 13. Medications for Smoking Cessation and Estimated Abstinence Rates

Pharmacotherapy	Contraindications	Adverse Effects	Dosage	Duration	Estimated Abstinence Rates*
First-Line Medications					
Bupropion sustained release	History of seizures, eating disorder, breastfeeding, children and adolescents, concurrent use of Wellbrutrin or monoamine oxidase inhibitors, or during detoxification from sedatives or alcohol. Pregnancy category B	Insomnia, dry mouth	150 mg every morning for 3 days then 150 mg twice daily	7–12 weeks; maintenance up to 6 months	30.5%
Nicotine gum	Allergies to nicotine, recent myocardial infarction, worsening angina, or serious arrhythmia. Pregnancy category C	Mouth soreness, dyspepsia	1–24 cigarettes per day, use 2-mg gum (up to 24 pieces per day) 25 or more cigarettes per day use 4-mg gum (up to 24 pieces per day)	Up to 12 weeks	23.7%
Nicotine patch	See Nicotine gum Pregnancy category D	Local skin reaction, insomnia	—	—	17.1%
Nicoderm CQ	—	—	21 mg/24 h 14 mg/24h 7 mg/24h	Dosage is determined by nicotine dependence and tapered during 6–8 week period	
Nicotrol	See Nicotine Gum.		15mg/16h	8 weeks	
Nicotine inhaler	Pregnancy category D	Local irritation of mouth and throat	6–16 cartridges per day	Up to 6 months	22.8%
Nicotine nasal spray	See Nicotine Gum. Pregnancy category D	Nasal irritation	8–40 doses per day	3–6 months	30.5%
Nicotine lozenge†	See Nicotine Gum. Pregnancy category D	Not known	2 mg and 4 mg according to individual program starting with 9 to 24 per day.	12 weeks	Not determined
Second-Line Medications					
Clonidine	Rebound hypertension when abruptly discontinued. Multiple drug interactions. Pregnancy category C	Dry mouth, drowsiness, dizziness, sedation	0.15–0.75 mg/d	3–10 weeks	25.6%
Nortriptyline	Risk of arrhythmias, recent myocardial infarction. Interacts with monoamine oxidase inhibitors. Pregnancy category C	Sedation, dry mouth	25 mg/d increasing to 75–100 mg/d	12 weeks	30.1%

*Estimated abstinence rates: percentage of smokers in a group or treatment condition who were abstinent at a follow-up point that occurred at least 5 months after treatment. Few studies followed participants for more than 1 year.

†For more information on the nicotine lozenge, go to http://commitlozenge.quit.com/how/default.aspx?id=26.

Note: the information in this table is a summary; see package inserts for complete information and specific prescribing instructions.
Fiore MC, Bailey WC, Cohen SJ, Dorfman SF, Goldstein MG, Gritz ER, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville (MD): U.S. Department of Health and Human Services. Public Health Service; 2000.

is available exclusively over-the-counter and works to promote smoking cessation when used alone, but counseling enhances proper use and technique (4). It is helpful to remind women to read the package insert regarding how to "chew and park" the gum. In the most highly nicotine-dependent smokers, 4 mg of gum seems to be the most effective form of nicotine replacement therapy at present. In less dependent smokers, the transdermal patch may be more convenient. The patch offers a consistent level of nicotine release over a 16–24 hour period (depending on brand). Nicotine patches can be purchased over-the-counter as well as by prescription. The patch is available in 7- to 21-mg strengths and for either 15- or 24-hour use in accordance with a nicotine dependence algorithm on the package. The dosage may be tapered over a 6–8 week period. Local skin irritation resulting from patch use can be greatly decreased if patch sites are rotated. Removal at bedtime may relieve the insomnia some women experience while using the patch.

Nicotine inhalers and nasal sprays are available by prescription only and are efficacious smoking cessation treatments (43). The nicotine lozenge has recently been approved for over-the-counter sale by the FDA and is available in 4-mg and 2-mg strength (54). The inhaler, nasal spray, and lozenge deliver nicotine rapidly to the bloodstream, resembling the effect of cigarette smoking. For smokers with intense cravings and for whom monotherapy nicotine replacement therapy is not effective, the nicotine replacement therapy patch may be combined with another form of nicotine replacement therapy, such as gum or nasal spray, and ad libitum (43). Nicotine replacement therapy may not be equally effective in all patients, and some studies report a reduced efficacy of nicotine replacement therapy in women; however, nicotine replacement therapy has a prominent role to play in tobacco cessation for women and is likely to be safer and more readily available than nonnicotine replacement therapy medications (51).

Bupropion Sustained Release. Bupropion sustained release is available only by prescription. Initially marketed as Wellbrutrin, a treatment for depression, bupropion sustained release has both dopaminergic or adrenergic agonist activity (55). Bupropion sustained release has been shown to decrease nicotine withdrawal symptoms and postpone postcessation weight gain. In a recent review of published data on bupropion sustained release, the medication significantly enhanced cessation rates. Treatment must begin at least 1 week before cessation and may be taken for up to 12 weeks (56). In one trial, bupropion sustained release used with the nicotine patch was found to be significantly more effective than the patch alone (56). Bupropion sustained release may benefit all smokers attempting cessation, including those with no history of depression. This medication also may be helpful in those patients who have not been successful using nicotine replacement therapy in quitting. Reported side effects of bupropion sustained release include seizures, insomnia, dry mouth, and nausea. However, side effects occur infrequently. Bupropion sustained release has not been tested for use during lactation. It is contraindicated in patients with seizure disorders, those with a current or prior diagnosis of bulimia or anorexia nervosa, and in those undergoing abrupt discontinuation of alcohol or sedatives. Concurrent use of a monoamine oxidase inhibitor also is contraindicated (55).

Second-Line Medications

Second-line medications are those for which there is evidence for treating tobacco dependence but have not been approved by the FDA for tobacco treatment and have more potential side effects than first-line medications. Second-line treatments may be considered for use on a case-by-case basis after first-line treatments have been used or considered (43).

Clonidine. Clonidine is a prescription drug originally used as an antihypertensive. It has been studied extensively as a medication for smoking cessation. It acts on the central nervous system and may reduce withdrawal symptoms in various addictive behaviors, including tobacco use. Several trials have shown effective smoking cessation in women, but not in men, after the use of clonidine (51). Because of a high incidence of side effects, such as dry mouth and sedation, clonidine may be considered a second-line therapy for most patients. Severe rebound hypertension may occur if the drug is discontinued rapidly. Clonidine interacts with calcium channel blockers, β-blockers, digitalis, sedatives, and tricyclic antidepressants. It may be targeted to a subgroup of smokers who also may benefit from its sedative effects, as in those expected to experience high levels of agitation and anxiety at the time of nicotine abstinence (57).

Nortriptyline. Nortriptyline, a tricyclic antidepressant, can aid smoking cessation. Trials of nortriptyline show increased quit rates under physician supervision, with

the efficacy of the drug independent of its antidepressant effects (58). Nortriptyline use may be associated with arrhythmias. It is contraindicated following a recent MI or with concurrent use of monoamine oxidase inhibitors. Other antidepressants, including tricyclic and selective serotonin reuptake inhibitors, have not had documented effects as successful aids in smoking cessation (43).

Other Pharmacologic Treatments. Other pharmacologic treatments that have been used for nicotine dependence include naltrexone (an opiod receptor antagonist), lobeline (a partial nicotine agonist), fluoxetine (an antidepressant), and anxiolytic agents. There is insufficient evidence to support the use of these medications for smoking cessation at the present time (43).

Other Therapies

Patients may present with requests for advice about nontraditional therapies for smoking cessation. Acupuncture has been suggested as an adjuvant therapy in achieving nicotine abstinence. A recent review of 18 publications revealed no clear evidence that acupuncture is effective for smoking cessation (59).

Aversion therapy pairs the pleasurable stimulus of smoking a cigarette with some unpleasant stimulus. The objective is to extinguish the urge to smoke. Rapid smoking is the most commonly used technique. Aversion smoking interventions appear to increase abstinence rates and may be used with smokers who desire such therapy or for those unsuccessful with other methods (43).

The effect of exercise on smoking cessation outcome requires further study. A meta-analysis of available literature demonstrates a positive effect of exercise on quit rates, but research on larger study populations would be helpful (60).

Special Considerations

Weight Gain

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 (4). The personal experience of another woman's weight gain during cessation may reinforce the fear of uncontrollable eating. However, actual weight gain during cessation does not predict relapse to smoking (4). 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 (51). Weight gain with smoking cessation seems to be caused by a transient increase in oral intake without any change in physical activity. In the Nurses' Health Study, middle-aged women who quit smoking and simultaneously increased their exercise levels minimized weight gain associated with smoking cessation (61). A nutritious diet of low-fat foods, drinking large amounts of non- or low-caloric liquids, and 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 will experience weight gain (43).

Depression

A history of depression and current depressive symptoms are both independently associated with failure to quit smoking. Some individuals use nicotine to self-treat depression. As a result, smoking cessation may trigger clinical depression in susceptible individuals (62). Antidepressants may be useful aids to smoking cessation in individuals with a past history of depression. Most studies found that those with depression who used bupropion sustained release had significantly higher smoking cessation rates (4).

Adolescents

Each day more than 4,000 children and adolescents try their first cigarette, and more than 2,000 other children and adolescents become daily smokers (5). Smoking among adolescents is a critical issue because most smoking initiation begins before age 18 years, and 82% of adult smokers said they first tried a cigarette before age 18 years (4). This has contributed to the epidemic of long-term nicotine dependence because data suggests that the earlier the onset of smoking, the more severe the addiction is likely to be (63).

A review of predictors of smoking for male and female adolescents suggests that girls who smoke are more self-confident, rebellious, socially advanced, and sexually experienced than their nonsmoking peers (64). Adolescents also begin smoking because of advertising, social and parental norms, peer influence, parental smoking, weight control, and curiosity (65). Adolescent girls who smoke reported continued use because it was "really hard" to quit smoking. One study showed that adolescent females were more like-

ly than adolescent males to report having difficulty going 1 day without smoking and report relying on cigarettes to improve daily functioning (4). Smoking during adolescence produces significant health problems, including cough, phlegm production, increased number and severity of respiratory illness, decreased physical fitness, and reduced lung function (65).

Adolescent Tobacco Prevention

Because tobacco use often begins during preadolescence (66), clinicians should routinely assess for tobacco use and intervene with their adolescent patients. Nearly all tobacco use begins before high school, suggesting that if adolescents are kept tobacco free, many will never begin smoking later in adulthood. Tobacco, alcohol, and other drug use counseling is a component of comprehensive anticipatory guidance discussions with adolescent patients. Adolescents who smoke or use any tobacco products should be assessed further to determine their pattern of use. Opportunities to discuss tobacco and other substance abuse may be identified at the time of routine health care as well as when patients are seen for treatment of injuries or episodic illness. It is ideal to interview adolescents privately during each office visit with the reassurance of confidentiality and a discussion of its limits (67, 68). Because of an adolescent's preoccupation with body image, the provider may find it valuable to discuss the effects of smoking and other tobacco products on the adolescent's hair, skin, and breath (68). Adolescents also are open to messages emphasizing the deceptive marketing practices of tobacco companies, which include the placement of smoking in popular teen movies and television shows (69). Counseling also should include a discussion of long-term health consequences, including the possible effect on a female's reproductive potential (68). The clinician's guidance for the parent and other adult caregivers of the early and middle adolescent may include ways to monitor and council the adolescent on tobacco use (68). The clinician also can become involved in supporting effective strategies to curtail adolescent tobacco use at the state and local levels that include supporting excise taxes on tobacco products and restrictive public area and school smoking policies (69).

Oral Contraceptive Use

For most adolescents, OCs can be used regardless of smoking status. Although adolescents, as well as all women, should be encouraged not to smoke, cigarette smoking does not contraindicate use of combination OCs by adolescents as it does for women older than 35 years who smoke. This is because of the low risk of cardiovascular disease among adolescents. The risk that OCs would precipitate hypertension is remote for adolescents (68).

Adolescent Smoking Cessation

Adolescents vastly underestimate the addictiveness of nicotine (69). Because regular smoking typically begins in the adolescent years, smoking cessation messages and methods are essential for adolescents (43). A recent study shows that adolescents' smoking status was identified in 72.4% of office visits, but smoking cessation counseling was provided to adolescent smokers in only 16.95% of office visits (4). Yet, surveys show that 71–83% of adolescent smokers had already experienced an unsuccessful attempt at cessation (69). Clinicians should screen for smoking annually as part of an effort to reduce smoking in adolescents (68, 70, 71).

Another study concluded that clinicians who make an effort to prepare adolescents to quit smoking through motivational interventions, such as brief interventions provided in the office using the 5 A's, adolescent-focused cessation pamphlets, and encouragement, produce higher quit rates than naturally occurring quit rates (43). (See "Resources" for adolescent-specific information.)

Pharmacotherapy for Adolescents

Clinicians may consider the use of nicotine replacement therapy for adolescents when other behavioral treatments have failed and when tobacco dependence is obvious. Confidence of the patient's tobacco dependence and intention to quit can be determined by a thorough assessment of dependence, number of cigarettes smoked per day, and body weight before instituting pharmacotherapy. There is no evidence that nicotine replacement therapy is harmful for children and adolescents (72). Because there may be instances when minors may not be able to purchase over-the-counter nicotine replacement therapy products, some adolescents will need prescription nicotine replacement therapy. Bupropion sustained release is not recommended for use with children and adolescents because its safety and efficacy have not been established (55).

Coding for Smoking Interventions

Health plans do not universally reimburse for either brief or intensive smoking interventions. Some plans may cover medications but not counseling, whereas others may cover counseling but not over-the-counter drugs. If smoking cessation counseling is a covered benefit, providers can code for insurance billing by using the International Classification of Diseases, Ninth Revision, Clinical Modification code 305.1 (tobacco use disorder, tobacco dependence from the Mental Health section) or other diagnoses as appropriate. Many smokers have smoking-related medical diagnoses. For example, the clinician might report smoker's bronchitis or cough (491.0), smoker's throat (472.1), or smoker's tongue (528.6). The Current Procedural Terminology* (CPT®) code reported will vary according to circumstances.

- If the physician counsels the patient at a separate encounter (eg, not as a component of a preventive or problem-oriented visit), he can report a CPT procedure code from the series 99401–99404 (preventive medicine counseling). The correct code depends on the documented time spent counseling the patient. These services are often not covered by insurers.
- If the physician counsels the patient as part of a problem-oriented visit, the procedure coding will vary. If the patient has symptoms, these should also be reported with an appropriate diagnosis code such as those listed previously.
- If more than 50% of the total time spent with the patient was face-to-face counseling, the clinician can report a CPT code according to the typical time listed in the code. Requirements for a complete history, physical examination, and medical decision-making do not apply. For example: An established patient is seen for a problem. The physician performs a problem-focused history and examination and straightforward medical decision-making (the levels of service required for code 99212, which has a typical time of 10 minutes). He also counsels the patient face-to-face for 15 minutes. The total time spent with the patient is 25 minutes. The physician reports code 99214 (which has typical time of 25 minutes). If the physician spent only 8 minutes in face-to-face counseling with this patient, he reports 99212, using the levels of service to determine the correct code. He cannot report a code according to time spent with the patient because he did not spend more than 50% of the time counseling the patient.
- If the physician counsels the patient as part of a preventive medicine service, then the counseling cannot be reported separately. Preventive medicine services (codes 99281–99397) include counseling/anticipatory guidance/risk factor reduction interventions as part of the service.
- If the physician counsels a pregnant patient as part of a routine antepartum visit, it may be possible to report the service separately. Report a preventive counseling code (99401–99404) with a –25 modifier (significant, separately identifiable E/M service on the same day as another service). It is essential that this service be documented as a separate, significant E/M service in the patient's record. Although it is appropriate to report these services separately, insurers may not reimburse for them.
- If the physician sees a pregnant patient who has symptoms or whose smoking is affecting management of the pregnancy, report diagnosis code 648.43 (mental condition in mother complicating pregnancy) or other diagnoses to indicate symptoms, plus 305.1 (tobacco use disorder). Report a problem-oriented E/M code according to face-to-face time spent with the patient. If the counseling is performed during a routine antepartum visit, add a modifier –25 to the E/M code. If she is seen for a separate visit, no modifier is needed. Many payers will not reimburse for this counseling.
- If a nurse counsels the patient, and if nurses are recognized by the insurance company as "qualified" providers of the service, then code 99211 (established patient office visit) is reported. If the nurse is not recognized as a caregiver, the services will not be covered.

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Resources

ACOG Resources

A Clinician's Guide to Helping Pregnant Women Quit Smoking: Includes a free CME-accredited guide that outlines how to integrate the "5 A's" and a slide presentation with lecture notes. To order, e-mail smoking@acog.org.

American College of Obstetricians and Gynecologists. Good health before pregnancy: preconceptional care. ACOG Patient Education Pamphlet AP056. Washington, DC: ACOG; 1999.

American College of Obstetricians and Gynecologists. It's time to quit smoking. ACOG Patient Education Pamphlet AP065. Washington, DC: ACOG; 2000.

American College of Obstetricians and Gynecologists. Smoking cessation during pregnancy. ACOG Educational Bulletin 260. Washington, DC: ACOG; 2000.

American College of Obstetricians and Gynecologists. Tobacco use and adolescent girls. Tool Kit For Teen Care Fact Sheet AA415. Washington, DC: ACOG; 2003.

"Ask About Tobacco Use" chart stickers (AA268)

Patient Workbook: Need Help Putting Out That Cigarette (AP424)

Poster: Be Good to Yourself, Smoking Hurts You. We Can Help You Quit

Virtual Clinic. Smoking Cessation for Pregnancy and Beyond. CD ROM includes lectures and case discussion, interactive patient simulations for case-based learning, real-life patient interviews and web resources. Can be ordered through the ACOG distribution center or downloaded at http://www.iml.dartmouth.edu/edu/education/cme/smoking (high-speed internet access required).

Other Resources

The resources listed as follows are for information purposes only. Referral to these sources and web sites does not imply the endorsement of ACOG. This list is not meant to be comprehensive. The exclusion of a source or web site does not reflect the quality of that source or web site. Please note that web sites are subject to change without notice.

Smoking Cessation Programs and Self-help Materials

Many states offer free or low cost smoking cessation counseling services consisting of telephone quitlines, group or individual counseling programs, as well as materials to help the smoker quit and prevent relapse. To access, check with the state or local public health office or tobacco control program.

Agency for Health Care Quality and Research
540 Gaither Road
Rockville, MD 20850
Tel: 800-358-9295
E-mail: ahrqpubs@ahrq.gov
Web: www.ahrq.gov/path/tobacco.htm

The Agency for Health Care Quality and Research offers free and low-cost materials for consumers in English and Spanish, including "easy to read" consumer booklets on tobacco cessation for all smokers and pregnant women. Its web site has consumer materials, posters, and provider guidelines that can be downloaded.

American Academy of Family Physicians
11400 Tomahawk Creek Parkway
Leawood, KS 66211-2672
Tel: 800-944-0000
Web: www.aafp.org

The American Academy of Family Physicians developed *Patient Education in Your Practice: A Handbook for the Office Setting* in 2000. This is a handbook on clinician patient education techniques. CME credit is available.

