

## 52. Screening for Problem Drinking

### RECOMMENDATION

Screening to detect problem drinking is recommended for all adult and adolescent patients. Screening should involve a careful history of alcohol use and/or the use of standardized screening questionnaires (see *Clinical Intervention*). Routine measurement of biochemical markers is not recommended in asymptomatic persons. Pregnant women should be advised to limit or cease drinking during pregnancy. Although there is insufficient evidence to prove or disprove harms from light drinking in pregnancy, recommendations that women abstain from alcohol during pregnancy may be made on other grounds (see *Clinical Intervention*). All persons who use alcohol should be counseled about the dangers of operating a motor vehicle or performing other potentially dangerous activities after drinking alcohol.

### Burden of Suffering

Over half a million Americans are under treatment for alcoholism, but there is growing recognition that alcoholism (i.e., alcohol dependence) represents only one end of the spectrum of “problem drinking.”<sup>1</sup> Many problem drinkers have medical or social problems attributable to alcohol (i.e., alcohol abuse or “harmful drinking”) without typical signs of dependence,<sup>2,3</sup> and other asymptomatic drinkers are at risk for future problems due to chronic heavy alcohol consumption or frequent binges (i.e., “hazardous drinking”). Heavy drinking (more than 5 drinks per day, 5 times per week) is reported by 10% of adult men and 2% of women.<sup>4</sup> In large community surveys using detailed interviews,<sup>5-8</sup> the prevalence of alcohol abuse and dependence in the previous year among men was 17–24% among 18–29-year-olds, 11–14% among 30–44-year-olds, 6–8% among 45–64-year-olds, and 1–3% for men over 65; among women in the corresponding age groups, prevalence of abuse or dependence was 4–10%, 2–4%, 1–2%, and less than 1%, respectively. Problem drinking is even more common among patients seen in the primary care setting (8–20%).<sup>9</sup>

Medical problems due to alcohol dependence include alcohol withdrawal syndrome, psychosis, hepatitis, cirrhosis, pancreatitis, thiamine deficiency, neuropathy, dementia, and cardiomyopathy.<sup>10</sup> Nondependent heavy drinkers, however, account for the majority of alcohol-related morbidity and mortality in the general population.<sup>1</sup> There is a dose-response

relationship between daily alcohol consumption and elevations in blood pressure and risk of cirrhosis, hemorrhagic stroke, and cancers of the oropharynx, larynx, esophagus, and liver.<sup>11–13</sup> A number of studies have reported a modest increase in breast cancer among women drinking 2 drinks per day or more, but a causal connection has not yet been proven.<sup>14</sup> Three large cohort studies, involving over 500,000 men and women, observed increasing all-cause mortality beginning at 4 drinks per day in men<sup>11,12</sup> and above 2 drinks per day in women.<sup>15</sup> Women achieve higher blood alcohol levels than do men, due to smaller size and slower metabolism.<sup>11,15</sup> Compared to nondrinkers and light drinkers, overall mortality was 30–38% higher among men, and more than doubled among women, who drank 6 or more drinks per day.<sup>11,12</sup> Of the more than 100,000 deaths attributed to alcohol annually, nearly half are due to unintentional and intentional injuries,<sup>16</sup> including 44% of all traffic fatalities in 1993<sup>17</sup> and a substantial proportion of deaths from fires, drownings, homicides, and suicides (see Chapters 50, 51, 57, 58, and 59).

The social consequences of problem drinking are often as damaging as the direct medical consequences. Nearly 20% of drinkers report problems with friends, family, work, or police due to drinking.<sup>10</sup> Persons who abuse alcohol have a higher risk of divorce, depression, suicide, domestic violence, unemployment, and poverty (see Chapters 49–51).<sup>10</sup> Intoxication may lead to unsafe sexual behavior that increases the risk of sexually transmitted diseases, including human immunodeficiency virus (HIV). Finally, an estimated 27 million American children are at risk for abnormal psychosocial development due to the abuse of alcohol by their parents.<sup>25</sup>

Moderate alcohol consumption has favorable effects on the risk of coronary heart disease (CHD).<sup>18–23</sup> CHD incidence and mortality rates are 20–40% lower in men and women who drink 1–2 drinks/day than in nondrinkers.<sup>15,21,22</sup> A meta-analysis of epidemiologic studies suggests little additional benefit of drinking more than 0.5 drinks per day.<sup>20</sup> The exact mechanism for the protective effect of alcohol is not known but may involve increases in high-density lipoprotein<sup>23</sup> and/or fibrinolytic mediators.<sup>24</sup>