American Cancer Society
2200 Century Parkway, Suite 950
Atlanta, GA 30345
Tel: 800-227-2345
Web: www.acs.org

The American Cancer Society (ACS) collects and disseminates data, supports anti-tobacco legislation, undertakes advocacy and media initiatives; and supports the Great American Smokeout each November. Programs and self-help material are available for smokers. Fresh Start is the society's group smoking-cessation program run at the local chapter level. A local ACS chapter can be contacted for information. Make This a Fresh-Start Family is a curriculum for health care providers who give personal counseling to pregnant women and mothers of young children to stop smoking.

American Legacy Foundation
2030 M Street, NW, 6th Floor
Washington, DC 20036
Tel: (202) 454-5555
Fax: (202) 454-5599
E-mail: info@americanlegacy.org
Web: www.americanlegacy.org

The American Legacy Foundation is a national independent foundation created by the tobacco master settlement agreement to prevent tobacco use in children and eliminate the disparities in access to tobacco prevention and cessation services. This foundation provides grants and technical assistance and training to support innovative tobacco control efforts and offers free information to help women stop smoking at 800/4-A-Legacy or online at http://women.americanlegacy.org. The Legacy Great Start Campaign is a 24/7 quitline specifically for pregnant smokers offering telephone counseling and materials at 866-66-START.

American Lung Association
61 Broadway, 6th Floor
New York, NY 10006
Tel: (212) 315-8700
Web: www.lungusa.org

The American Lung Association provides anti-tobacco advocacy and support for smoking cessation. Local chapters run smoking cessation clinics. The national organization has a web-based smoking cessation counseling program called "Freedom From Smoking."

Asthma and Allergy Foundation
1233 20th Street, NW, Suite 402
Washington, DC 20036
Tel: (202) 466-7643; 800-7-ASTHMA
Fax: (202) 466-8940
E-mail: info@aafa.org
Web: www.aafa.org

The Asthma and Allergy Foundation provides information and advocacy on the issue of environmental tobacco smoke for clinicians, educators, and consumers.

Campaign for Tobacco-Free Kids
National Center for Tobacco-Free Kids
1400 Eye Street, NW, Suite 1200
Washington, DC 20005
Tel: (202) 296-5469
Web: www.tobaccofreekids.org

The Campaign for Tobacco-Free Kids provides state specific data, particularly on child and adolescent tobacco use and the direct and indirect cost of use and environmental tobacco smoke. It works to change public policy on tobacco at the federal, state, and community level.

Centers for Disease Control and Prevention
Office on Smoking and Health
Mail Stop K-50
4770 Buford Highway, NE
Atlanta, GA 30341-3717
Web: www.cdc.gov/tobacco/index.htm

The Office on Smoking and Health in the Centers for Disease Control and Prevention leads and coordinates efforts at preventing tobacco use among youth, promotes smoking cessation among youth and adults, protects nonsmokers from environmental tobacco smoke, and works to eliminate tobacco-related health disparities. The office provides data and educational materials for consumers, clinicians, and legislators; funds research and demonstration projects; and provides online cessation and advocacy information. It produced *Women and Tobacco: Seven Deadly Myths*, which is an educational video for young women exploring the myths about smoking and encouraging women to become smoke-free. The video and workbook can be downloaded from the web site at http://www.cdc.gov/tobacco/christy/myths.htm.

The Chest Foundation
Tel: 800-343-ACCP (2227)
Web: www.chestnet.org/education/physician/tobacco/index.php

The Chest Foundation produced a Tobacco Cessation Tool Kit. This kit is based on the clinical practice guidelines and provides screening forms, check lists, chart stickers, pharmacotherapy information, and resources for patients and clinicians.

Dental Tobacco Cessation Consultants, Inc.
Indiana University School of Dentistry
1121 W Michigan Street
Indianapolis, IN 46202
Tel: (317) 274-3859
Fax: (317) 274-2419
Web: www.iusd.iupui.edu/depts/ob/tobaccoeduc_control.htm

Joan and Arden Christen of Dental Tobacco Cessation Consultants, Inc. developed *The Female Smoker: From Addiction to Recovery: A Professional Teaching Monograph*. This book provides strategies for clinical and community support for women's smoking cessation.

Environmental Protection Agency
Indoor Environments Division
1200 Pennsylvania Avenue, NW
Mail Code 6609J
Washington, DC 20460
Tel: (202) 343-9370
Fax: (202) 343-2392
Web: www.epa.gov/smokefree

The Environmental Protection Agency has programs and information to reduce child, employee, and public exposure to environmental tobacco smoke. This includes the "Smokefree Homes" program, environmental tobacco smoke speaker's kits, and brochures and facts sheets for consumers and professionals.

International Network of Women Against Tobacco
PO Box 224
Metuchen, NJ 08840
Tel: (732) 549-9054
Fax: (732) 549-9056
Web: www.inwat.org

The International Network of Women Against Tobacco collects and distributes information regarding global women and tobacco issues, supports the development of women-centered tobacco use prevention and cessation programs, and assists in the organization and planning of conferences on tobacco control.

Joe Chemo
Web: www.joechemo.org

The Joe Chemo Interactive web site allows visitors to test their "Tobacco IQ," get a personalized "Smoke-o-Scope," and send free Joe Chemo E-Cards. It has information for teachers, health care providers, and smokers who want to quit.

Join Together
1 Appleton Street, 4th floor
Boston, MA 02116-5223
Tel: (617) 437-1500
Fax: (617) 437-9394
E-mail: info@jointogether.org
Web: www.jointogether.org

Join Together provides advocacy and information for professionals and consumers on issues of tobacco, substance abuse, and gun violence. It has daily and weekly journal scans as well as weekly updates on funding opportunities.

March of Dimes
1275 Mamaroneck Avenue
White Plains, NY 10605
Tel: 888-MODIMES (888-663-4637)
Web: www.modimes.org

The March of Dimes supports research through the national office and community projects and grand rounds presentations through local chapters. It has informational materials for consumers and providers. The national office can be contacted for local contact information.

National Conference on State Legislatures
444 North Capitol Street, NW, Suite 515
Washington, DC 20001
Tel: (202) 624-5400
Fax: (202) 737-1069
Web: www.ncsl.org

The National Conference on State Legislatures is a source for research, publications, consulting assistance, meetings, and seminars to inform state legislators on policy issues, such as tobacco use. It tracks state-by-state legislation on key tobacco issues.

National Latino Council on Alcohol and Tobacco Prevention
1616 P Street NW, Suite 430
Washington, DC 20009
Tel: (202) 265-8054
E-mail: lcat@nlcatp.org
Web: www.nlcatp.org

The National Latino Council on Alcohol and Tobacco Prevention works through policy analysis, community education, training, and information dissemination by way of a network of community councils.

Nicotine Anonymous World Services
419 Main Street, PMB #370
Huntington Beach, CA 92648
Tel: (415) 750-0328
Web: www.nicotine-anonymous.org

Nicotine Anonymous World Services is a nonprofit fellowship of men and women who help each other to lead nicotine-free lives. It offers meetings and literature for individuals.

QuitNet
1 Appleton Street, 4th Floor
Boston, MA 02116
Tel: (617) 437-1500
Fax: (617) 437-9394
Web: www.quitnet.com

QuitNet provides online smoking cessation counseling and information in English and Spanish.

Quit Smoking Internet Discussion Groups
Web: www.geocities.com/HotSprings/Spa/8122/

Quit Smoking Internet Discussion Groups provide active links to forums, pen pals, chat rooms, and newsgroups for those interested in stopping smoking.

Smoke-Free Families National Dissemination Office
Cecil G. Sheps Center for Health Services Research
CB #7590, 725 Airport Road
University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-7590
Tel: (919) 843-7663
Fax: (919) 966-9764
E-mail: smokefreefamilies@unc.edu
Web: www.smokefreefamilies.org

Smoke-Free Families is a program funded through the Robert Wood Johnson Foundation that is dedicated to finding innovative evidence-based treatment for pregnant smokers. It provides professional resources, funds research and demonstration projects, advocates for tobacco legislation, and provides direct assistance to smokers.

Society for Women's Health Research
1828 L St, NW, Ste 625
Washington, DC 20036
866-HERCANCER
http://www.hercancer.com

The Society for Women's Health Research web site provides information about differences between men and women in lung cancer and tobacco addiction, with links to resources for finding clinical trials and medical research processes.

Women's Tobacco Prevention Network
Employee and Family Resources, Inc.
505 Fifth Ave, Ste 930
Des Moines, IA 50309
888-251-4507
Fax: (515) 288-4534
http://www.efr.org/wtpn

Women's Tobacco Prevention Network works primarily with national associations serving women to focus on tobacco issues and to assist women and organizations in preventing and eliminating tobacco use, especially among underrepresented populations.

Intimate Partner Violence and Domestic Violence

Key Points

- Intimate partner violence and domestic violence cross all racial, ethnic, religious, educational, age, and socioeconomic lines and have tremendous social, economic, and public health implications.
- The medical community can play a vital role in identifying intimate partner violence and domestic violence cases and halting the cycle of abuse.
- Although obstetrician–gynecologists may be called to see patients with acute injuries to the genitalia or reproductive system, they are more likely to see nonacute presentations of abuse.
- Being female is a significant enough risk factor for intimate partner violence and domestic violence to warrant screening every patient at periodic intervals, such as annual examinations and new patient visits.
- With disclosure of ongoing intimate partner violence and domestic violence, the physician's responsibility is to acknowledge the abuse, implement the support system for immediate referrals, assess safety, assist with reporting as necessary, document appropriately, and provide ongoing clinical care. For disclosure of past violence, the responsibilities are similar but generally do not require immediate intervention for safety and reporting.
- Pregnancy is an especially risky time for an abused woman. Screening for intimate partner violence and domestic violence should, therefore, occur at the first prenatal visit, at least once per trimester, and at the postpartum visit.
- Adolescents are at risk for intimate partner violence and domestic violence. Screening adolescents and providing information about intimate partner violence and domestic violence to adolescents is important.
- It is useful to have a specific protocol for responding to intimate partner violence and domestic violence that can be easily implemented and uses available resources.
- A basic understanding of legal measures and considerations can enhance a physician's ability to counsel and assist women in violent relationships.

> ***Intimate partner violence is a worldwide problem . . . . It crosses all ethnic, religious, educational, and socioeconomic lines . . .***

Intimate partner violence is a worldwide problem that affects women disproportionately. It crosses all racial, ethnic, religious, educational, and socioeconomic lines and has tremendous social, economic, and public health implications (1–3). Intimate partner violence is not a new phenomenon but rather is rooted in a deep history throughout the world. It often is referred to as gender-based violence and has been declared a violation of human rights (4).

Although there is no single definition of intimate partner violence that satisfies all medical, social, and criminal justice purposes, the term "intimate partner violence" 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 to describe intimate partner violence. This term, however, encompasses other forms of violence, including abuse of older individuals and children.

Although victims of intimate partner violence may be male or female, cases overwhelmingly involve female victims (5). The violence can involve actual or threatened physical, sexual, psychologic, financial, or emotional trauma against another individual. It is best understood on the basis of the relationship context in which the violence occurs, the behaviors of the abuser, and the function and expectations that these behaviors serve (6). The violence is meted out in a deliberate, repetitive, and ongoing, but unpredictable, process that also uses harassment, intimidation, and threats of additional violence to achieve control over the victim (Fig. 10) (6, 7).

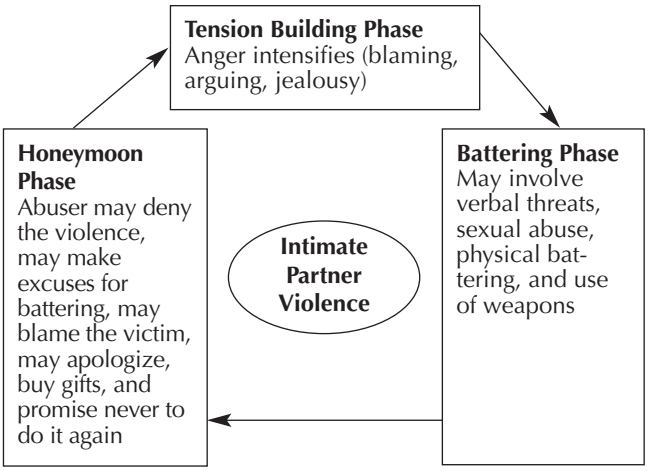

Fig. 10. Cycle of violence.

Physical violence can include throwing objects, pushing, kicking, biting, slapping, hitting, beating, threatening with any form of weapon, or using a weapon. Sexual violence takes many forms, including rape and other nonconsensual sexual activities. It can include sabotaging the use of birth control or refusal to follow safer sex practices. The focus of psychologic or emotional abuse is harassment and includes verbal abuse (name calling, denigration, degradation, blaming); threats; social isolation (from family, friends, and work); and deprivation of food, money, transportation, medications, and access to health care (8). It also can include destruction of personal property and pet abuse. Financial abuse or the rationing or control of medications or resources frequently is involved when elderly victims are concerned. Stalking is a severe form of harassment and is considered a significant risk factor for major harm (9).

Intimate partner violence often occurs within a larger framework of family violence that can include physical or sexual abuse of a child, elder mistreatment, and abuse of adults who are disabled. Victims of all ages share certain fundamental elements of abuse and victimization, but the mechanisms and short- and long-term sequelae are different for child, adolescent, reproductive-aged, and elderly victims (3).

Attention to the effects of intimate partner violence and domestic violence first appeared in the literature in the 1970s. During the succeeding decades, intimate partner violence and domestic violence became recognized as both a criminal act and a major public health problem. As a result, guidelines and templates for screening, diagnosis, and treatment have been developed and disseminated by numerous medical professional organizations, including the American College of Obstetricians and Gynecologists (ACOG) (8, 10–12), and incorporated into licensing and credentialing criteria (13). Since the mid-1980s, ACOG has been advocating against intimate partner violence and domestic violence and for the improvement of women's health through active involvement of its fellowship (14). Obstetrician–gynecologists are in the unique position to provide assistance because of the special nature of the patient–physician relationship and the many opportunities that are available during the course of pregnancy, annual examinations, and follow-up visits for ongoing care.

Epidemiology

The true prevalence of intimate partner violence and domestic violence is difficult to ascertain. Recent efforts to standardize definitions have produced more generalizable and consistent data within the United States. These estimates of prevalence, however, are most likely still understated because many victims fear disclosing their personal experiences of violence.

It is estimated that 2 million women are abused every year by someone they know (15). Surveys suggest that 25% of women in the United States have reported partner violence at some time during their lives, creating a one in four lifetime chance for experiencing family violence (16). Approximately one third of female victims experienced violence more than once during the preceding 6 months.

According to the Department of Justice, intimate partner violence accounts for 22% of all violent crimes against women (17). The Centers for Disease Control and Prevention reports that approximately one in three female homicides is caused by intimate partner violence, whereas only 5% of male homicides are caused by this kind of violence (18). Two thirds of all rapes are committed by an intimate partner (19).

All age groups are affected by intimate partner violence and domestic violence. Four percent of intimate partner homicide cases occur in adolescents and are reported as early as age 12 years. Peak rates occur among those aged between 20–39 years. Six percent of partner homicides occur in women older than 65 years (18). Among all pregnant women, 0.9–21% experience domestic violence (20).

Health Effects

Thirty percent of female intimate partner violence victims have injuries that require significant medical attention (16). Thirty-seven percent of women seen in hospital emergency departments are thought to be victims of intimate partner violence or domestic violence, although it is well established that only a fraction of the cases seen there are recognized or documented as such (21). Injuries often are severe and most commonly involve the head, face, breasts, or abdomen (8). Other symptoms associated with intimate partner violence include general symptoms of pain (headache, backache, body ache), abdominal discomfort and digestive problems, and sleep and eating disorders (22, 23). These are likely to be clinical manifestations of internalized stress (ie, somatization). The cyclic repetition of intimate partner violence and the constant threat of violence juxtaposed with kindness eventually lead to psychologic weakness and helplessness that can manifest as posttraumatic stress disorder and battered woman syndrome (24).

Posttraumatic Stress Disorder

In victims of abuse, posttraumatic stress disorder often is associated with depression, anxiety disorders, substance abuse, somatization, and suicide. Research confirms the long-term physical and psychologic consequences of ongoing or past violence (25). The stress of living in a ongoing abusive relationship contributes to chronic headaches; chronic pelvic pain; sleep and appetite disturbances; sexual dysfunction; abdominal problems; palpitations; chronic vaginitis; and mental health problems, such as feelings of inadequacy and self-blame, depression, mood and anxiety disorders, suicidal ideation, and suicide (25, 26).

Battered Woman Syndrome

Battered woman syndrome is based on the ongoing failure to identify the etiology of acute injuries and coexisting emotional distress (27, 28). Over time this leads to somatization with the development of medically unexplained symptoms. On a repetitive basis, the inability to eradicate the symptoms leads to progressive and significant frustration for both victim/patient and physician. As these patients continue to seek care for recurring injuries or long-term problems, they develop thick medical records with multiple physician visits; see many consultants; and have multiple prescriptions, especially for analgesics and psychotropic medications.

A national cross-sectional survey of 1,800 women showed that those who are victims of lifetime physical or sexual abuse have poorer health status, some form of disability or a chronic condition, are more depressed and anxious, and report more difficulty in receiving needed medical care when compared with never-abused women (29). Mental health symptoms associated with intimate partner violence include feelings of inadequacy and self-blame, substance abuse, and suicide attempts (25, 26).

Obstetric and Gynecologic Presentations

Although obstetrician–gynecologists may be called to see patients with acute injuries to the genitalia or reproductive system, they are more likely to see nonacute presentations of abuse. These include chronic and unexplained pelvic pain; urinary frequency, urgency, and dysuria; sexual dysfunction (as dyspareunia, vaginismus, libido changes, and anxiety related to sexuality); irritable bowel syndrome; recurrent vaginitis; irregular menstrual patterns; specific trauma to the genitalia and breasts from sexual assaults, including bite marks; and sexually transmitted diseases (STDs) from partner infidelity. Persistent, recurrent, or resistant vaginitis and STDs can be associated with physical and sexual abuse (30). The association of partner violence with STDs can occur through rape and coitus without a condom. A woman's request to use a condom or disclosing to her partner that she has an STD, especially human immunodeficiency virus (HIV), can trigger violence (30–33). Awareness of these presentations can help in addressing a particular clinical issue that has been difficult to resolve or in working with a "difficult" patient (Box 16).

Women who present with an unintended pregnancy may be victims of abuse. Unintended pregnancies account for approximately 40% of all pregnancies but may account for as many as 70% of pregnancies in abused women. The national rape-related pregnancy rate is 5% per rape among victims of reproductive age (age 12–45 years), accounting for approximately 32,000 pregnancies per year. Most of these pregnancies involved a known perpetrator (29.4% boyfriend, 17.6% husband, 11.8% relative, 5.9% father-stepfather) (34). In addition, women who have been physically or psychologically abused as children or adolescents are at increased risk for unintended pregnancy. (See discussions on child and adolescent abuse under "Special Populations" in this chapter and the chapter on "Adult Manifestations of Childhood Sexual Abuse.")