*Alcohol Use during Pregnancy.* The proportion of pregnant women who report drinking has declined steadily in the U.S.<sup>26</sup> Recent surveys indicate 12–14% of pregnant women continue to consume some alcohol,<sup>27,28</sup> with most reporting only occasional, light drinking (median: 4 drinks per month).<sup>26</sup> Binge drinking or daily risk drinking (usually defined as 2 drinks per day or greater) is reported by 1–2% of pregnant women,<sup>27–29</sup> but higher rates (4–6%) have been reported in some screening studies.<sup>30,31</sup> Excessive use of alcohol during pregnancy can produce the fetal alcohol syndrome (FAS), a constellation of growth retardation, facial deformities, and central nervous system dysfunction (microcephaly, men-

tal retardation, or behavioral abnormalities).<sup>32</sup> Other infants display growth retardation or neurologic involvement in the absence of full FAS (i.e., fetal alcohol effects [FAE]).<sup>10</sup> FAS has been estimated to affect approximately 1 in 3,000 births in the U.S. (1,200 children annually), making it a leading treatable cause of birth defects and mental retardation.<sup>33,34</sup>

The level of alcohol consumption that poses a risk during pregnancy remains controversial.<sup>10,35</sup> FAS has only been described in infants born to alcoholic mothers, but the variable incidence of FAS among alcoholic women (from 3–40%)<sup>33</sup> suggests that other factors (e.g., genetic, nutritional, metabolic, or temporal) may influence the expression of FAS.<sup>10</sup> The reported incidence of FAS is higher in Native Americans and blacks than in whites.<sup>33,36</sup> Most studies report an increased risk of FAE among mothers who consume 14 drinks per week or more,<sup>35,37–39</sup> but the effects of lower levels of drinking have been inconsistent.<sup>35,40,41</sup> Modest developmental effects have been attributed to light drinking (7 drinks per week) in some studies, but underreporting by heavy drinkers and confounding effects of other important factors (nutrition, environment, etc.) make it difficult to prove or disprove a direct effect of light drinking.<sup>10,35,42</sup> Timing of exposure and pattern of drinking may be important, with greater effects proposed for exposure early in pregnancy and for frequent binge drinking.<sup>10</sup>

*Alcohol Use by Adolescents and Young Adults.* Use of alcohol by adolescents and young adults has declined over the past decade, but remains a serious problem.<sup>43</sup> Among 12–17-year-olds surveyed in 1993, 18% had used alcohol in the last month, and 35% in the last year.<sup>4</sup> In a separate 1993 survey, 45% and 33%, respectively, of male and female 12th graders reported “binge” drinking (5 or more drinks on one occasion) within the previous month.<sup>44</sup> The leading causes of death in adolescents and young adults—motor vehicle and other unintentional injuries, homicides, and suicides—are each associated with alcohol or other drug intoxication in about half of the cases. Driving under the influence of alcohol is more than twice as common in adolescents than in adults.<sup>45</sup> Binge drinking is especially prevalent among college students: half of all men and roughly one third of all women report heavy drinking within the previous 2 weeks.<sup>43,46</sup> Most frequent binge drinkers report numerous alcohol-related problems, including problems with school work, unplanned or unsafe sex, and trouble with police.<sup>46</sup>

#### Accuracy of Screening Tests

Accurately assessing patients for drinking problems during the routine clinical encounter is difficult. The diagnostic standard for alcohol dependence or abuse (Diagnostic and Statistical Manual of Mental Disorders [DSM] IV)<sup>2</sup> requires a detailed interview and is not feasible for routine

screening. Physical findings (hepatomegaly, skin changes, etc.) are only late manifestations of prolonged, heavy alcohol abuse.<sup>47</sup> Asking the patient about the quantity and frequency of alcohol use is an essential component of assessing drinking problems, but it is not sufficiently sensitive or specific by itself for screening. In one study, drinking 12 or more drinks a week was specific (92%) but insensitive (50%) for patients meeting DSM criteria for an active drinking disorder.<sup>48</sup> The reliability of patient report is highly variable and dependent on the patient, the clinician, and individual circumstances. Heavy drinkers may underestimate the amount they drink because of denial, forgetfulness, or fear of the consequences of being diagnosed with a drinking problem.