Many victims of intimate partner violence will not disrobe completely for a pelvic examination when asked to do so. In spite of a clear intellectual understanding of what is necessary for a successful examination, victims of physical and sexual assault may have difficulty assuming the lithotomy position, may withdraw rapidly even before the perineum is touched, and manifest other forms of avoidance behavior such as clenching the buttocks and keeping their knees together, even when repeatedly asked to permit the examination. During examinations, they may appear to "zone out," demonstrate excessive distress or discomfort out of proportion to the clinical symptoms, or deny actual pain on examination. Some will cry and not be able to offer an explanation for this behavior. These are all suggestive of posttraumatic stress disorder and are clues that a woman may have been or currently is being physically or sexually abused.

Box 16 Clinical Manifestations That Alert the Physician to Possible Intimate Partner Violence and Domestic Violence

No single presentation confirms intimate partner violence or domestic violence. Clinical judgment is imperative.

- Delayed presentation and inadequate explanations of physical injuries (eg, unexplained bruises or abrasions)
- Unusual difficulty during the gynecologic examination:
  - —Excessive distress or discomfort out of proportion to the clinical situation
  - —Avoidance behavior (eg, excessive sensitivity in the perineal area, clenching buttocks; keeping knees together, flattened affect or "zoning out"
- Chronic and unexplained pelvic pain, urinary symptoms, sexual dysfunction, or irritable bowel syndrome
- Persistent/recurrent/resistant vaginitis or sexually transmitted disease in spite of adequate treatment
- Vague, repetitive, and elusive somatic symptoms such as headache, backache, palpitations, abdominal and digestive problems, or sleep and eating disorders
- Unintended pregnancy
- Symptoms of posttraumatic stress disorder: depression, anxiety, phobias, panic attacks, feelings of shame, inadequacy, and worthlessness, suicidal ideation

Social and Economic Effects

The societal and economic effects of intimate partner violence are profound. The costs of intimate partner violence against women exceed an estimated $5.8 billion. These costs include nearly $4.1 billion in the direct costs of medical care and mental health care (35). These considerable expenses result in significantly higher costs to health insurance plans for intimate partner violence victims than for the general female enrollee (36).

Services for victims of intimate partner violence are lacking. More than 30% of women requesting refuge in battered women's shelters are turned away for lack of space, and many have little to no economic resources for independent living. These women, especially those with children, often are left homeless or return to their violent homes (37). This also is true for adolescents, elderly victims, or women with substance abuse issues. A system that is prepared to assist and advocate for both the victim and the physician is needed.

Physicians' Responsibilities in Responding to Intimate Partner Violence

The medical community can play a vital role in identifying intimate partner violence and domestic violence cases and halting the cycle of abuse. A summary of the physician's responsibilities in addressing intimate partner violence and domestic violence is shown in Box 17. Regardless of the types of victimization a woman has experienced, providing a safe and private setting in which she can discuss the problem and receive support is paramount to her recovery. Fulfilling these responsibilities may be daunting, time consuming, and confusing in terms of balancing patient safety and autonomy, legal requirements for reporting, and treating medical concerns (38–41). Often, physicians are inadequately trained, have insufficient support, are constrained for time, fear offending the client, and feel powerless in treating or ending the abuse cycle (40, 42). Approximately 90% of female patients in a primary care population, however, believe that physicians can help with problems related to abuse (39).

Simply asking about violence and abuse in a compassionate way can be a significant first step. A simple inquiry can demonstrate caring and sensitivity and signal that violence is not acceptable. Characteristically, abused women will not disclose their abuse voluntarily for numerous reasons (Box 18). However, many women will respond if they are asked directly. Even if victims do not reveal themselves to their physicians, hearing validating messages and knowing that options and resources may be available has prompted many victims to seek help on their own (43, 44).

Screening and Identification

Screening all patients, not just those in whom abuse is suspected, is the key to improving the overall health status of women. More than 70% of abused women have never discussed abuse with their physicians. For those who have, physicians initiated the discussion only 25% of the time (45). Because of the prevalence of violence, being female is a significant enough risk factor to warrant universal screening of all women for intimate partner violence and domestic violence at periodic intervals, such as annual examinations and new patient visits. The goals of identifying an abused woman are to prevent further abuse and improve her health status by expanding the focus of partner violence and abuse from crisis intervention to crisis prevention, managing long-term health issues, and,

Box 17

The Physician's Responsibility in Addressing Intimate Partner Violence and Domestic Violence

- Implement universal screening
- Acknowledge the trauma
- Assess immediate safety of patient and children
- Help establish a safety plan
- Review options
- Offer educational materials and a list of community and local resources (including toll-free hotline)
- Provide referrals
- Document interactions
- Provide ongoing support at subsequent visits

Box 18
Reasons for Lack of Disclosure

- Fear of retaliation from the partner
- Fear of police and court involvement
- Embarrassment and shame
- Not trusting the health care provider
- Fear of deportation among immigrant women
- Concerns for confidentiality
- Belief that physicians lack interest or time to discuss abuse

ultimately, preventing abuse (46). Discussing partner violence and providing universal screening establishes that the problem of intimate partner violence is medically relevant. If the patient is a victim or subsequently experiences some form of interpersonal violence, she may be more likely to report it and receive medical attention (43, 44). Regular and consistent use of abuse assessment questions on standard medical records can increase the success of screening (47). Actively asking each patient directly increases the likelihood of disclosure, more so than passively asking with a questionnaire (48). Furthermore, the probability of success is improved when screening is done privately by a concerned and sincere questioner.

Abuse victims often are accompanied to health care appointments by the perpetrator, who may appear overprotective or overbearing. Because partner control is a key factor in violence and abuse, it is essential to discuss abuse in private, apart from the partner and apart from children, family, or friends. It also is important to avoid using a family member or friend as an interpreter when asking someone with limited English proficiency questions about violence. A prefacing statement suggests the physician's concern and that screening for abuse is something the physician does with all patients. A simple phrase, such as "I would like to ask you a few questions about physical, sexual, and emotional trauma because we know that these are common issues that affect women's health," demonstrates awareness and sensitivity and provides context for the inquiry. Disclosure rates will be higher if the questions use behaviorally specific descriptions rather than the terms "abuse," "domestic violence," or "rape." Some examples of behaviorally specific phrasing are shown in Box 19. Screening recommendations for specific populations are discussed in the "Special Populations" section.

Most perpetrators do not lash out at others, even at those they believe can jeopardize their control over their victims. However, infrequently the physician and clinical staff may become targets of verbal attacks or threats by an enraged perpetrator. Law enforcement officials increasingly recognize the need for prompt response should this be necessary. Also, they may be helpful in devising security plans for physicians' offices and staff.

Intervention: Responding to "YES"

Positive responses will be encountered if universal screening is used. Within a busy office setting, it is therefore, imperative that action plans be outlined in advance. The most important and effective strategy in

Box 19
Behaviorally Specific Phrasing for Screening Questions

- Has anyone close to you ever threatened to hurt you?
- Has anyone ever hit, kicked, choked, or hurt you physically?
- Has anyone, including your partner or a family member, ever forced you to do something sexually that you did not want to do?
- Are you ever afraid of your partner or anyone at home?

For teens:

- Has anyone touched you in a way that made you feel uncomfortable?
- Has anyone ever forced you to have sex?
- Has anyone ever hurt you physically or emotionally?

For pregnant women:

- Since you became pregnant, have you been physically hurt by anyone?

For elderly individuals:

- Has anyone ever taken anything of yours without asking?

an office setting is to acknowledge the trauma to the patient by providing education and support and assuring the victim that she is not responsible for the abuse. Often, victims blame themselves for the actions that were taken against them. The physician must be prepared to discuss the abuse and establish a plan to address the presenting medical and psychosocial issues. It also is very important to offer referrals to community support services. Most agencies for victims of abuse and rape crisis centers have expertise in dealing with all forms of violence against women. A list of resources should be readily available in medical offices and hospital emergency departments. The list should include the national 24-hour toll-free hotline (800-799-SAFE [7233] and 800-787-3224 [TDD]), telephone numbers for police departments, emergency departments, shelters for victims of abuse, counseling services, and advocacy agencies that can provide legal, financial, and emotional support. The ACOG web site (www.acog.org) lists state and local resources. Additional information often can be found in the telephone book.

Once intimate partner violence or domestic violence has been identified and acknowledged, the next step is to assess the safety of the patient and that of any children. If the woman believes that her safety is endangered if she returns to her home, shelter should be offered by contacting or referring her to social services, homeless shelters, or community services for battered women. If the patient is afraid for her safety and shelter space is not immediately available, sometimes special arrangements can be made to admit the patient into a hospital until other arrangements can be made. This can be difficult to arrange. If the patient is not in need of immediate shelter, 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. In acute crisis situations that involve serious risks to the life of the victim, her children, or others, crisis intervention resources should be used. These instances are rare in the office setting, occurring more commonly in emergency settings. Marital counseling is contraindicated, and, for the safety of the patient, abuse issues should never be discussed with the abuser.

Establishing a safety plan is an important step in the intervention process; ACOG distributes pocket cards with suggested steps that can be very helpful (see Box 20 for suggested steps for patients to take when ready to leave the abusive situation). These cards or other resource materials can be handed directly to the patient or left in patient restrooms where they can be retrieved without being seen by an accompanying partner. Displaying and providing educational materials on intimate partner violence and domestic violence and its consequences is a part of the intervention process. It sends a message to women that their physicians' offices are both a resource and a safe place should they encounter abuse or choose to disclose victimization. It reinforces validating messages and can help motivate victims to take action toward ending the violence.

Success in caring for abused women requires an appreciation of the reasons women remain in abusive and dangerous relationships. Patients have the right to decide whether to remain in or leave a relationship. Many physicians think in terms of abused

Box 20 Making an Exit Plan

Making a decision to leave an abusive relationship can be very difficult. It may take time for you to feel ready. Call a woman's shelter; someone there can help with a safety plan—you don't have to give anyone your name. If you are ready to leave:

- 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 you and your children. Take a favorite toy or plaything.
- Hide an extra set of car and house keys outside of your house in case you have to leave quickly.
- Take important papers, such as:
  - —Birth certificates for you and your children
  - —Health insurance cards and medicine
  - —Deed or lease to your 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

patients' denial or that they are frustrating and difficult patients (49). Others may try to rescue a patient from her relationship (50, 51). Abused women, however, think in terms of their safety and their children's safety. Many are terrorized into helplessness. They fear that they will be beaten again or even killed or that their children or older family members will be attacked. Therefore, they may feel that it may be safer not to leave. Some are pressured by well meaning, but uninformed, friends and family to remain in the relationship. Most, however, are isolated from family and friends, have no social support, and find that there is inadequate space in battered women's shelters. They think in practical terms of lack of income, housing, health insurance, and other factors necessary to establish independent living. Others will not want to leave; rather, they simply want the abuse to stop (50, 51).

The decision to take action can be a long and difficult process and can include many attempts to leave a violent relationship before it is left permanently. Therefore, to assume that a patient can leave without consequences suggests that the woman has more control than is apparent and implies that she is part of the problem. It ignores the possibility of long-term psychologic sequelae from childhood or adolescent abuse and the cumulative effects that past or present abuse can have on a woman. It ignores the dynamics of violence, the true perpetrator, and the criminal nature of partner and family abuse.

Documentation

Documentation should be done following any screening, even if the response is "no." Accurate documentation following a positive response to intimate partner violence and domestic violence screening is no different than any other recording of patient interactions. Precise and accurate recording of findings, especially for repeated episodes of care, however, has special significance in intimate partner violence and domestic violence cases (15, 52, 53). Over time, specific documentation can lead to identification of intimate partner violence or domestic violence as the underlying issue and common denominator for a variety of symptoms, such as persistent unresolved chronic conditions or repetitive injuries and emergency visits. Documentation is forensic evidence. It provides concrete evidence of violence and abuse and may prove to be crucial to the outcome of any legal case. It substantiates the occurrence of violence when a victim requests reimbursement for advocacy services related to intimate partner violence and domestic violence (53) as, for example, under the Victims of Violent Crimes Act.

When documenting positive responses to screening questions, it is advantageous to use direct and specific quotations of the patient's explanation of her injuries and a body map to locate and describe the appearance of injuries. Photographs are desirable and of great value in legal proceedings, but the patient's consent should be obtained and noted in the patient's medical record (8). Photographs should be identified with the patient's name, the date and time, and the photographer's name. Cameras with instant imaging are ideal tools, although 35 mm film may be preferred in some jurisdictions. Use of computerized online photography may pose a risk to preservation of evidence because a case could be made for computerized alteration of images. Additional documentation needed includes a full history and review of symptoms; psychologic, social, and sexual histories; findings from laboratory and other diagnostic procedures; and management plans, including follow-up and referrals and, if required, law enforcement notification. Some states specifically define what must be documented as part of their intimate partner violence and domestic violence reporting laws.

Proper documentation using assigned International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), and Current Procedural Technology (CPT) coding* is necessary for reimbursement. Specifically dedicated ICD-9-CM codes for partner violence in the 995.8 series are a validation that intimate partner violence and domestic violence has serious health consequences. However, CPT codes are not specifically directed to intimate partner violence and domestic violence, but do describe the level of care, such as codes for complex evaluation and management; preventive medicine services; and preventive medicine counseling (eg, as with developing safety plans, providing referrals). Documentation with coding permits more accurate data acquisition

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and analysis to assess effectiveness of care for victims and develop more effective clinical strategies, guidelines, and policies. It also helps to improve the health care response to intimate partner violence and domestic violence and to develop risk management policies. Lastly, documentation with coding serves as an aid to justify coverage by insurance carriers and health maintenance organizations for services such as reconstructive facial and dental surgery or other therapies to address the chronic effects of certain injuries (53).

Special Populations

Child Abuse and Children of Violent Families

Violence between intimate partners may be the most important risk factor for child abuse. Child abuse occurs in 33–77% of families in which there is abuse of adults and at a rate that is 15 times higher than in families without intimate partner violence (11, 54). There is a 60% overlap between violence against children and violence against women in the same family, and as the frequency of violence against the woman increases, the odds of her child being abused also increases (55, 56).

Children and adolescents from violent homes demonstrate more psychologic morbidity compared with children in nonviolent homes. This is manifested as behavioral, emotional, social, and cognitive problems and expressed as aggression, anxiety, depression, and poor social interactions and school performance (57). Sleep disturbances, enuresis, and separation anxiety are seen in younger children. Eating disorders, manipulative behavior, problems with abandonment and control, pregnancy, suicidal or homicidal thoughts, and drug and alcohol abuse are seen in older children and adolescents who have witnessed abuse (58). Female children who are exposed to violence in the home are at increased risk for becoming future victims; male children are at increased risk of becoming perpetrators of interpersonal violence. Each of these responses are a function of role-modeling and learned behavior (59, 60). A detailed description of the effects of childhood abuse on adult women's health is provided in the chapter on "Adult Manifestations of Childhood Sexual Abuse."

Children in violent homes need as much care and attention as the abused woman. Once an abused woman with children is identified, the role of the obstetrician–gynecologist is to bring this to the attention of those who will provide family case management. Actively making referrals to such resources is essential, because the abused woman may not be willing or able to do so on her own, especially if she fears retaliation or loss of child custody. Conversely, some battered women seek help through their children.

Adolescents

Adolescents are at high risk for intimate partner violence and domestic violence. Adolescents are at risk for physical and sexual abuse from parents, family members, and dating partners. More than 30% of female adolescents report partner violence in their heterosexual relationships (61). Adolescents are vulnerable to dating violence because of identity issues, neediness, insecurity, and naiveté. Many adolescents lack skills to help them recognize and avoid violent dating situations; some even believe that violence in a dating relationship is justifiable in certain situations (62).

Both adolescent abuse and adolescent pregnancy are associated with childhood physical and sexual abuse, earlier onset of sexual activity, and unwanted sexual experiences (63). Sexually abused adolescents are more likely to have been pregnant than those without histories of abuse (64).

As with child abuse, adolescent violence is associated with partner violence in adult life (65). It is important to identify and address dating and family violence and to provide prevention efforts and education to assist the adolescent in recognizing and avoiding future violence (66). Prevention efforts and education are important for both female and male adolescent populations.

Abuse During Pregnancy

Pregnancy is considered an especially risky time for an abused woman. Abuse during pregnancy affects both maternal and fetal well-being (67). A 1996 review of the prevalence of violence during pregnancy reported a range of 1% to 20%, with many studies identifying rates between 4% and 8% (20). Higher rates are identified when screening occurs more than once during the pregnancy (eg, at each visit or at least once during each trimester) (68, 69). Evidence suggests that the

severity and frequency of violence can escalate during pregnancy (70–72) and become even more prevalent in the postpartum period (20, 71, 72). Violence may occur more frequently in pregnancy than other conditions for which routine screening is done, such as gestational diabetes and preeclampsia (20). In other cases, violence may subside during the pregnancy and resume in the postpartum period (74).

In pregnant adolescents, the prevalence of abuse, particularly sexual abuse, may be greater than for adult pregnant women (69). This is because an adolescent can face abuse by either a parent or other family members as well as her partner. As with pregnant adults, abuse may begin long before conception occurs (64).

The dynamics of intimate partner violence on the woman, fetus, and neonate range from direct physical attacks that create serious injuries with potentially fatal outcomes to tactics of intimidation that lead to deprivation and secondary physical, physiologic, and psychologic stress effects on the woman and fetus. The latter tactics include restricted nutrition and prescriptions and limited access to prenatal care (late prenatal care, missed office visits) by the controlling partner.

Pregnancy complications, such as poor maternal weight gain, infection, anemia, and second- and third-trimester bleeding, occur more commonly among pregnant women who are battered than among those who are not battered (47, 69). Injuries in pregnancy commonly involve the abdomen, uterus, and breasts. These may be directed attacks intended to harm the pregnancy (75). Severe maternal complications include injuries to the uterus, liver, and spleen; pelvic fracture with retroperitoneal hemorrhage; placental abruption; preterm labor; and preterm rupture of the membranes (76). Injuries to other parts of the body also are seen in pregnancy.

Fetal complications include pregnancy loss, stillbirth, neonatal death, preterm delivery, low birth weight, and direct injuries (eg, fetal fractures) (30, 76, 77). The severity and extent of injuries to the uterus and the fetus in late pregnancy may be related to increasing vulnerability to trauma because of extrapelvic expansion of the body and reduced amniotic fluid volume as pregnancy advances.

Regular contact with medical providers increases the likelihood of disclosure; therefore, pregnancy offers a unique opportunity to screen and identify partner and family violence. Screening all patients at various times during the pregnancy is important because some women do not disclose abuse the first time they are asked. Screening should occur at the first prenatal visit, at least once per trimester, and at the postpartum checkup.

Women With Disabilities

Women with disabilities can experience physical, sexual, or emotional abuse and are vulnerable to neglect or exploitation. This abuse can include withholding of necessary assistive devices, care, or treatment. Most often the abuse is by a male known to the victim, particularly in sexual abuse. The risk for experiencing abuse is the same between women with physical disabilities and those without physical disabilities. Underreporting is likely caused by fear and dependency on the abuser. Women with physical disabilities are more at risk for abuse by attendants or health care providers and more likely to experience a longer duration of abuse (78). It has been estimated that more than 30% of women with developmental disabilities have been sexually abused in their lifetimes. Women with Down syndrome are particularly vulnerable because of their passive, obedient, and affectionate behavior (79). Intimate partner violence and domestic violence should be considered in these populations. For additional information on this population, including a screening tool specifically designed for women with disabilities, refer to the "Access to Reproductive Health Care for Women With Disabilities" chapter.

Immigrant Women

Intimate partner violence is disproportionately common in women of ethnic and cultural minorities (80). Immigrant and refugee women are susceptible to 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 (81). Immigrants often do not trust advocates from outside their communities and may fear the police and deportation based on experiences in their countries of origin. These women are under great pressure to maintain cohesive family structures, no matter what the cost, and comply with their abusers' demands and behaviors. Furthermore, in some ethnic groups, traditional practices of abuse and violence are cultural norms (eg, wife beating, honor killing). Thus, the prevalence of abuse in these populations may be greater than 50% (82).

Because of the increasing number of women of many cultures who appear for care, it is important for

physicians to maintain cultural sensitivity and awareness (see "Cultural Competency, Sensitivity, and Awareness in the Delivery of Health Care" chapter). It is important to note that even if not yet approved for U.S. residency, abused immigrant women can be protected under the Violence Against Women Act. They are able to seek shelter, health care, and advocacy, as well as apply for residency without the batterer's sponsorship. State benefits are available under various aid programs, including those for children. Many immigrant women are unaware of these opportunities. Provision of this information by physicians to this population can be invaluable.

Lesbian, Gay, Bisexual, and Transgender Communities

In 2000, there were approximately 4,400 documented cases of lesbian, gay, bisexual, and transgender partner abuse, with a prevalence rate of between 20% and 35%, similar to that among heterosexual couples (83). The processes of power and control; the cyclicity; and the severity of physical, sexual, and emotional violence in the lesbian, gay, bisexual, and transgender communities are the same as in partner abuse in all other populations.

Abused lesbian, gay, bisexual, and transgendered individuals may stay in their relationships longer because there is a greater tendency for denial and failure to acknowledge intimate partner violence within these communities. Often, lesbian, gay, bisexual, and transgendered individuals are manipulated by their partners into remaining in their relationships through fear of being "outed" to family and friends or at work. Being outed carries the risk of losing social and financial support and losing one's job (83).

Often, lesbian, gay, bisexual, and transgendered individuals are stigmatized and isolated from mainstream society by their sexual orientation or gender identity. Myths in mainstream society contribute to a lack of both understanding and acknowledgment of intimate partner violence in these communities. The legal, law enforcement, and advocacy response systems can be insensitive to abuse of lesbian, gay, bisexual, and transgendered individuals, incorrectly assuming that intimate partner violence does not occur in these populations. Thus, these women may have limited access to violence prevention and advocacy programs or to protective services that are otherwise provided by the law. Several states define domestic violence in ways that exclude individuals in same-sex relationships from access to protective orders (84). In some states, the definition allowed for access to protective orders by individuals in same-sex relationships, but sodomy laws were a deterrent to their use. The U.S. Supreme Court ruling in *Lawrence v. Texas* invalidated sodomy laws, thereby enhancing access to protective orders (83). Protecting privacy and confidentiality is critical because of the risk of public discrimination and insensitivity.

Given these complex factors, in clinical encounters it is preferable that the physician not assume the sexual orientation of any patient, the sex of the batterer, or that the patient is "out." It is best that gender-neutral terms be used with respect to partners and expressions of sexuality when conducting universal screening for abuse. (For more detailed information, refer to the "Primary Care of Lesbians and Bisexual Women in Obstetric and Gynecologic Practice" and "Health Care for Transgendered Individuals" chapters.)

Domestic Elder Abuse

The general term "elder mistreatment" refers to: 1) intentional actions that result in harm or create a serious risk of harm (whether or not the harm is intended) to a vulnerable elder by a caregiver or other person who stands in a trust relationship to the elder; or 2) failure by a caregiver to satisfy the elder's basic needs or to protect the elder from harm (85). Domestic elder abuse is distinguished from self-neglect (failure of an older individual to satisfy his or her own basic needs and to protect himself or herself from harm) and abuse perpetrated by non-family caregivers in the home and institutional settings. The National Elder Abuse Incidence Study estimates that approximately 450,000 older individuals in domestic settings are abused or neglected annually. Women make up 58% of victims of elder abuse (86).

It generally is acknowledged that these findings detect only the most overt cases of abuse and, thus, significantly underestimate the incidence of domestic elder abuse (85). It is estimated that only 1 out of 14 elder abuse cases is reported to a public agency (87). Underreporting of elder family abuse may be related to the setting in which the abuse occurs and the relationship between the victim and the abuser. In almost 90% of incidents with a known perpetrator, the abuser is a

family member, usually an adult child or spouse (86, 88).

Abuse can be physical, sexual, and psychologic and also includes neglect (refusal or failure to fulfill care giving obligations), abandonment (desertion), and financial exploitation (illegal or improper exploitation of funds or other assets through undue influence or misuse of power of attorney). Generally, neglect is the most common form of elder abuse (55%), followed by physical abuse (15%), exploitation (12%), and emotional abuse (8%) (89). Abused elders have poorer health and higher mortality from injuries compared with nonabused elders (90). There is an increasing proportion of emergency room visits by abused elderly individuals related to both injuries and the exacerbation of chronic diseases (91). As with younger adult victims, the clinical presentations are injuries or symptoms that may not coincide with the stated history (see Box 21 for signs of neglect and financial exploitation).

For the obstetrician–gynecologist, the importance of elder domestic violence relates to the increasing number of older women in the population (92). Currently, 60% of the population aged 65 years and older is female (93). Older women seek care for pelvic floor relaxation, sexual dysfunction, breast and reproductive tract cancer, and other problems. Identification of abuse in this population may be difficult because few physicians are fully aware of domestic violence in the elderly or the extent of the problem. They may ignore signs and symptoms of elder mistreatment, assuming that somatic symptoms are related to aging. They also may be uncomfortable with the responsibility of further assessment and action (87, 94). A victim's fear, intimidation, and lack of opportunity also may retard the disclosure of the problem.

Physicians or other health care workers who provide acute or chronic medical care to older adults may see these individuals on a regular basis and have unique opportunities for screening and assessment. Additionally, an opportunity for screening and recognition exists during all health-related encounters with older individuals, such as routine gynecologic examinations. Incorporating screening related to elder abuse and neglect into these encounters will increase identification of abuse. Physicians should assess patients for elder abuse and respond to patients who are victims of elder abuse as they would to domestic violence in general (95).

Box 21 Signs of Neglect and Financial Exploitation in Older Women

Neglect

- Malnutrition
- Dehydration
- Hypothermia or hyperthermia
- Decubitus ulcers
- General health deterioration
- Excessive dirt or body odor
- Lack of necessary prosthetic devices (dentures, glasses, hearing aids, etc.)
- Evidence of under- or over-use of medications

Financial exploitation

- Woman appears reluctant to seek necessary medical care
- Sudden inability to pay bills or purchase medicines or personal items
- Fear or anxiety when discussing finances
- Extraordinary interest by family member in the older individual's assets

Legal Issues

A basic understanding of legal measures and considerations can enhance a physician's ability to counsel and assist women in violent relationships. Because there is significant variation among state laws in terms of the requirements for health care providers, familiarity with local laws and policies is critical. Health care providers can contact their state medical society for up-to-date information about these laws.

Reporting

All states require physicians to report suspected child abuse. Almost all states require physicians to report injuries sustained by a gun, knife, or other deadly weapon. A number of states also require the reporting

of injuries resulting from acts of violence or nonaccidental acts. In many instances, these laws may require the reporting of injuries resulting from intimate partner violence and domestic violence. The general intent of these laws is to detect and prosecute criminal activity. Several states explicitly direct health care providers to report acts of domestic violence and abuse or neglect of incompetent elderly or vulnerable adults. However, no uniform approach to reporting intimate partner violence and domestic violence exists among these states.

Reporting of current abuse, particularly mandatory reporting, is controversial among victims, physicians, the law enforcement and legal communities (Table 14). The intent of mandatory domestic abuse reporting laws is to identify and protect victims before the next act of violence. Opponents of mandatory reporting repeatedly raise concerns for the victims' safety and confidentiality subsequent to reporting (96–99), the inadequate infrastructure of services for victims of violence (96, 100), and the lack of data to support the assumed benefits of mandatory reporting. This suggests that mandatory reporting is not yet justified and should not be implemented without provisions that allow women to override or veto reporting requirements. Before supporting further implementation of mandatory reporting laws by states, a comprehensive evaluation of the effect of existing mandatory reporting laws is needed. Particular attention should be given to analyzing their effect on the use and availability of support services, the frequency of physician screening, and the incidence of intimate partner violence and domestic violence.

Physicians should be familiar with laws pertaining to the reporting of intimate partner violence and domestic violence, including elder abuse, and should contact state officials to learn under what conditions, to whom, and how these reports should be made. Resources include state and local medical societies, state attorneys general offices, domestic violence agencies, area agencies on aging, and hospital policy and procedure manuals. State laws generally provide physicians with immunity from civil or criminal liability if good faith is used when filing a report of suspected or confirmed domestic abuse (96).

Preserving Privacy and Confidentiality

Breaches in privacy and confidentiality expose a victim to further physical and emotional consequences and various forms of social discrimination. Violence

Table 14. Mandatory Reporting of Intimate Partner Violence and Domestic Violence

Support	Opposition
■ Underscores that intimate partner violence and domestic violence are crimes. ■ Acknowledges that the power imbalance endemic to many abusive relationships often prevents or deters the abused individual from seeking available legal remedies. ■ Can help to identify battered women so that services and protection can be provided before violence recurs. ■ May prompt physicians and others to implement universal screening in part to avoid penalties and liability issues.	■ No data to support the benefits of enactment of these laws. ■ Laws may place a woman at greater risk of retaliation from the perpetrator. ■ Most state laws do not include provisions that permit the victim to "veto" the filing of a report of intimate partner violence and domestic violence by someone other than the victim. ■ A court order of protection or restraining order is not a guarantee against reprisal by the abusive partner. ■ Mandatory reporting laws can diminish the woman's right to autonomy and self-determination and can render the victim as incompetent. ■ Reporting requirements presuppose the availability of resources to help an abused woman establish a new life for herself and her children. ■ They may compromise the essential tenet of physician–patient confidentiality and trust. This can deter victims from confiding in their physicians or from seeking health care, thus affecting victims' health status. ■ Laws may inhibit providers from screening patients for abuse. ■ Reporting may impair a woman's ability to plan and negotiate a safe exit for herself and her children and may lead to an inability to establish economic independence; loss of child custody; and, for some women, deportation.

may escalate if the perpetrator learns that a report has been filed and retaliates, especially if the woman leaves her relationship. Inappropriate access to confidential health information has led to insurance discrimination against victims of intimate partner violence and domestic violence. As recently as 1995, more than one half of health insurers were using intimate partner violence and domestic violence documentation to make insurance coverage decisions, resulting in denial of insurance or higher premiums for a "pre-existing" condition (101). Since that time, model state legislation has been developed and promoted to end this problem. Some states have enacted domestic violence insurance discrimination protections. Experts are concerned, however, that many of these laws do not protect the woman adequately (102).

Other forms of inappropriate access to information have led to discrimination by employers in hiring, firing, and promotions; community stigma, with public harassment and humiliation; and discrimination in the courts, including loss of child custody (103, 105). These discriminatory practices have led to avoidance behavior by women (eg, withholding information, lying, paying out of pocket, not filing insurance claims, physician-shopping to minimize accumulation of information and to keep records separate, and avoiding care completely). The result is inadequate or no care and poorer health (103). The fundamental issues in privacy and confidentiality center around preserving a woman's right to choose if, how, when, and to whom her information about abuse is disclosed, and allowing, as much as possible, the patient to control or limit the release and distribution of information among different users who have different needs for that information. Types of disclosure that can expose domestic abuse inadvertently include access by the perpetrator to information from a child's medical record; release of a patient's name, birth date, social security number, and address in billing and benefits explanations that are sent to the perpetrator; inappropriate distribution of health information by health plans and health information clearinghouses; electronic transmission of claims; and phone calls and release of information to family. The possibility of retaliation or discrimination should not deter physicians from documenting abuse in the medical record.

Recommendations have been made for the use and disclosure of health information for victims of intimate partner violence and domestic violence based on respecting autonomy and confidentiality to assure victims' safety and quality of care and to protect their rights to social programs. These include limiting information to what is requested or necessary for a specific need; specifically advising patients before release on how information will be used and to whom it will be disclosed, including mandatory reporting; giving patients the right to authorize release of information, to limit what information is released, and to refuse the release of information when their need for privacy outweighs the user's need for information; and enforcing safeguards and penalties for unauthorized access to information (103). The Health Insurance Portability and Accountability Act provides important new protections that address some of these recommendations (105).

The confidentiality of the patient who is a victim of intimate partner violence or domestic violence needs to be protected by not making phone calls, sending bills, or having other types of contact with the patient where her abuser can discover that she has revealed her situation or locate the woman if she has left the relationship. All office staff should be oriented thoroughly to the extreme sensitivity of this issue, and appropriate arrangements should be made for sharing information with or about the patient. Similar care should be taken with releasing data to outside agencies seeking information.

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Resources

ACOG Resources

American College of Obstetricians and Gynecologists. Clinical aspects of domestic violence for the obstetrician–gynecologist. Washington, DC: ACOG; 2002.

American College of Obstetricians and Gynecologists. Domestic elder abuse: practical tools for providers of women's health care. Washington, DC: ACOG; 2003.

American College of Obstetricians and Gynecologists. Domestic violence. ACOG Patient Education Pamphlet AP083. Washington, DC: ACOG; 2002.

American College of Obstetricians and Gynecologists. Domestic violence: the role of the physician in identification, intervention, and prevention. Washington, DC: ACOG; 1995.

American College of Obstetricians and Gynecologists. Precis: primary and preventive care. Washington, DC: ACOG; 2004.

American College of Obstetricians and Gynecologists Violence Against Women Home Page (www.acog.org, click on "Women's Issues" and then "Violence Against Women")—contains contact information for state domestic violence and sexual assault coalitions, screening tools, bibliographies, and fact sheets.

Limited quantities of the materials listed as follows can be obtained for free by e-mailing violence@acog.org.

American College of Obstetricians and Gynecologists. Domestic violence cards: no matter how you say it, it's all abuse. Washington, DC; ACOG. (Larger quantities can be purchased through the ACOG bookstore at: http://sales.acog.org.)

General information packet includes fact sheet, national domestic violence organizations list, commonly asked questions, and a bibliography on intimate partner violence/domestic violence.

Rolodex Cards:

- "No matter how you say it, it's all abuse" rolodex cards with national hotline phone numbers and information about screening.
- Sexual assault rolodex cards include tools for screening teens and information on sexual assault.

American College of Obstetricians and Gynecologists. Stay Alert! Stay Safe! Pocket Card Washington, DC; ACOG.

Other Resources

The resources listed as follows are for information purposes only. Referral to these sources and web sites does not imply the endorsement of ACOG. This list is not meant to be comprehensive. The exclusion of a source or web site does not reflect the quality of that source or web site. Please note that web sites are subject to change without notice.

American Academy of Family Physicians
11400 Tomahawk Creek Parkway
Leawood, KS 66211-2672
Tel: 800-274-2237; (913) 906-6000
Web: www.aafp.org

The American Academy of Family Physicians works to decrease violence through activities such as developing teaching modules for members to present to medical students, residents, hospital staff, and community groups; creating an ongoing education program for members on screening, recognition, and treatment of violence; supporting or developing university-, hospital, or office-based protocols and policies about family violence; publicizing to members the hotline numbers for organizations that help physicians and patients deal with abuse; offering continuing medical education for members to increase their skills in screening for, identifying, and treating cases of intimate partner violence/domestic violence; participating in public policy initiatives and legislative reform to protect victims and rehabilitate batterers; partnering with other organizations committed to decreasing family violence; and promoting reasonable and responsible control of firearms and other weapons.

The American Academy of Pediatrics
141 Northwest Point Boulevard
Elk Grove Village, IL 60007-1098
Tel: (847) 434-4000
Fax: (847) 434-8000
Web: www.aap.org

The American Academy of Pediatrics has a Committee on Injury, Violence and Poison Prevention that develops recommendations designed to assist health care providers from the pediatric and family health settings address adult domestic violence victimization and childhood exposure to domestic violence through screening, assessment, documentation, intervention, and referrals.

American Bar Association
Commission on Domestic Violence
740 15th Street, NW, 9th Floor
Washington, DC 20005-1022
Tel: (202) 662-1000
Web: www.abanet.org/domviol/home.html; www.abanet.org/aging

The American Bar Association (ABA) houses a Commission on Domestic Violence, which provides information about a wide-range of domestic violence issues. The web site for this commission includes listings of ABA policies, training materials, legal briefs, and sample legal forms relevant to domestic violence issues and proceedings. The web site also provides information about upcoming events and training opportunities. The ABA also has a Commission on Law and Aging that works to strengthen and secure the legal rights, dignity, autonomy, quality of life, and quality of care of elders. With this in mind, the commission examines a wide range of law-related issues including health and long-term care and elder abuse.

American Medical Association
515 N State Street
Chicago, IL 60610
Tel: 800-621-8335
Web: www.ama-assn.org

The American Medical Association (AMA) works on advocacy efforts at the state and federal levels of government and in concert with state medical associations and national medical specialty societies to advocate on behalf of patients and the medical profession. The AMA established the National Advisory Council on Violence and Abuse to offer advice on effective strategies and programs to eliminate family violence in our society.

American Medical Women's Association
801 N Fairfax Street, Suite 400
Alexandria, VA 22314
Tel: (703) 838-0500
Fax: (703) 549-3864
Web: www.amwa-doc.org

The American Medical Women's Association (AMWA) is an organization of women physicians and medical students that functions at the local, national, and international level to advance women in medicine and improve women's health. The AMWA seeks to provide and develop leadership, advocacy, education, expertise, mentoring, and strategic alliances. Violence against women is one of the women's health issues AMWA works to address.

Family Violence Prevention Fund
383 Rhode Island Street, Suite 304
San Francisco, CA 94103-5133
Tel: (415) 252-8900
Fax: (415) 252-8991
Web: endabuse.org

The Family Violence Prevention Fund is a nonprofit organization that works to prevent violence within the home and in the community to help those whose lives are affected by violence. It has programs addressing issues including public education, health care, children, public policy, and immigrant women. It also provides information on how to become active in the fight against family violence by providing e-mail alerts upon request and information on how to contact Congress. Its web site includes an extensive list of violence prevention resources.

National Center on Elder Abuse
1201 15th Street, NW, Suite 350
Washington, DC 20005-2842
Tel: (202) 898-2586
Fax: (202) 898-2583
Web: www.elderabusecenter.org

The National Center on Elder Abuse is a national resource for elder rights, law enforcement and legal professionals, public policy leaders, researchers, and the public. The center's mission is to promote understanding, knowledge sharing, and action on elder abuse, neglect, and exploitation. The center makes available news and resources; collaborates on research; provides consultation, education, and training; identifies and provides information about promising practices and interventions; answers inquiries and requests for information; operates a listserv forum for professionals; and advises on program and policy development.

National Coalition Against Domestic Violence
PO Box 18749
Denver, CO 80218-0749
Tel: (303) 839-1852
Fax: (303) 831-9251

Public Policy Office
1633 Q Street, NW, Suite 210
Washington DC 20009
Tel: (202) 745-1211
Fax: (202) 745-0088
Web: www.ncadv.org

The National Coalition Against Domestic Violence (NCADV) is a grassroots, nonprofit membership organization working since 1978 to end violence in the lives of women and children. Its work includes the provision of a national network for state coalitions and local programs serving battered women and their children, public policy at the national level, technical assistance, community awareness campaigns, general information and referrals, and publications on the issue of domestic violence. In addition, NCADV sponsors a national conference every 2 years to further advocacy efforts for battered women.