A variety of screening questionnaires have been developed which focus on consequences of drinking and perceptions of drinking behavior. The 25-question Michigan Alcoholism Screening Test (MAST)<sup>49</sup> is relatively sensitive and specific for DSM-diagnosed alcohol abuse or dependence (84–100% and 87–95%, respectively)<sup>49,50</sup> but it is too lengthy for routine screening. Abbreviated 10- and 13-item versions are easier to use but are less sensitive and specific in primary care populations (66–78% and 80%, respectively).<sup>51,52</sup> The four-question CAGE instrument<sup>a</sup> is the most popular screening test for use in primary care<sup>53</sup> and has good sensitivity and specificity for alcohol abuse or dependence (74–89% and 79–95%, respectively) in both inpatients<sup>54,55</sup> and outpatients.<sup>56–58</sup> The CAGE is less sensitive for early problem drinking or heavy drinking, however (49–73%).<sup>58,59</sup> Both the CAGE and MAST questionnaires share important limitations as screening instruments in the primary care setting: an emphasis on symptoms of dependence rather than early drinking problems, lack of information on level and pattern of alcohol use, and failure to distinguish current from lifetime problems.<sup>52</sup>

Some of these weaknesses are addressed by the Alcohol Use Disorders Identification Test (AUDIT), a 10-item screening instrument developed by the World Health Organization (WHO) in conjunction with an international intervention trial. The AUDIT incorporates questions about drinking quantity, frequency, and binge behavior along with questions about consequences of drinking.<sup>60</sup> For the study population in which it was derived, a score of 8 of 40 on the AUDIT had high sensitivity and specificity for “harmful and hazardous drinking” (92% and 94%, respectively) as as

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<sup>a</sup>C: “Have you ever felt you ought to Cut down on drinking?”

A: “Have people Annoyed you by criticizing your drinking?”

G: “Have you ever felt bad or Guilty about your drinking?”

E: “Have you ever had a drink first thing in the morning to steady your nerves or get rid of a hangover (Eye opener)?”

essed by more extensive interview.<sup>60</sup> Validation studies have reported more variable performance of the AUDIT. Sensitivity and specificity for current abuse/dependence were high (96% and 96%, respectively) in an inner-city clinic;<sup>61</sup> among rural outpatients, AUDIT was less sensitive and specific (61% and 90%) for current drinking problems but superior to the Short MAST-13.<sup>51</sup> Because it focuses on drinking in the previous year, however, AUDIT is less sensitive for past drinking problems.<sup>62</sup> Further validation studies in other populations are under way.

Brief screening tests may be less sensitive or less specific in young persons: sensitivity of the CAGE for problems due to alcohol among college freshmen was 42% in men and 25% in women.<sup>63</sup> Only 38% of college students with an AUDIT score of 8 or greater met DSM criteria for abuse or dependence;<sup>64</sup> many of these “false-positive” results were due to drinking patterns (frequent binge drinking) that would be considered hazardous. Alternative screens have been developed for adolescents, such as the Perceived-Benefit-of-Drinking scale<sup>65</sup> and the Problem Oriented Screening Instrument for Teenagers (POSIT),<sup>66</sup> but they have not yet been adequately validated in the primary care setting.

Instruments that focus on alcohol dependency (e.g., CAGE or MAST) are not sensitive for levels of drinking considered dangerous in pregnancy.<sup>67</sup> Women may underreport alcohol consumption while pregnant,<sup>68</sup> and direct questions about drinking may provoke denial.<sup>69</sup> Brief instruments that incorporate questions about tolerance to alcohol (“How many drinks does it take to make you feel high?” or “How many drinks can you hold?”) were more sensitive than the CAGE (69–79% vs. 49%) for risk-drinking in pregnancy (2 drinks per day or greater).<sup>30,70</sup> Women who require 3 or more drinks to feel high, or who can drink more than 5 drinks at a time, are likely to be at risk.<sup>71</sup>

Laboratory tests are generally insensitive and nonspecific for problem drinking. Elevations in hepatocellular enzymes, such as aspartate aminotransferase (AST), or the erythrocyte mean corpuscular volume (MCV) are found in less than 10% and 30% of problem drinkers, respectively.<sup>72</sup> Serum  $\gamma$ -glutamyl transferase (GGT) is more sensitive (33–60%) in various studies,<sup>54,55,72</sup> but elevations in GGT may be due to other causes (medications, trauma, diabetes, and heart, kidney, or biliary tract disease). Even when the prevalence of problem drinking is high (30%), the predictive value of an elevated GGT has been estimated at only 56%.<sup>72</sup>

### Effectiveness of Early Detection

Numerous studies demonstrate that clinicians are frequently unaware of problem drinking by their patients.<sup>10</sup> Early detection and intervention may alleviate ongoing medical and social problems due to drinking and reduce the future risks from excessive alcohol use.