National Youth Violence Prevention Resource Center
PO Box 6003
Rockville, MD 20849-6003
Tel: 866-SAFEYOUTH (866-723-3968); 800-243-7012 (TTY)
Fax: (301) 562-1001
Web: www.safeyouth.org

Developed by the Centers for Disease Control and Prevention with 10 other Federal partners, the National Youth Violence Prevention Resource Center provides current information developed by federal agencies and the private sector pertaining to youth violence. A gateway for professionals, parents, youth, and other interested individuals, the Resource Center is designed for those looking for the latest tools to help talk to children, to provide alternatives to violent resolutions to conflicts and problems, to stop bullying, to prevent teen suicide, and to end violence committed by and against young people.

The Sidran Institute
200 E Joppa Road, Suite 207
Towson, MD 21286
Tel: (410) 825-8888
Fax: (410) 337-0747
Web: www.sidran.org

The Sidran Institute is a nationally focused nonprofit organization devoted to helping people who have experienced traumatic life events, including family violence. Its education and advocacy efforts seek to promote greater understanding of the early recognition and treatment of trauma-related stress in children, the understanding of trauma and its long-term effect on adults, and the strategies leading to greatest success in self-help recovery for trauma survivors.

U.S. Department of Justice
Office for Victims of Crime
810 7th Street, NW
Washington, DC 20531
Tel: 800-851-3420
Web: www.ojp.usdoj.gov/ovc

The Office for Victims of Crime (OVC) was established by the 1984 Victims of Crime Act to oversee diverse programs that benefit victims of crime. The OVC provides funding to state victims' assistance and compensation programs. The agency supports trainings designed to educate criminal justice and allied professionals regarding the rights and needs of crime victims. The OVC is one of five bureaus and four offices with grant-making authority within the Office of Justice Programs, U.S. Department of Justice.

U.S. Department of Justice
Office on Violence Against Women
810 7th Street, NW
Washington, DC 20531
Tel: (202) 307-6026; (202) 307-2277 (TTY)
Fax: (202) 307-3911
Web: www.ojp.usdoj.gov/vawo

The Office on Violence Against Women handles the U.S. Department of Justice's legal and policy issues regarding violence against women, coordinates departmental efforts, provides national and international leadership, and responds to requests for information regarding violence against women.

YWCA of the U.S.A.
1015 18th Street, NW, Suite 1100
Washington, DC 20036
Tel: (202) 467-0801 or 800-YWCA US1
Fax: (202) 467-0802
Web: www.ywca.org

The YWCA of the U.S.A. is a national leader in violence prevention, offering programs and services to more than 700,000 women and children annually. The YWCAs across the country help women escape, recover from, and prevent violence in their lives and the lives of their families. The YWCA supports anti-violence policies that seek to eliminate violence and identifies and supports alternatives to violence at home, school, at work, and in neighborhoods.

Sexual Assault

Key Points

- The legal definition of criminal sexual assault is any genital, oral, or anal penetration by a part of the accused's body or by an object using force or without the victim's consent.
- Many victims of a sexual assault do not identify the event as a rape; therefore, behavior-specific questions are recommended to increase case findings.
- Rape-related pregnancy contributes substantially to unintended pregnancy in the United States.
- The most common sexually transmitted diseases (STDs) reported in sexual assault victims also are those most common in the general community and include trichomoniasis, gonorrhea, and *Chlamydia trachomatis* infection.
- Victims of physical and sexual assault are at a great risk of developing posttraumatic stress disorder. Clusters of symptoms may not appear for months or even years after the traumatic experience.
- If a history of sexual abuse has been obtained, the clinician needs to be aware that various health care procedures can be triggers for panic and anxiety reactions. Pelvic, rectal, endovaginal ultrasound, and breast examinations may be traumatic.
- Physicians should be aware of the existence of local protocols, including the use of specially trained sexual assault nurse examiners (SANEs) or sexual assault forensic examiners (SAFEs).
- The physician conducting an evidentiary evaluation of a victim of sexual assault has a number of responsibilities, both medical and legal, and should be aware of state and local statutory or policy requirements that may involve the use of assessment kits for gathering evidence.
- For adolescents, there are several special concerns, including pregnancy and drug-facilitated sexual assault. Embarrassment, fear of retribution, feelings of guilt, and lack of knowledge of their rights frequently are cited reasons for adolescents not disclosing victimization.
- Alcohol and drug use influences date and acquaintance rape.

Physicians who make screening for a history of sexual assault a routine part of clinical practice provide tertiary prevention of long-term and persistent physical and mental health consequences of sexual assault.

Definitions

The legal term rape traditionally has referred to forced vaginal penetration of a woman by a male assailant. Many jurisdictions have now abandoned this terminology in favor of the gender-neutral term sexual assault. The legal definition of criminal sexual assault is any genital, oral, or anal penetration by a part of the accused's body or by an object using force or without the victim's consent (1). Criminal sexual assault, or rape, often is further characterized to include acquaintance rape, date rape, "statutory rape," child sexual abuse, and incest. These terms generally relate to the age of the victim and her relationship to the abuser.

Acquaintance and date rape refer to sexual assaults committed by someone known to the victim. Instances in which the perpetrator is related to the victim generally are defined as incest. Although incest refers to sexual intercourse among family members, or those legally barred from marriage (2), this definition has been broadened conceptually to include step-relatives and parental figures living in the home. "Statutory rape" refers to consensual sexual intercourse with a female younger than a specified age. The age at which an adolescent may consent to sexual intercourse varies by state and ranges from 14 to 18 years. Sexual assault occurring in childhood also is defined by most states as child abuse. The National Center on Child Abuse and Neglect defines childhood sexual abuse as "contact or interaction between a child and an adult when the child is being used for the sexual stimulation of that adult or another person." Childhood sexual abuse is further defined such that abuse may be committed by another minor when that individual is either significantly older than the victim (often defined as more than 5 years) or when the abuser is in a position of power or control over the child (3).

Incidence and Prevalence

Reliable information on national rates of sexual assault requires assembling information from a variety of sources. The method of obtaining data influences the estimates of the incidence and prevalence of rape and sexual assault. Data that rely on reporting to law enforcement officials will always underestimate the incidence of sexual assault, and most population surveys are limited to individuals aged 18 years and older. Interviews or surveys that query on lifetime experiences with sexual assault yield extraordinary rates of sexual assault in childhood and adolescence and are the basis for a component of prevalence data.

Many victims of a sexual assault do not identify the event as a rape; therefore, behavior-specific questions are recommended to increase case findings (4). Gateway or general questions produce more conservative estimates of incidence or prevalence (5).

Key findings of the National Violence Against Women (NVAW) survey, which was conducted from 1995 to 1996, are summarized as follows (6):

- A total of 17.6% of all women surveyed reported that they had been the victim of a completed or attempted rape during their lifetime. Most experiences were of completed rapes (14.8% of women surveyed).
- More than one half (54%) of the women who reported an attempted or completed rape were younger than 18 years when victimized; 21.6% were younger than 12 years when they were first raped, and 32.4% were aged 12–17 years.
- Of the women who reported a rape before age 18 years, only 14.3% were assaulted by a stranger.
- When data on women of color are combined, there is no significant difference in sexual assault rates compared with white women: 19.8% of women of color and 17.7% of white women had experienced a completed or attempted rape in their lifetime. American Indian and Alaska Native women were significantly more likely than Caucasian, African-American, or mixed-race women to report that they had been raped, and Hispanic women were significantly less likely than other women to report a lifetime experience of rape. Data are inadequate to characterize the experiences of Asian and Pacific Islander women.
- A total of 41.4% of women who were raped since age 18 years were physically assaulted during their most recent rape.
- Fewer than one half, only 35.6%, of women injured during their most recent rape received medical treatment.

The National College Women Sexual Victimization Survey (NCWSV) assessed a range of sexual victimization incidents in a national sample of women attending 2- or 4-year colleges in fall 1996. The rate of completed

and attempted rape incidents during 1 academic year was 35.3 per 1,000 female students (7). It was estimated that 20–25% of women attending colleges might become victims of sexual assault over the course of college enrollment, which currently lasts an average of 5 years (7). Incidence and prevalence data support the conclusion that sexual assault most commonly occurs among young women aged 16–24 years (8).

Medical Consequences of Sexual Assault

The medical consequences of sexual assault can be considered as acute and chronic phenomena. Both categories can be characterized further as those of general medical significance and those of specific reproductive health consequence.

The NVAW survey estimated that there are more than 300,000 rape-related physical assaults against women annually (6). Acute, traumatic injuries reported can be relatively minor, including scratches, bruises and welts, but some women will sustain fractures, head and facial trauma, lacerations, or bullet wounds. The risk of injury was increased for adult female rape victims if the perpetrator was a current or former intimate partner; if the rape occurred in the victim's or perpetrator's home; if the rape was completed; if harm to the victim or another was threatened by the perpetrator; if a gun, knife, or other weapon was used during the assault; or if the perpetrator was using drugs or alcohol at the time of the assault. No relationship was found between the risk of injury and the victim's race or age.

Genital injury patterns have been described primarily in studies of emergency room populations. An analysis of 1,076 cases of sexual assault in an urban level 1 trauma center found that 52.7% of women had documented genital trauma; vaginal assault was the most common (9). A series that used colposcopy to evaluate genital trauma compared findings in women with nonconsensual and consensual intercourse. Multiple site trauma was more common in nonconsenting women. Trauma types varied by vulvar site: tears were most often detected on the posterior fourchette and fossa, abrasions on the labia, and ecchymoses on the hymen (10).

Sexual assault is associated with a risk of exposure to pregnancy and STDs. Rape-related pregnancy contributes substantially to unintended pregnancy in the United States. A national sample assessed the prevalence and incidence of rape and pregnancy among other physical and mental health outcomes over a 3-year period (11). The national rape-related pregnancy rate was calculated to be 5% per rape among women aged 12–45 years (11). This would be equivalent to approximately 32,000 pregnancies as a result of rape each year. Fifty percent of women who became pregnant as a result of rape opted for pregnancy termination (11). Almost one half of victims received no medical attention in immediate temporal proximity to the assault (11). Women who might become pregnant should be offered emergency contraception. Table 15 lists emergency contraception options.

Rape-related STD infection is a major concern for victims and health care providers. At the time of a clinical examination, however, it often is not possible to distinguish readily in adult women between a preexisting infection and one that was acquired as a result of the assault. In addition, sexual assault victims often do not complete follow-up visits to obtain the additional cultures or other tests necessary to document a change from the baseline. Often sexual assault victims may delay presentation for medical care, and thus, experience intercurrent circumstances such as interval acts of consensual intercourse that make differentiation of new infections or pregnancy more difficult. Although most sexual assaults are committed by an individual known to the victim, it is not common for evaluation and testing for STDs to be performed on the alleged perpetrator.

The most common STDs reported in sexual assault victims also are those most common in the general community and include trichomoniasis, gonorrhea, and *Chlamydia trachomatis* infection (12). Prophylaxis for STDs are summarized in Table 16. Sexually transmitted diseases in children known or suspected of being abused also include these common diseases. Two additional conditions related to sexual abuse should be considered in children: 1) bacterial vaginosis and 2) human papillomavirus infection. When screening for multiple genital infections is carried out, bacterial vaginosis is most commonly reported, and the presence of condylomata may represent fondling even in the absence of evidence for other genital contact (13). (For more information on sexual assualt in this population, refer to the "General Management of Pediatric Gynecology Patients" chapter.)

Table 15. Prescriptive Equivalents of Dedicated Products and Common Oral Contraceptives for Use as Emergency Contraception*

Brand	Manufacturer	Pills Per Dose	Ethinyl Estradiol Per Dose (μg)	Levonorgestrel Per Dose (mg)†
Plan B®‡	Barr	1 white pill	0	0.75
Alesse®	Wyeth-Ayerst	5 pink pills	100	0.5
Aviane™	Barr	5 orange pills	100	0.5
Cryselle®	Barr	4 white pills	120	0.6
Enpresse™	Barr	4 orange pills	120	0.5
Lessina®	Barr	5 pink pills	100	0.5
Levlen®	Berlex	4 light orange pills	120	0.6
Levlite™	Berlex	5 pink pills	100	0.5
Levora®	Watson	4 white pills	120	0.6
Lo/Ovral®	Wyeth-Ayerst	4 white pills	120	0.6
Lutera™	Watson	5 white pills	100	0.5
Low-Ogestrel®	Watson	4 white pills	120	0.6
Nordette®	Wyeth-Ayerst	4 light orange pills	120	0.6
Ogestrel®	Watson	2 white pills	100	0.5
Ovral®	Wyeth-Ayerst	2 white pills	100	0.5
Ovrette®	Wyeth-Ayerst	20 yellow pills	0	0.75
Portia®	Barr	4 pink pills	120	0.6
Seasonale®	Barr	4 pink pills	120	0.6
Tri-Levlen®	Berlex	4 yellow pills	120	0.5
Triphasil®	Wyeth-Ayerst	4 yellow pills	120	0.5
Trivora®	Watson	4 pink pills	120	0.5

*Treatment consists of two doses taken 12 hours apart; first dose to be taken within 72 hours of unprotected sex. Women who take combined emergency contraceptive pills may experience nausea or vomiting. Antinausea medicine is, therefore, recommended. The risk of nausea and vomiting with progestin-only emergency contraceptive pills is far lower than the risk with combined emergency contraceptive pills. The hormonal content of the Yuzpe regimen includes 100 μg of ethinyl estradiol and 1 mg of norgestrel or 0.5 mg of levonorgestrel in each of the two doses. There may be other oral contraceptive pills that are not listed here that provide the proper hormonal content to meet the Yuzpe regimen.

†The progestin in Ovral, Ogestrel, Lo/Ovral, Low-Ogestrel, and Ovrette 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.

‡Plan B is the only dedicated product specifically marketed for emergency contraception in the United States. Preven, a combined emergency contraceptive, is no longer available in the U.S. market.

Adapted with permission from Trussell J, Koenig J, Ellertson C, Stewart F. Preventing unintended pregnancy: the cost-effectiveness of three methods of emergency contraception. Am J Public Health 1997;87:932–7.

Note: to include your name in a directory of providers of emergency contraception, go to http://www.not-2-late.com or http://ec.princeton.edu/. For updates to this table, go to http://ec.princeton.edu/questions/dose.html. For other information, go to http://www.arhp.org and www.plannedparenthood.org/ec.

The human immunodeficiency virus (HIV) status of the assailant in a sexual assault is often unknown or unavailable. The U.S. Department of Health and Human Services now recommends that an individual seeking care within 72 hours after nonoccupational exposure to blood, genital secretions, or other potentially infective body fluids of an individual known to have HIV receive a 28-day course of highly active antiretroviral therapy (HAART), initiated as soon as possible after exposure. For an individual seeking care

within 72 hours of such an exposure to an individual of unknown HIV status, clinicians should evaluate the risks and benefits of nonoccupational postexposure prophylaxis (nPEP) on a case-by-case basis. For individuals initiating care more than 72 hours after exposure, the clinician might consider prescribing nonoccupational postexposure prophylaxis for exposures conferring a serious risk for transmission if in their judgment the diminished potential benefit of treatment outweighs the potential risks for adverse events from antiretroviral medications (14). Sexual assault typically has multiple characteristics that increase the risk of HIV transmission if the perpetrator is infected, including genital or rectal trauma leading to bleeding, multiple traumatic sites involving lacerations or deep abrasions, and the presence of preexisting genital infection in the victim (15). Threatening to infect an individual with HIV infection has been reported as an intimidation factor. The victim may have some awareness of the likelihood of risk factors for infection in the perpetrator, such as intravenous drug use, based on the location of the assault or other observations. These same factors represent potential risk for exposure to hepatitis B and hepatitis C.

Various general health effects have been associated with female sexual violence experiences. Increases in patient-reported symptoms, diminished levels of functional capacity, alterations in health perceptions, and decreased positivity of overall quality of life have all been reported as sequelae of childhood and adult sexual abuse (16, 17). Most women with a history of sexual assault will not have reported it to a nonpsychiatric physician. Yet, women with a history of sexual assault are more likely to present with chronic pelvic pain, dysmenorrhea, menstrual cycle disturbances, and sexual dysfunction than those without such a his-

Table 16. Testing and Medical Prophylaxis for Sexual Assault Victims

Sexually Transmitted Disease Infections	Prophylaxis
Gonococcal infection	Ceftriaxone, 125 mg intramuscularly in a single dose PLUS
Chlamydia trachomatis infection Trichomoniasis Bacterial vaginosis	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, malodor, 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)	≤72 hours postexposure with an individual known to have HIV, 28 day course of highly active retroviral therapy (HAART). Consultation with an HIV specialist is recommended. (Serologic tests should be conducted at initial evaluation, and repeated 6, 12, and 24 weeks after the assault.) ≤72 hours postexposure to an individual of unknown HIV status, or >72 hours postexposure, individualized assessment
Herpes simplex virus infection	Routine prophylaxis is not currently recommended but should be individualized if there is a report of a genital lesion on assailant. A 7–10 day course of acyclovir, famcyclovir, or valacyclovir may be offered. However, there are no data on the efficacy of this treatment.
Human papillomavirus infection	There is no preventive treatment recommended at this time.
Pregnancy	Emergency contraception. First dose should be given within 72 hours of the assault.
Injuries	Tetanus toxoid booster, 0.5 mL intramuscularly, if more than 10 years since last immunization.

Adapted from Sexually transmitted diseases treatment guidelines 2002. Centers for Disease Control and Prevention. MMWR 2002;51(RR-6):1–8; Smith OK, Grohskopf LA, BLack RJ, Auerbach JD, Veronese F, Struble KA, et al. Antiretroviral postexposure prophylaxis after sexual, injection-drug use, or other nonoccupational exposure to HIV in the United States: recommendations from the U.S. Department of Health and Human Services. MMWR Recomm Rep 2005;54(RR-2):1–20; and Holmes M. Sexually transmitted infections in female rape victims. AIDS Patient Care STDS 1999;13:703–8.

tory (18). The frequency with which these conditions are encountered in clinical practice and the prevalence of lifetime sexual assault predicates a significant likelihood that the victimization experience will be alluded to during an element of routine evaluation and treatment approaches. It is important to recognize these signs. (For a detailed discussion of physical and biomedical effects seen in adulthood as manifestations of childhood sexual abuse, see the "Adult Manifestations of Childhood Sexual Abuse" chapter.)

Psychologic and Mental Health Consequences of Sexual Assault

A woman who is sexually assaulted loses control over her life during the period of the assault. Her integrity, and sometimes her life, are threatened. She may experience intense anxiety, anger, or fear. After the assault, a "rape-trauma" syndrome often occurs. The acute phase (immediate response) may last for hours or days and is characterized by distortion or paralysis of the individual's coping mechanisms. The outward responses vary from complete loss of emotional control to an apparently well-controlled behavior pattern. The signs may include generalized pain throughout the body; headache; eating and sleep disturbances; and emotional symptoms, such as depression, anxiety, and mood swings. The next phase, the delayed (or organization) phase, is characterized by flashbacks, nightmares, and phobias as well as somatic and gynecologic symptoms. This phase often occurs months or years after the event and may involve major life adjustments (19, 20).

This rape-trauma syndrome is similar to a grief reaction in many respects. As such, it can only be resolved when the victim has emotionally worked through the trauma and personal loss related to the event and replaced it with other life experiences. The counseling offered to the victim for her current phase of the syndrome can help her to understand her psychologic and physical responses, thereby diminishing the symptoms. The additional, longer-term mental health sequelae of sexual assault can be quite varied and significant. Preliminary work in a group of women with a current diagnosis of major depression and a history of childhood sexual or physical abuse demonstrated a six-fold increase in adrenocorticotropic hormone response to stress as compared with controls (21). This response was interpreted as hyperreactivity of the hypothalamic–pituitary–adrenal axis and autonomic nervous system because of corticotropin-releasing factor hypersecretion being a persistent consequence of childhood abuse and contributing to certain aspects of psychopathology.

Posttraumatic stress disorder may be one type of such psychopathology. It is a complex disorder associated with exposure to extreme trauma (usually an event that was perceived as life threatening). Although first described in combat veterans, victims of physical and sexual assault also are at great risk of developing posttraumatic stress disorder. Clusters of symptoms may not appear for months or even years after a traumatic experience. These clusters are typical symptom categories associated with posttraumatic stress disorder, such as re-living the event. Here, affected individuals experience flashbacks, recurring nightmares, and, more specifically, intrusive images that appear at any time. Extreme emotional or physical reactions, including shaking, chills, palpitations, or panic reactions, often accompany vivid recollections of the attack. Avoiding reminders of the event constitutes another symptom cluster in posttraumatic stress disorder. In so doing, individuals with posttraumatic stress disorder become emotionally numb, withdrawing from friends and family and losing interest in every day activities. There may be an even deeper reaction of denial of awareness that the event actually happened. Symptoms such as easy startling, being hypervigilant, irritability, sleep disturbances, and lack of concentration are part of a third symptom cluster known as hyper-arousal. Individuals with posttraumatic stress disorder often will have a number of co-occurring conditions, such as depression, dissociative disorders (losing conscious awareness of the present or "zoning out"), addictive disorders, and many physical symptoms (22). When these behaviors are seen in clinical practice, it is important to consider a connection with more remote events rather than the immediate practice situation. If a history of sexual abuse has been obtained, the clinician needs to be aware that various health care procedures can be triggers for panic and anxiety reactions. Pelvic, rectal, breast, and endovaginal ultrasound examinations may be traumatic.

The medical and psychologic implications of sexual assault have a subsequent association with tobacco, alcohol, and illicit drug use and abuse. Cigarette use has been linked to problems in psychologic functioning, including posttraumatic stress disorder in Vietnam War veterans (23). It is interpreted as a coping mechanism, and there is evidence for a neurotransmitter-mediated effect of nicotine on mood. The negative health consequences of tobacco use in women are well established. (See "Smoking and Women's Health" chapter for more information.)

Alcohol abuse, including binge drinking, and illicit drug use and dependence, have a longer-term association with sexual assault. In a study of female twins discordant for self-reported childhood sexual abuse, the risks of bulimia and alcohol and other drug dependence were significantly higher in the exposed twin (24). A survey of women seeking substance abuse treatment found that prevalence rates of completed rape or other type of sexual assault for women were 64.2% and 44.8%, respectively (25). The prevalence rates for lifetime and current crime-related (inclusive of other types of physical assaults) posttraumatic stress disorder were 61.2% and 40.3%, respectively, for the women in the study (25).

The literature now contains multiple reports on the association between sexual assault in adolescents and maladaptive weight control techniques and eating disorders (26). Laxative use or vomiting to lose weight were significantly associated with dating sexual violence in the 1999 Massachusetts Youth Risk Behavioral Survey (27). In an adult population-based survey, regression analysis controlling for multiple demographic factors demonstrated that men and women with sexual assault histories were more likely than those not assaulted to report thinking they were too fat, losing 15 lb or more, admitting to one or more eating disorder symptoms, and experiencing sudden weight changes (28). Analysis of a survey of girls in grades 9–12 indicated an elevated probability (by 6–13%) that girls who experienced dating violence and unwanted sexual contact would report purging and diet pill consumption (29). In a study of female weight lifters, 13% of the group reported adolescent or adult rape. A subset of this group reported the use of anabolic steroids to gain muscle mass and had a pattern of activity suggestive of compulsive weight lifting interpreted to be a psychologic response to the abuse (30).

Roles and Responsibilities of Physicians

Physicians can practice primary prevention by being involved in advocacy in professional, community, and educational spheres. In addition, the American College of Obstetricians and Gynecologists recommends that physicians routinely screen all patients for sexual assault (31). The likelihood of disclosure increases with successive inquiries. Physicians who make screening for a history of sexual assault a routine part of clinical practice provide tertiary prevention of long-term and persistent physical and mental health consequences of sexual assault. Additionally, physicians should be aware of the existence of local protocols including the use of specially trained sexual assault nurse examiners or sexual assault forensic examiners. In recent years, there has been a trend toward the implementation of hospital-based programs to provide acute medical and evidentiary examinations by sexual assault nurse examiners or sexual assault forensic examiners. Physicians play a role in the policy and procedure development and implementation of these programs, and serve as sources for referral, consultation, and follow-up. In some parts of the country, however, obstetrician–gynecologists will still be the first point of contact for evaluation and care in the acute aftermath of a sexual assault. In addition, virtually all obstetrician–gynecologists will be called on to perform evaluations and, if conducting screening for history of sexual assault, will realize the utility of this information to the conduct of primary care and specialty care practice.

The physician conducting an evidentiary evaluation of a victim of sexual assault has a number of responsibilities, both medical and legal, and should be aware of state and local statutory or policy requirements that may involve the use of assessment kits for gathering evidence. Local law enforcement guidelines may not carry the weight of law; instead, they may be set forth by what cases are prosecuted. Specific responsibilities are determined by the patient's needs and by state law. Physicians' roles in evaluation of sexual assault victims are summarized in Box 22. Should a victim communicate with the physician's office, emergency room, or clinic before presenting for evaluation, she

Box 22 Physician's Role in Evaluation of Sexual Assault Victims

Medical issues

- Ensure 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, human immunodeficiency virus, and syphilis
- Provide appropriate infectious diseases 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 victim's 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.

should be encouraged to come immediately to a medical facility and be advised not to bathe, douche, urinate, defecate, wash out her mouth, clean her fingernails, smoke, eat, or drink.

In addition to fulfilling legal requirements, the informed consent process helps the victim participate in regaining control of her body and her circumstances. After acute injuries have been determined and stabilized, a careful history and physical examination should be performed. A clinical chaperone and possibly a support individual or victim advocate should be present during the history taking and physical examination. The physician should ask the victim to state in her own words what happened. The patient may be asked to identify her assailant or provide a description if unknown to her. Although this information also may be recorded with the police, it may be facilitated by discussion with the physician and may be pertinent to the conduct of the examination and assessment of risks. The patient also should be asked to provide details of the sexual acts imposed to allow appropriate examination and specimen collection.

A history of previous obstetric and gynecologic conditions should be recorded, and it is necessary to determine whether the patient may have a preexisting pregnancy or be at risk for pregnancy. Women who might become pregnant should be offered emergency contraception. A careful physical examination of the entire body should be performed and photographs or drawings made of injuries. Rape and sexual assault are legal terms that should not be used in medical records. Rather, the physician should report findings as "consistent with . . ." whatever aspect of the reported assault is being evaluated.

The physician should document the emotional condition of the patient as judged by direct observation and examination. If the victim is a minor, the physician should report the incident to the appropriate authorities as required by law. An effort should be made to have a parent or parental figure become

involved unless such an individual represents a security threat to the victim. When the physical and medical–legal needs of the patient have been addressed, the physician should discuss with the patient the degree of injury and the probability of infection or pregnancy. The physician should describe the general course that the patient may be expected to follow and how follow-up is to be arranged and carried out. Patients may be less likely to develop posttraumatic stress disorder if they understand what constitutes a normal reaction to such trauma. Other health personnel, particularly those trained to respond to rape-trauma victims, should be consulted to provide immediate intervention if necessary and to facilitate counseling and follow-up. Physicians are urged to assemble and maintain a list of these individuals and other resources for referral of the patient (see "Resources").

Because of the emotional intensity of the acute experience, a woman may not remember all of what is said. Therefore, it is helpful to provide all instructions and plans in writing. Generally, a visit for clinical and psychologic follow-up should take place within 1–2 weeks and scheduled thereafter as indicated by results and assessments at that time.

Special Concerns and Considerations

Childhood Sexual Abuse

Childhood sexual abuse is associated with adult revictimization, including rape, domestic violence, physical assault, and alcohol and drug abuse (32). Special consideration must be given to avoid retraumatization in pre-and peripubertal girls. The assailant almost always has some form of acquaintanceship to the victim; therefore, there are immediate and longer-term security issues. Referrals to a health care facility or provider specializing in child sexual abuse may be appropriate. The objectives of the physical examination are to identify for legal purposes any signs of sexual contact; to identify and treat adverse consequences of assault, such as injuries or STDs; and to reassure the child and caregiver about the child's physical well being. The external genitalia should be inspected and when possible, photographed. A colposcope with a camera attachment or hand-held camera with a macro-lens may be used. A speculum examination rarely should be performed in a prepubertal patient (33). Forcible restraint is never appropriate and sedation is rarely indicated for adequate examination for injuries, treatment, or procurement of evidence. The physician must learn what reports to authorities need to be initiated or already have taken place, depending on when they become involved in evaluation and treatment (see "General Management of Pediatric Gynecology Patients" chapter).

Adolescents

For adolescents, there are several additional special concerns, including pregnancy and drug-facilitated sexual assault. Embarrassment, fear of retribution, feelings of guilt, and lack of knowledge of their rights frequently are cited reasons for adolescents not disclosing victimization. The adolescent victim also may feel that she in some way contributed to her rape because her experience does not fit popular concepts of rape involving an assailant unknown to the victim (34). The risk of rape-related pregnancy is increased among adolescents because they are more likely to be repeatedly assaulted because of the predominance of an incestuous relationship with the perpetrator and their relatively low use of ongoing contraception.

All 50 states and the District of Columbia have laws that specify when sexual activity with a minor is illegal. The age at which an adolescent may consent to sexual intercourse varies by state and ranges from age 14 years to 18 years; an adolescent younger than this age is defined as being incapable of consenting. Most adolescent girls have a partner who is within their age range. However, sexual abuse is a greater risk with the presence of an older partner. A California cohort of adolescent mothers was studied to discern characteristics of paternity. Adult males were the fathers of 24.3% of the infants born to mothers aged 11–12 years, with a mean paternal age of 22.7 years (range 20–36 years). Adult males fathered 26.8% of infants born to mothers aged 13–14 years, with a mean paternal age of 22.5 years (range 20 to 58 years). The mean age difference between mothers aged 15–17 years and the fathers was approximately 6 years and it was 4 years for women aged 18–19 years (35).

Sexual victimization has been linked to subsequent high-risk behaviors in adolescents, including early initiation of consensual intercourse and unplanned pregnancy, lack of initiation and continuation of

contraception, and involvement in physically assaultive relationships (36–38). Delayed onset of prenatal care in an adolescent pregnancy and lack of adherence are not uncommon in pregnancies associated with sexual abuse. The young women themselves have psychosocial trauma, understandable rejection or denial of the pregnancy, and may be further victimized by the perpetrator. Management of adolescent pregnancy under these circumstances requires patience, insight, compassion, and collaboration with the entire health services team.

Date rape is a subcategory of acquaintance rape wherein nonconsensual sex occurs between two individuals who are in a romantic or developing romantic relationship. This discussion focuses on young individuals and adolescents in heterosexual relationships. For a discussion of issues related to lesbian relationships, see the "Primary Care of Lesbians and Bisexual Women in Obstetric and Gynecologic Practice" chapter. The concept of date rape was first reported in the 1950s as a phenomenon involving college students, but the considerations are broader at this time (39). Adolescents are more likely to subscribe to "rape myths," such as rapists are more likely to be strangers. Many adolescents have not yet developed the necessary skills to recognize and avoid potentially dangerous dating or social situations. Adolescent males and females may bring different expectations to dating situations and attribute different meanings to the same behaviors. Prevention of sexual assault of adolescents, which primarily occurs between acquaintances, requires education at the individual and community level.

Substance Use and Sexual Assault

Reports are conflicting on the influence of alcohol and other drug use by the victim or the perpetrator at the time of a sexual assault. There is evidence, however, that alcohol and other intoxicants play a role in increasing risk for sexual assault among adolescents and college students. In one study assessing self-reported substance use by the victim, substance use was reported by 51% of victims, with alcohol alone in 40% and in combination with drugs in 7% (40). Alcohol and marijuana are the most commonly used drugs among adolescents and young adults; therefore, they appear most consistently in screens for drug use in association with sexual assault (41). Recently, a group of drugs known as "club drugs" have appeared on the youth social scene. Several of these have been implicated in what is known as drug-facilitated sexual assault. The presence of multiple other psychoactive drugs, including potent sedatives, has been reported in drug-facilitated sexual assault. A list of drugs that have been used are listed in Table 17. The rapid acting benzodiazepine, flunitrazepam (Rohypnol), and the banned euphoriant γ-hydroxybutyrate (GHB), have received the widest attention. There are controversies as to how commonly these drugs have been used, with one screening survey reporting less than 3% of samples being positive for flunitrazepam or GHB (41). Such surveys use a variety of different sample procurement protocols and rely on samples obtained in reported cases of sexual assault; therefore, there are credible opinions that the use of these drugs is considerably greater.

Substance use by the victim in the immediate pre-assault period was associated with decreased memory for key aspects of the assault because of the significant anterograde amnesic effect of the drugs (42). This type of impairment is a contributor to the low rates of reporting to law enforcement as well as presentation for medical evaluation and care. In addition to amnesia, these drugs act rapidly to produce sedation, disinhibition, muscle relaxation, and loss of consciousness; alcohol potentiates these effects.

Flunitrazepam is not marketed legally in the United States but is available in Europe and Mexico. Street

Table 17. Drugs Used to Facilitate Sexual Assault

Most commonly used:	Alcohol* Marijuana (Cannabis)*
Associated with increased incidence of sexual assault:	Flunitrazepam (Rohypnol)* γ-hydroxybutyrate (GHB)* γ-butyrolactone (GBL)* 1, 4, butanediol (BD) Ketamine*
Reported in various series:	Alprazolam Chloral hydrate Clonazepam Diazepam Meprobamate Midazolam Phencylcidine* Temazepam Triazolam Zolpidem

*For more information, go to http://www.clubdrugs.org.

Adapted with permission from: Schwartz RH, Milteer R, LeBeau MA. Drug-facilitated sexual assault ("Date Rape"). South Med J 2000;93:558–61. © Lippincott Williams & Wilkins.

names for flunitrazepam include "roofies," "ruffies," "R-2," "roche," "Mexican Valium," and "forget-me pill." It is odorless and tasteless but does discolor or cloud liquids to which it is added. Even though it has been banned in the United States since 1990, GHB, an anabolic agent that is easily synthesized, can be obtained in bars, clubs, and gyms. Street names include "Grievous Body Harm," "Easy Lay," "Georgia Home Boy," "G," and "liquid ecstasy." In liquid or powder form, GHB is colorless and odorless when added to a drink. It is reported to have a salty taste. Fruit-flavored and dark colored beverages may be more likely to be adulterated intentionally. There are two pro-drugs that are metabolized by alcohol and aldehyde dehydrogenases to euphoriant GHB. Gamma-butyrolactone ("Blue Nitro") and 1,4, butanediol are industrial solvents that are sold as dietary supplements with claims for increased libido and improved sexual functioning. They are highly toxic, with deaths having been reported in association with their use (43). Adolescents should be provided with prevention messages about opened beverages and drinks served at group social events in addition to advice regarding under-age and excessive alcohol use.

Other Populations

There are a variety of additional circumstances in which physicians need to be aware of an increased likelihood that a particular patient may have experienced sexual assault or be at increased risk of sexual assault. Many women in prison and jail are victims of sexual abuse by the male custodial staff. The abuse includes provocative and offensive language, groping of breasts and genitalia during searches, and undressing the women, in addition to rape. Physicians, along with other health care professionals who provide health services to incarcerated women, must be aware of custodial assault. In addition, after women are released or paroled, they may seek health care in the community health care setting with physical and psychologic sequelae. (See "Health and Health Care for Incarcerated Adult and Adolescent Females" chapter).

Sexual assault and rape have been widely reported as occurring in areas experiencing civil war and social disruption. Rape of women of all ages often is a strategically perpetrated act of war, particularly in those conflicts based on racial or ethnic divisions. Many women who have relocated to the United States are asylum seekers, refugees who may have spent extended time in camps and transition facilities, or former residents of countries with repressive human rights records. These women have an increased risk of history of sexual assault (44, 45). Medical care of these women should include screening for a history of sexual assault. Members of the same community of origin who are already settled in the United States may be able to assist in culturally appropriate support services.

Expanded insurance coverage and guidelines for preventive care now foster more gynecologic care for the elderly, including women who are residents of nursing homes and long-term care facilities. During routine screening evaluations or indicated care for this population, physicians may become aware of the possibility that these patients have been recent victims of sexual abuse. The differential diagnosis of unexplained vaginal or rectal bleeding, vaginal discharge, and vaginal foreign bodies should include sexual abuse. (Special considerations for women with mental and physical disabilities, lesbians, bisexual women, and transgendered individuals are reviewed in corresponding chapters of this book.)

The population prevalence of sexual assault is such that there will be victims as well as perpetrators among health care professionals. Health care training and experience do not provide victims with immunity from the medical and psychologic sequelae described in this chapter. The experience of sexual assault also may limit the ability of a health care professional to screen for sexual assault or to respond effectively in acute care situations. These individuals may need peer support, counseling support, and other appropriate interventions. Health care professionals who are regularly exposed to sexual assault victims or who encounter particularly violent or traumatic cases may need debriefing interventions to process the feelings precipitated by the experiences.

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Resources

ACOG Resources

American College of Obstetricians and Gynecologists. Acquaintance and date rape. ACOG Tool Kit For Teen Care Fact Sheet FS002. Washington, DC: ACOG; 2003.

American College of Obstetricians and Gynecologists. Acquaintance and date rape. Tool Kit for Teen Care Fact Sheet AA415. Washington, DC: ACOG:2003.

American College of Obstetricians and Gynecologists Violence Against Women Home Page (www.acog.org, click on "Women's Issues" and then "Violence Against Women")—contains contact information for state sexual assault coalitions, screening tools, bibliographies, and fact sheets.

Limited quantities of the materials listed as follows can be obtained for free by contacting violence@acog.org:

- American College of Obstetricians and Gynecologists. Stay Alert! Stay Safe! Pocket Card. Washington, DC; ACOG.
- Sexual Assault rolodex cards include tools for screening teens and information on sexual assault.

Other Resources

The resources listed as follows are for information purposes only. Referral to these sources and web sites does not imply the endorsement of ACOG. This list is not meant to be comprehensive. The exclusion of a source or web site does not reflect the quality of that source or web site. Please note that web sites are subject to change without notice.

American College of Emergency Physicians
1125 Executive Circle
Irving, TX 75038-2522
Tel: 800-798-1822; (972) 550-0911
Fax: (972) 580-2816
Web: www.acep.org

The American College of Emergency Physicians (ACEP) exists to support quality emergency medical care and to promote the interests of emergency physicians. The ACEP's web site provides visitors with fact sheets on topics including domestic violence, current policy regarding domestic violence, help for victims, and the role of emergency personnel. The ACEP web site also has an extensive list of injury prevention resources.

American Medical Association
515 N State Street
Chicago, IL 60610
Tel: 800-621-8335
Web: www.ama-assn.org

The American Medical Association (AMA) works to improve the health of communities and strengthen the patient–physician relationship. Its web site provides links to AMA publications on sexual assault. The newest publication, Intimate Partner Violence, was designed to raise physician's awareness of intimate partner violence and provide information to help treat those patients who are victims.

The Feminist Majority Foundation
1600 Wilson Boulevard, Suite 801
Arlington, VA 22209
Tel: (703) 522-2214
Fax: (703) 522-2219
Web: www.feminist.org/911/resources_af.html

The Feminist Majority Foundation (FMF), which was founded in 1987, is an organization dedicated to women's equality, reproductive health, and nonviolence. In all spheres, FMF utilizes research and action to empower women economically, socially, and politically. *911 for Women: Sexual Assault and Rape Crisis Resources* provides state-specific contact information for victims of rape and sexual assault.

Llamanos
Tel: 800-223-5001; 800-688-4889 (TTY)
Web: www.llamanos.org

Llamanos is a 24-hour, statewide hotline in Massachusetts for Spanish-speaking women and men who have been raped or sexually assaulted and need support or counseling. It also is available for the family members or friends who might be affected. This service is free and confidential. There is always someone available to provide counseling over the phone in times of crisis and to refer people to their nearest rape crisis center for more comprehensive services.

National Coalition Against Domestic Violence
PO Box 18749
Denver, CO 80218
Tel: (303) 839-1852
Fax: (303) 831-9251
Web: www.ncadv.org

The National Coalition Against Domestic Violence is dedicated to the empowerment of battered women and their children and therefore is committed to the elimination of personal and societal violence in the lives of battered women and their children. It works for major societal changes necessary to eliminate both personal and societal violence against all women and children.

National Institute on Alcohol and Alcohol Abuse
5635 Fishers Lane, MSC 9304
Bethesda, MD 20892-9304
Web: www.niaaa.nih.gov

The National Institute on Alcohol and Alcohol Abuse supports and conducts biomedical and behavioral research on the causes, consequences, treatment, and prevention of alcoholism and alcohol-related problems. It also provides leadership in the national effort to reduce the severe and often fatal consequences of these problems and is one of 19 institutes that comprise the National Institutes of Health. Its web site provides publications in English and Spanish discussing the intersection of alcohol abuse and sexual assault.

National Institute of Justice
810 Seventh Street, NW
Washington, DC 20531
Tel: (202) 307-2942
Fax: (202) 307-6394
Web: www.ojp.usdoj.gov/nij

The National Institute of Justice (NIJ) is the research, development, and evaluation agency of the U.S. Department of Justice and is solely dedicated to researching crime control and justice issues. It provides objective, independent, nonpartisan, evidence-based knowledge, and tools to meet the challenges of crime and justice, particularly at the state and local levels. Under the Office of Research and Evaluation, NIJ houses the Violence and Victimization Research Division and the Crime Control and Prevention Research Division, where the public can obtain information about sexual assault.

Posttraumatic Stress Disorder Alliance
Tel: 877-507-PTSD
Web: www.ptsdalliance.org

The Posttraumatic Stress Disorder Alliance is a group of professional and advocacy organizations, including ACOG, that have joined forces to provide educational resources to individuals diagnosed with posttraumatic stress disorder and their loved ones; those at risk for developing posttraumatic stress disorder; and medical, health care, and other frontline professionals.

Promote Truth
Women's Center of Jacksonville
5644 Colcord Avenue
Jacksonville, FL 32211
Tel: (904) 722-3000
Fax: (904) 722-3100
Web: www.promotetruth.org

The mission of the Promote Truth web site is to empower teens through safe, anonymous support and information about sexual violence issues. Promote Truth was created by the Rape Recovery Team at the Women's Center of Jacksonville, Florida.

Rape, Abuse and Incest National Network
635-B Pennsylvania Avenue, SE
Washington, DC 20003
Tel: (202) 544-1034; Hotline: 800-656-HOPE (4673)
Fax: (202) 544-3556
Web: www.rainn.org

Founded by singer-songwriter Tori Amos, the Rape, Abuse and Incest National Network (RAINN) is a 24-hour resource that routes callers to the closest rape crisis center by reading the area code and prefix of the caller's telephone number. However, not every local rape crisis center participates in RAINN. If there is no center in RAINN located near the victim, it is suggested that the victim contact state or local rape crisis centers directly by referring to ACOG's web site or the local government section of the phonebook.

Sexual Assault Resource Service
Web: www.sane-sart.com

The Sexual Assault Resource Service web site, which runs the Sexual Assault Nurse Examiner-Sexual Assault Response Team (SANE-SART) program, contains a guide designed for nursing professionals involved in providing evaluations of sexually abused victims. It is the goal of this web site to provide information and technical assistance to individuals and institutions interested in developing new SANE-SART programs or improving existing ones.

Sidran Institute
200 E Joppa Road, Suite 207
Towson, MD 21286
Tel: (410) 825-8888
Fax: (410) 337-0747
Web: www.sidran.org

The Sidran Institute is a nationally focused nonprofit organization devoted to education, advocacy, and research to benefit people who are suffering from injuries of traumatic stress.

United States Department of Justice
Office on Violence Against Women
810 7th Street, NW
Washington, DC 20531
Tel: (202) 307-6026; (202) 307-2277 (TTY)
Fax: (202) 307-3911
Web: www.usdoj.gov/vawo

The Office on Violence Against Women, housed in the Office of Justice Programs, was created in 1995 to implement the 1994 Violence Against Women Act and to lead the national effort to stop domestic violence, sexual assault, and stalking of women. The Office on Violence Against Women administers grants to help states, tribes, and local communities transform the way in which criminal justice systems respond to violent crimes against women.

Adult Manifestations of Childhood Sexual Abuse

Key Points

- Obstetrician–gynecologists will regularly provide care for women who are survivors of childhood sexual abuse. To ensure that patients receive appropriate care, obstetricians and gynecologists should screen women for such histories.
- 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; rather, they involve manipulation and trickery.
- The long-term effects of childhood sexual abuse are varied, complex, and often devastating for survivors. Symptoms that once served as effective survival strategies eventually may result in significant physical or mental health problems. An understanding of and appreciation for the long-term effects of abuse are essential in developing a differential diagnosis, formulating treatment strategies, and providing patient care.
- Depression, anxiety, and anger are the most reported emotional responses to childhood sexual abuse. Adults with a history of sexual abuse may have as much as a four-time greater lifetime risk for major depression than individuals not abused as children.
- Once it is known that a patient is a survivor of childhood sexual abuse, there are a number of ways that the obstetrician–gynecologist can offer support, including the use of empowering messages and counseling referrals.
- Obstetrician–gynecologists must be sensitive to the possibility of re-traumatizing adult survivors of childhood sexual abuse during health care procedures. Pelvic and rectal examinations, vaginal ultrasounography, and breast examinations may be particularly traumatic for sexual abuse survivors, and it is important for providers to give survivors as much control as possible.

> ***Adult childhood sexual abuse survivors have disproportionately high rates of use of health care services, more severe symptoms with more complex patterns of presentation, and often have somatic symptoms that do not respond to routine treatment.***

Obstetricians and gynecologists encounter patients with a wide array of symptoms that may be associated with a history of childhood sexual abuse. Frequently, the underlying cause of these symptoms is not recognized by the physician and, in many cases, by the patient. For some survivors of childhood sexual abuse, there is minimal compromise to their adult functioning. Others will have myriad psychologic, physical, and behavioral symptoms as a result of their abuse (1). Adult childhood sexual abuse survivors have disproportionately high rates of use of health care services, more severe symptoms with more complex patterns of presentation, and often have somatic symptoms that do not respond to routine treatment (2–4). These issues can create frustration for women and treatment challenges for their physicians. An understanding of the magnitude and effects of childhood sexual abuse, along with knowledge about screening and intervention methods, can help obstetricians and gynecologists offer appropriate care and support to patients with such histories.

Definitions

Childhood sexual abuse can 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; rather, they involve manipulation and trickery. Authority and power enable the perpetrator to coerce the child into compliance. Characteristics and motivations of perpetrators of childhood sexual abuse vary: some may act out sexually to exert dominance over another individual; others may initiate the abuse for their own sexual gratification (5, 6).

Although specific legal definitions may vary among states, there is widespread agreement that abusive sexual contact can include breast and genital fondling, oral and anal sex, and vaginal intercourse. Definitions have been expanded to include noncontact events, such as coercion to watch sexual acts or posing in child pornography (7).

Prevalence

The prevalence of childhood sexual abuse in the United States is unknown. Because of the shame and stigma associated with abuse, many victims never disclose such experiences. Incest was once thought to be so rare that its occurrence was inconsequential. In the past 25 years, however, there has been increased recognition that incest and other forms of childhood sexual abuse occur with alarming frequency (8). Researchers have found that victims come from all cultural, racial, and economic groups (9).

Current estimates of incest and other childhood sexual abuse range from 12% to 40%, depending on settings and population. Most studies have found that among women, approximately 20%—or one in five—have experienced childhood sexual abuse (9). Consistent with this range, studies have revealed that:

- Among girls who had sex before age 13 years, 22% reported that first sex was nonvoluntary (10).
- Twelve percent of girls in grades 9 through 12 reported they had been sexually abused; 7% of girls in grades 5 through 8 also reported sexual abuse. Of all the girls who experienced sexual abuse, 65% reported the abuse occurred more than once, 57% reported the abuser was a family member, and 53% reported the abuse occurred at home (11).
- Approximately 40% of the women surveyed in a primary care setting had experienced some form of childhood sexual contact; of those, one in six had been raped as a child (12).
- A national telephone survey on violence against women conducted by the National Institute of Justice and the Centers for Disease Control and Prevention found that 18% of 8,000 women surveyed had experienced a completed or attempted rape at some time in their lives. Of this number, 22% were younger than 12 years and 32% were aged between 12 and 17 years when they were first raped (9).

Sequelae

Although there is no single syndrome that is present universally in adult survivors of childhood sexual abuse, there is an extensive body of research that documents adverse short- and long-term effects of such abuse. To treat and manage survivors of childhood sexual abuse appropriately, it is useful to understand

that survivors' symptoms or behavioral sequelae often represent coping strategies used in response to abnormal, traumatic events. These coping mechanisms are used for protection during the abuse or later to guard against feelings of overwhelming helplessness and terror. Although some of these coping strategies may eventually lead to health problems, survivors may be misdiagnosed or mislabeled if symptoms are evaluated outside their original context (Box 23) (5).

In addition to the psychologic distress that may potentiate survivors' symptoms, there is evidence that abuse may result in biophysical changes. For example, one study found that after controlling for history of psychiatric disturbance, adult survivors had lowered thresholds for pain (13). It also has been suggested that chronic or traumatic stimulation (especially in the pelvic or abdominal region) heightens sensitivity, resulting in persistent pain, such as abdominal and pelvic pain, or other bowel symptoms (14, 15).

Although responses to sexual abuse vary, there is remarkable consistency in mental health symptoms, especially depression and anxiety. These mental health symptoms may be found alone or more often in tandem with physical and behavioral symptoms. More extreme symptoms are associated with abuse onset at an early age, extended or frequent abuse, incest by a parent, or use of force (4). Responses may be mitigated by such factors as inherent resiliency or supportive responses from individuals who are important to the victim (4). Even without therapeutic intervention, some survivors maintain the outward appearance of being unaffected by the abuse. Most, however, experience pervasive and deleterious consequences (4).

The primary aftereffects of childhood sexual abuse have been divided into seven distinct but overlapping categories (16):

1. Emotional reactions
2. Symptoms of posttraumatic stress disorder
3. Self-perceptions
4. Physical and biomedical effects
5. Sexual effects
6. Interpersonal effects
7. Social functioning

Responses can be greatly variable and idiosyncratic within the seven categories. Also, survivors may fluctuate between being highly symptomatic and relatively symptom free. Health care providers should be aware that such variability is normal. Some common life events that may trigger the return of physical or psychologic symptoms for a childhood sexual abuse survivor who, until such time, functions well are listed in Box 24 (4).

Box 23

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

Box 24

Common Life Event Symptom Triggers for Childhood Sexual Abuse Survivors

- Pregnancy or birth of a child
- Illness or death of parent or perpetrator
- Divorce of parents
- Age of survivor's child the same as onset of abuse
- Key "anniversary" dates or holidays
- Family reunions
- Illness or injury of a child
- Hospitalization or medical workup
- Workplace situation that mirrors a relationship with abuser
- Home relocation, especially to geographic area where abuse occurred
- Viewing movies or television shows with abuse content

Emotional Reactions

Emotional sequelae are the aftereffects most frequently reported by adult survivors. Depression, anxiety, and anger are the most reported emotional responses to childhood sexual abuse. Adults with a history of sexual abuse may have as much as a four-fold greater lifetime risk for major depression than individuals not abused as children (17). A recent study found that 46% of abused girls had depressive symptoms; 54% of the abused girls reported suicidal ideation (11). Anxiety disorder is 10 times more likely to be diagnosed among abuse survivors than among nonabused individuals (18). The anxiety may be especially pronounced in intimate or close relationships or when interacting with authority figures. Fear, shame, humiliation, guilt and self-blame, grief, and urges to hurt herself often are mentioned. All these emotions may have behavioral, somatic, and relational manifestations (5, 17).

Symptoms of Posttraumatic Stress

Adult survivors of childhood sexual abuse frequently have symptoms of posttraumatic stress disorder. Responses tend to fall into two categories that may alternate or parallel each other: 1) intrusive or re-experiencing symptoms and 2) numbing or denial symptoms (16). Especially prominent are the intrusive posttraumatic stress disorder-related nightmares or flashbacks—sudden, intrusive sensory experiences, which often involve visual, auditory, olfactory, and tactile sensations reminiscent of the original assault. These nightmares or flashbacks are experienced as though they were occurring in the present rather than as a memory of a past event. Triggers of flashbacks may include sexual stimuli or interactions, gynecologic or pelvic examinations, abusive behavior by other adults, disclosure of the abuse experiences to others, or reading or viewing sexual or violent media content (17).

Dissociative disorders have been linked to sexual abuse and are believed to be complex posttraumatic conditions used to numb or deny the incident(s). Survivors may experience amnesia, the partial or total loss of memory. Derealization or depersonalization may result in a survivor separating her mind from her body and her emotions. The survivor may experience the sensation of floating in space while observing her physical body. No emotional pain is connected with this observation. Physicians may observe a patient "zoning out." Dissociative identity disorder allows an individual to separate a group of related psychologic activities or memories into autonomously functioning units, as in the generation of multiple personalities (16, 19). Although dissociative defenses may effectively numb the memory or help the patient deny the experience of the abuse, they also may interfere with self-protection. Such patients may seek care for conditions related to secondary interpersonal violence, such as rape (18).

Self-Perceptions

The development of a sense of self is thought to be one of the earliest developmental tasks of young children. It typically unfolds in the context of early relationships (16, 17). The development of a positive self-perception is adversely affected by the following traumatic factors of abuse (16):

- Traumatic sexualization or the introduction of premature and coerced sexual involvement with an adult
- Powerlessness or the exploitation of a child's vulnerability to those in authority
- Betrayal by an adult who breaks the trust of the relationship, especially if the abuse was committed by a parent

- Stigmatization or the sense of shame and belief that the individual is fundamentally defective, which is internalized by the child and often carried throughout life

In an attempt to make sense of sexual abuse, most children develop the belief that something about them caused the abuse to happen or that they somehow deserved to be abused (16). As adults, survivors of childhood sexual abuse may maintain the image of the abuser as good, whereas they view themselves as bad. These images, therefore, perpetuate the notion that they were deserving of the abuse and are not entitled to assistance and rescue. Such beliefs frequently result in high-risk or self-destructive behaviors and in engaging in abusive relationships.

The closer the relationship between the child and the perpetrator, the greater the extent of the trauma caused by childhood sexual abuse (16, 17). If the trust and protection ascribed to primary caregivers, such as parents or guardians is violated by mistreatment, a child's sense of self is badly damaged and the world becomes viewed as unsafe. Without basic trust, individuals lack the ability to cope, causing them to overreact to stress or painful events (17). The establishment of personal boundaries is essential for psychologic stability, allowing an individual to interact with another individual without sacrificing his or her own identity, values, or preferences. Individuals with a history of sexual violence may not have had the opportunity to establish a secure sense of self. Adults molested early in life have more problems in understanding or relating to others independent of their experiences or needs, and they may not be able to perceive or experience their own internal states independent of the reactions or demands of others (20). Many such individuals may exhibit "loose boundaries," where they are overly compliant. Conversely, they may have excessively "rigid boundaries," where they are hostile or threatened.

Physical and Biomedical Effects

One review of the literature on the sequelae of adult survivors of childhood sexual abuse summarized the biomedical sequelae of childhood sexual abuse as having the following manifestations (21):

- Chronic or diffuse pain, either the result of trauma or conversion symptoms representative of the abuse
- Symptoms of anxiety or depression
- Eating and substance abuse disorders
- Self-neglect

It is common for survivors of childhood sexual abuse to exhibit physical symptoms in areas that were sexually traumatized (16). Some examples of chronic and diffuse pain in sexual abuse survivors are listed in Box 25.

Eating disorders, especially obesity and bulimia, have been linked to a past history of sexual abuse. A

Box 25 Examples of Chronic and Diffuse Pain in Sexual Abuse Survivors*

Headaches
- Migraine
- Temporomandibular joint syndrome
- Muscle tension

Genitourinary symptoms
- Chronic pain
- Rectal discomfort
- Hemorrhoids
- Constipation
- Diarrhea
- Irritable bowel syndrome
- Spastic colon

Gastrointestinal problems
- Gagging
- Nausea, vomiting
- Choking

Conversion symptoms
- Fainting
- Vertigo
- Seizures
- Muscle tension/spasms
- Joint pain
- Tinnitus
- Respiratory problems
- Asthma
- Shortness of breath

*May be suggestive of the abuse or somatic signs of depression.

recent survey found that girls reporting physical or sexual abuse were almost three times as likely to binge and purge as those who said they had not been abused (32% versus 12%) (11). The abused girls also were likely to binge and purge frequently. One in six abused girls reported such behavior more than once per week, and 13% of the abused girls said they did so daily.

Substance abuse often is the result of the survivor's attempt to either self-medicate the symptoms of sexual abuse or to avoid memories about the abuse. Self-neglect, including neglect of basic needs such as sleep, rest, and food, can result in exacerbation of existing medical problems as well as predisposition to medical problems. The survivor can have dental problems as a result of dental phobia related to trauma involving the oral cavity and often will avoid preventive health examinations out of fear of physicians (21).

In addition to physical problems that develop from the abuse, adverse health consequences frequently are associated with many of the behaviors commonly used, consciously or unconsciously, as coping devises. Furthermore, risky coping behaviors, such as smoking and alcohol or drug use, may be used chronically because they are perceived to be effective in relieving symptoms. According to a 1998 study, adults abused as children are (22):

- Twice as likely to smoke
- Nearly twice as likely to be severely obese
- Nearly twice as likely to be physically inactive
- Nearly five times more likely to have a history of alcohol abuse
- Nearly four times as likely to abuse illicit drugs
- Seven times more likely to have injected drugs
- Three times more likely to have had 50 or more intercourse partners
- Nearly twice as likely to have had a sexually transmitted disease (STD)

Sexual Effects

Disturbances in sexual identity and sexual functioning are prominent in studies of incest survivors (23). Women sexually abused in childhood may develop gender and sexual identities that emphasize self-worth based on sexuality. Moreover, they may unconsciously attempt to re-create sexual situations to control and change the outcome. Attempts at this "trauma mastery," coupled with inadequate personal boundaries and low self-esteem, may help to explain childhood sexual abuse survivors' increased risk for engaging in unsafe sexual behaviors that have negative health consequences, such as STDs and unintended pregnancy. One study found that compared with their nonabused pregnant counterparts, sexually abused adolescents began intercourse earlier, were more likely to have used drugs and alcohol, and were less likely to use contraception (24).

The pronounced sexual dysfunction in adult survivors of incest has been described as "the most obvious example of conditioned, abuse-related fear" (17). Because of the association between sexual stimuli and invasion or pain, many adults abused as children report fear or anxiety-related difficulties during sexual contact.

For adult survivors, the most frequently reported chronic sexual problems include fear of intimate relationships, feelings of repulsion or lack of enjoyment, flashbacks during sexual activity, dysfunctions of desire and arousal, and primary or secondary anorgasmia. Compulsive promiscuity and prostitution also may be present because survivors often confuse sexuality with nurturing behavior (21). There is no evidence that a history of childhood sexual abuse is related to sexual orientation.

Interpersonal Effects

For incest survivors, the ability to have emotionally healthy relationships with others may be damaged profoundly. Many survivors have relationships that are unstable and include patterns of excessive self-sufficiency, withdrawal, and hostility. Others may assume the caretaking of others, extreme dependence, overcompliance, learned helplessness, and nonassertion (16).

The inability of childhood sexual abuse survivors to separate themselves from others may manifest as problems with defining their boundaries and individual rights when faced with the needs and demands of others. Such problems are frequently associated with great difficulties in interpersonal relationships, including gullibility, inadequate self-protectiveness, and likelihood of being victimized or abused by others (17).

Deleterious and troubling sequelae to childhood sexual abuse include the apparent vulnerability of women with such histories to be repeatedly victimized later in life, often on multiple occasions, by individu-

als who may or may not be known to them. This tendency to be victimized repeatedly may be the result of a general vulnerability in dangerous situations and to exploitation by untrustworthy people. Childhood abuse seems to have the effect of making adult women less skilled at self-protection and more apt to accept being victimized by others (25).

Social Functioning

The social functioning of childhood sexual abuse survivors varies considerably. Survivors' social functioning can range from exceptional and overfunctioning to greatly deficient and deviant, exhibiting such behaviors as delinquency, prostitution, dangerous sexual practices (including sadomasochism, indiscriminate sexual activity, and sexual abuse of others), and substance abuse. Overfunctioning often is an attempt to palliate the profound low self-esteem that survivors have and to channel their anxiety. Conversely, researchers suggest that some of the most marginally functional and disenfranchised members of society, such as the chronically mentally ill and the homeless, may have histories of sexual abuse at the core of their problems (16).

As previously discussed, not all survivors will have the same symptoms or symptoms of equal severity. A literature review of factors that moderate and mediate the effects of childhood sexual abuse found that heightened adult distress results from:

- Molestation at an especially early age
- Extended and frequent abuse
- Incest by a biologic parent
- The presence of force
- A greater number of perpetrators

The most pronounced psychologic problems also are predicted by the presence of other concomitant forms of child maltreatment, including physical and psychologic abuse or neglect, and subsequent victimization in adulthood (17).

For most survivors, childhood sexual abuse frequently occurs in conjunction with other forms of child abuse or household dysfunction. For example, a survey was administered to members of a large health maintenance organization to determine exposure to several categories of adverse childhood experiences, including physical or sexual abuse, violence against the mother, or living with household members who were substance abusers. The risk of long-term adverse consequences increased dramatically as the number of adverse experiences increased for an individual. The study revealed that 65% of the individuals reporting childhood sexual abuse also reported one other type of adverse experience; 41% reported two additional adverse experiences (22).

Effects on Reproductive Health and Pregnancy

Gynecologic problems, including chronic pelvic pain, dyspareunia, vaginismus, and nonspecific vaginitis, are common symptoms of adult survivors of childhood sexual abuse (6, 21, 26–28). Disturbances in sexual interest and sexual functioning are widely reported and range from sexual inhibition to compulsive sexuality (6, 21, 29, 30).

Disturbances of desire, arousal, and orgasm are among the inhibitory aftereffects of childhood sexual abuse and likely result from the association between sexual activity, violation, and pain. Conversely, compulsive sexuality, promiscuity, and prostitution also may occur (21). Childhood sexual abuse is significantly associated with prostitution (30, 31). Early adolescent or unintended pregnancy also is suggestive of a history of sexual abuse (31). This may be the direct result of incest or a result of promiscuity without the use of contraceptives, a sign of impaired self-care (21, 24). The incidence of STDs also is higher in childhood sexual abuse survivors, and adolescent and adult survivors of childhood sexual abuse are at greater risk of human immunodeficiency virus (HIV) infection than those without such histories (12, 32). Survivors may be less likely to have regular Pap tests and may seek little or no prenatal care (33, 34).

Vaginal examinations may be associated with terror and pain for abuse survivors. Additionally, feelings of vulnerability in the lithotomy position, being connected to intravenous lines and labor monitors, and being examined by relative strangers in the delivery room may leave the survivor vulnerable to re-experiencing past feelings of powerlessness, violation, and fear. The physical pain of labor and delivery also may trigger memories of past abuse with or without conscious memory of or connection to the earlier abuse (4, 5, 35–37).

Pregnancy and childbirth may be an especially difficult time for survivors for a variety of reasons.

Pregnancy may trigger memories of abuse. In some cases, women with no prior conscious memories of their abuse may begin to experience emotions, dreams, or partial memories that are troubling. With all of the attendant changes in a woman's body and her lifestyle, coping mechanisms that had previously kept the abusive history from her memory may now fail, and what she had once repressed comes to the surface (36, 37). Pregnant women reporting a history of childhood sexual abuse are significantly more likely than those without such history to report suicidal ideation and depression (13, 19, 38). Pregnant adolescents also have been found to be more likely to report substance abuse during pregnancy and to give birth to significantly smaller and less mature infants (39). Smoking was common among pregnant survivors of childhood sexual abuse (40). There are no consistent data regarding adverse pregnancy outcome for women with histories of childhood sexual abuse.

Issues Affecting Memory

Controversy continues over the issue of delayed recall of childhood sexual abuse. Although most emotionally laden events are stored in memory along with their accompanying effects, traumatic memory is different (4). Proponents of "false memory syndrome" contend that experiments and studies on memory prove that "false memories" can be implanted readily. Currently, research results are divided on this issue. It is not incumbent on the obstetrician–gynecologist to make a determination of the veracity of "recovered memories." Rather, a prudent obstetrician–gynecologist should be a supportive ally for all patients and should consult with a mental health practitioner with experience working with sexual abuse issues. Not every mental health practitioner has such expertise.

Screening

With recognition of the extent of family violence, medical groups have issued recommendations for screening all patients (especially women) for histories of abuse (4). Patients overwhelmingly favor universal inquiry about sexual assault (41). At the same time, they report a reluctance to initiate a discussion of this subject. Following are some basic guidelines:

- Make the question "natural." As physicians ask patients about possible sexual abuse, they will develop increased comfort with the process. They should be aware of their body language and avoid a guarded or closed posture. Over time, they will ask about sexual abuse as routinely as they ask about menstrual cycles.
- Normalize the experience. As physicians learn to ask questions in a natural way, they may want to offer explanatory statements, such as: "About one woman in five was sexually abused as a child. Because these experiences can affect health and well-being, I ask all of my patients about unwanted touching or sexual experiences in childhood."
- Give the patient control over disclosure. Ask every patient about childhood abuse and rape trauma, but let her control what she says and when she says it. She will be the best judge of how to keep her emotional defenses intact.
- If the physician suspects abuse, but the patient chooses not to disclose it, she can be assured that the physician is a resource for her if she ever needs to discuss such issues. Patients very commonly bring up the subject three to four visits later, especially if they have developed trust and want assistance.
- If the patient says "yes," it is important to ask whether she has ever talked with anyone about the abuse or rape. Many women will have dealt with the issues in another forum. Questions about whether any parts of the breast or pelvic examination cause her emotional discomfort should be posed at this time.
- If the patient has never talked with anyone about her abuse or rape, this is likely to be a very emotional time for her. Revelations often are accompanied by much anguish. Sitting quietly through this period can be difficult but is very important. Excessive reassurance negates the pain of her experience. Detached self-protection or anger directed toward the perpetrator limit her ability to work through her emotional pain. If the physical portion of the examination has not yet been done, it should be postponed until another visit. If she is in an examination gown, allowing her to compose and dress herself may help her to regain some control. This is a good time to ask if she wishes to see a therapist. If the

patient appears overtly depressed, the physician should ask about suicidal ideas, intentions, or attempts in the past.

Even when questions are carefully phrased and the assessment has been conducted in a caring and sensitive manner, some patients with histories of abuse will not disclose their experiences. Survivors may need to test the physician's trustworthiness with such information. In other instances, repression does not allow survivors access to such memories at the time of the physician's questioning. Despite the possibility that survivors will not be able to respond positively to the physician's questions, they will be made aware that the physician is someone who considers such information essential to comprehensive health care (8). It has been suggested that not inquiring about sexual abuse gives tacit support to the survivor's belief that abuse does not matter, that it does not have long-term effects, and that it is a subject that is not to be discussed (42).

If screening does not occur and the patient appears to tolerate pelvic examinations or other procedures, the obstetrician–gynecologist may mistakenly assume that the patient does not have a history of abuse. Instead, many survivors may not be able to express discomfort or fear and may silently experience a great deal of distress (42). Given the frequency of childhood sexual abuse and its many deleterious sequelae across the life span, patients should be screened for such histories periodically. Evaluating only those women who have symptoms that create a high index of suspicion will likely result in many abuse survivors being undetected (43).

Intervention

Once it is known that a patient is a survivor of childhood sexual abuse, there are a number of ways that the obstetrician–gynecologist can offer support. This includes the use of empowering messages and counseling referrals.

Positive Messages

Some positive and healing responses to the disclosure of abuse include letting the patient know that (21, 42, 44):

- She is the victim of abuse. She is in no way to blame. The perpetrator is always at fault.
- It took a great deal of courage for her to disclose the abuse.
- She has been heard and believed.
- Her symptoms "make sense" given what she has experienced.
- She has the right to say "no" or "stop" during any examination or procedure. She can and should set limits for herself. She has the right to control who touches her body and when and how. Physicians should ask permission to begin an examination.
- She also has the right to maintain her silence on the issue.

Counseling Referrals

Traumatized patients generally benefit from mental health care. Survivors who have disclosed abuse should be asked if they have ever talked to anyone about their experiences. For patients who have not sought such care, the obstetrician–gynecologist can be a powerful ally in the patient's healing by offering support and referral. Not every mental health professional is experienced in working with childhood sexual abuse survivors. Every effort should be made to refer them to professionals with significant experience in abuse-related issues.

Physicians may begin compiling a list of experts with experience in abuse. Contacting state boards of psychology or medicine often can be beneficial in locating therapists who are skilled in treating victims of such trauma. Veterans' centers, battered women's shelters, and rape crisis centers often are familiar with therapists and programs that treat various types of trauma, as are many university-based counseling programs. Because of the relationship between trauma histories and alcohol and drug abuse, therapists should be skilled in working with individuals who have dual diagnoses (43). Obstetrician–gynecologists should become familiar with appropriate crisis hotlines that may operate in their communities.

When referring patients to other professionals, it is especially helpful to identify a specific purpose. For example, saying, "I would like Dr. Hill to assess you to determine if your past abuse is contributing to your current health problems" is more effective than telling the survivor that her symptoms are all "psychologic" and that she should see a therapist (44). It is impor-

tant to secure the patient's express authorization before speaking to the therapist when collaborative practice between the obstetrician–gynecologist and therapist is warranted.

It is important to help the patient not feel abandoned or rejected when a counseling referral is made. If it is appropriate, the physician should emphasize his or her ongoing involvement in the patient's case. If the therapist or agency that the patient is being referred to is known personally by the physician, the patient will feel more confident about the referral. The obstetrician–gynecologist also should reassure the survivor that she is reacting in normal, predictable ways for someone who has survived such abuse (44).

Avoiding Retraumatization

Obstetrician–gynecologists must be sensitive to the possibility of retraumatizing adult survivors of childhood sexual abuse during health care procedures. The risk for retraumatization is present during such care because many procedures involve touch, are invasive, and are performed by authority figures in positions of control or power. All procedures need to be thoroughly explained in advance, and whenever possible the patient should be allowed to suggest ways that the procedure can be done to lessen her fear. This may mean allowing the patient to invite friends or family members to be present (16).

Pelvic, rectal, vaginal ultrasound, and breast examinations may be particularly traumatic for sexual abuse survivors, and it is important for providers to give survivors as much control as possible. Techniques to increase the patient's comfort include talking her through the steps, maintaining eye contact, allowing her to control the pace, allowing her to see more (eg, use of a mirror in pelvic examinations), or having her assist during her examination (ie, putting her hand over the physician's to guide the examination) (4, 42). It is always important to ask permission to touch the patient, especially during the examinations previously mentioned.

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Resources

ACOG Resources

ACOG Violence Against Women Home Page (www.acog.org, click on "Women's Issues" and then "Violence Against Women")

Other Resources

The resources listed as follows are for information purposes only. Referral to these sources and web sites does not imply the endorsement of ACOG. This list is not meant to be comprehensive. The exclusion of a source or web site does not reflect the quality of that source or web site. Please note that web sites are subject to change without notice.

Adult Survivors of Child Abuse
PO Box 14477
San Francisco, CA 94114
Tel: (415) 928-4576
Web: www.ascasupport.org

Adult Survivors of Child Abuse (ASCA) is a support program designed by the Morris Center for Healing from Child Abuse specifically for adult survivors of physical, sexual, or emotional child abuse or neglect. Both an individual component and a group component comprise ASCA's support structure. The Morris Center is a nonprofit organization whose mission is to provide recovery options for adult survivors of childhood abuse.

Communities Against Violence Network
2711 Ordway Street NW, #111
Washington, DC 20008
Tel: (202) 255-0202
E-mail: cavent@pobox.com
Web: www.cavnet2.org

Through an international network of professionals, the Communities Against Violence Network works to enhance collaboration among rape crisis centers, law enforcement, prosecutors, advocates, and

others. It also addresses sexual assault, rape, incest, domestic violence, youth violence, and victimization of people with disabilities.

Family Violence & Sexual Assault Institute
6160 Cornerstone Court East
San Diego, CA 92121
Tel: (858) 623-2777 ext. 416
Fax: (858) 646-0761
Web: www.fvsai.org

The mission of the Family Violence & Sexual Assault Institute (FVSAI) is to improve the quality of life for individuals on an international level by sharing and disseminating vital information, improving networking among professionals, and assisting with program evaluation, consultation, and training that promotes violence-free living. In addition, FVSAI works to develop and provide treatment programs with the highest quality program consultation and evaluation; increase research in the areas of family violence, child maltreatment, sexual assault, and spouse/partner abuse; disseminate information on an international level to those working in the family violence and sexual assault fields; bring together professionals to network, share, and explore ways to end violence and abuse; and conduct conferences, workshops, and professional training on all aspects of family violence.

National Sexual Violence Resource Center
123 North Enola Drive
Enola, PA 17025
Tel: 877-739-3895; (717) 909-0710
Fax: (717) 909-0714
Web: www.nsvrc.org

Serving as a central clearinghouse for the voluminous resources and research, the National Sexual Violence Resource Center (NSVRC) provides a place to turn to for information, help, and support. The NSVRC works to influence policy, practice, and research pertaining to sexual violence by providing greater interaction, investigation, and review and by promoting awareness within the anti-sexual violence movement.

National Training Center on Domestic and Sexual Violence
7800 Shoal Creek Boulevard, Suite 120N
Austin, TX 78757
Tel: (512) 407-9020
Fax: (512) 407-9022
Web: www.ntcdsv.org

The National Training Center on Domestic and Sexual Violence develops and conducts training and consultation, works to influence policy, and promotes collaboration and diversity in working to end domestic and sexual violence.

Posttraumatic Stress Disorder Alliance
Resource Center
Tel: 877-507-PTSD
E-mail: info@ptsdalliance.org
Web: www.ptsdalliance.org

The Posttraumatic Stress Disorder Alliance is a group of professional and advocacy organizations that have joined forces to provide educational resources to individuals diagnosed with posttraumatic stress disorder and their loved ones; those at risk for developing posttraumatic stress disorder; and medical, health care, and other frontline professionals. The College is a member of this alliance.

Rape, Abuse and Incest National Network
635-B Pennsylvania Avenue, SE
Washington, DC 20003
Tel: 800-656-HOPE
Fax: (202) 544-3556
Web: www.rainn.org

The Rape, Abuse and Incest National Network (RAINN) is the nation's largest anti-sexual assault organization and operates the National Sexual Assault Hotline at 800-656-HOPE. With a national perspective and broad reach, RAINN is a resource for media, policymakers, and the public. Extensive outreach programs and partnerships with television, radio, and print media allow RAINN to maximize public education while minimizing costs.

Stop It Now!
PO Box 495
Haydenville, MA 01039
Tel: (413) 268-3096
E-mail: info@stopitnow.org
Web: www.stopitnow.com

Stop It Now! is a national, public health-based organization working to prevent and ultimately eradicate child sexual abuse. Through public education, policy advocacy, and research and evaluation, Stop It Now! calls on abusers and potential abusers to stop their abusive behavior and get help.

Speaking Out About Rape
69 East Pine Street
Orlando, FL 32801
Tel: (407) 836-9692
Fax: (407) 836-9693
E-mail: soar99@worldnet.att.net
Web: www.soar99.org

Speaking Out About Rape is a nonprofit organization dedicated to educating society about rape and its impact, protecting victim's rights, making certain the medical and judicial systems are victim-friendly, and helping survivors speak out.

Violence Against Women Electronic Network
6400 Flank Drive, Suite 1300
Harrisburg, PA 17112-2778
Tel: 800-537-2238
Fax: (717) 545-9456
Web: www.vawnet.org

The Violence Against Women Electronic Network (VAWnet) supports development, implementation, and maintenance of effective violence against women intervention and prevention efforts at national, state, and local levels through electronic communication and information dissemination. Participants in VAWnet—including state domestic violence and sexual assault coalitions, allied organizations, and individuals—can access online database resources and engage in information sharing, problem-solving, and issue analysis via e-mail and a series of issue-specific forums facilitated by nationally recognized experts in the field of violence against women. It also operates an extensive searchable, electronic library that is available to the general public. It provides links to external sources, an "In the News" section, and access to articles and audio and video resources focused on intimate partner and sexual violence and related issues.

The information in *Special Issues in Women's Health* should not be viewed as a body of rigid rules. The guidelines are general and are 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.

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