*Nondependent Drinkers.* A number of randomized trials have now demonstrated the efficacy of brief outpatient counseling (5–15 minutes) for nondependent problem drinkers. In four Scandinavian studies, which enrolled patients with elevated GGT and heavy alcohol consumption, brief counseling to reduce drinking and regular follow-up produced significant improvements (decreased GGT and/or decreased alcohol consumption) in treated versus control subjects;<sup>73–76</sup> counseling reduced reported sick days in one study.<sup>74</sup> In the longest of these studies, patients receiving counseling had fewer hospitalizations and 50% lower mortality after 5 years.<sup>73</sup> Some of this benefit, however, may have been due to the close medical follow-up (every 1–3 months) in the intervention group rather than the initial counseling.

Additional trials have demonstrated that brief interventions can reduce alcohol consumption in problem drinkers identified by screening questionnaires or self-reported heavy drinking.<sup>77–79</sup> Most recently, an international WHO study examined the effects of 5 or 20 minutes of counseling about drinking in 1,500 “at-risk” male and female drinkers: >35 drinks per week for men; >21 drinks per week for women; or intoxicated twice per month; or self-perceived drinking problem.<sup>80</sup> After 9 months, self-reported alcohol consumption among men was reduced 32–38% in the intervention groups and 10% in controls. Among women, alcohol consumption declined significantly (>30%) among both treated and control groups. A meta-analysis of six brief-intervention trials estimated that interventions reduced average alcohol consumption by 24%.<sup>81</sup> Although self-reported consumption may be subject to bias, reported changes in drinking correlated with objective measures (GGT, blood pressure) in most studies. Two additional studies demonstrated significant reductions in blood pressure as a result of advice to stop drinking or substitution of nonalcoholic beer.<sup>82,83</sup>

*Pregnancy.* There are no definitive controlled trials of treatments for excessive drinking in pregnancy.<sup>84</sup> In several uncontrolled studies, a majority of heavy-drinking pregnant women who received counseling reduced alcohol consumption,<sup>32,85,86</sup> and reductions in drinking were associated with lower rates of FAS.<sup>32,86</sup> Many women spontaneously reduce their drinking while pregnant, however, and women who continue to drink differ in many respects from women who cut down (e.g., heavier drinking, poorer prenatal care and nutrition). As a result, it is difficult to determine precisely the benefit of screening and counseling during pregnancy. In two trials that employed a control group, the proportions of women abstaining or reducing consumption were similar in intervention and control groups.<sup>87,88</sup>

*Adolescents.* A 1990 Institute of Medicine (IOM) report concluded that specific recommendations for the treatment of alcohol problems in young persons were impossible, due to disagreement over what constitutes a

drinking problem in adolescents, the wide variety of interventions employed, and the absence of any rigorous evaluation of different treatments.<sup>1</sup> Alcohol interventions in adolescents have focused on primary prevention of alcohol use.<sup>10</sup> Recent reviews of school-based programs found that most effects were inconsistent, small, and short-lived; programs that sought to develop social skills to resist drug use seem to be more effective than programs that emphasize factual knowledge.<sup>89,90</sup>

*Alcohol-Dependent Patients.* Patients with alcohol dependence usually receive more intensive treatment. A 1989 report of the IOM<sup>91</sup> reviewed a variety of alcohol treatment modalities and concluded that various treatments were effective, but there was no single superior treatment for all patients, and few treatments were effective for the majority of patients. They found no evidence that residential versus nonresidential programs, or long- versus short-duration programs, were more effective for the average patient, and no studies existed that adequately evaluated the independent effect of Alcoholics Anonymous (AA). In a subsequent trial among employees referred for alcohol problems, patients who received inpatient treatment and mandatory AA follow-up were more likely to be abstinent at 2-year follow-up (37% vs. 16%) than patients assigned to mandatory AA only.<sup>92</sup>

Two short-term (12 weeks) randomized trials demonstrated a significant benefit of naltrexone, an opioid antagonist, as an adjunct to treatment of alcohol dependence. In one study, patients receiving naltrexone and supportive psychotherapy had significantly higher abstinence rates than did subjects receiving placebo (61% vs. 19%).<sup>93</sup> In the second, men receiving naltrexone reported less alcohol craving and fewer drinking days than placebo-treated men.<sup>94</sup> In both trials, naltrexone significantly reduced the likelihood of relapse (heavy drinking or steady drinking) among subjects who did not achieve complete abstinence. The benefits of alcohol-sensitizing agents, however, remain uncertain.<sup>10</sup> Disulfiram (i.e., Antabuse) did not improve long-term abstinence rates in a controlled trial, but it did reduce drinking days among patients receiving the highest dose.<sup>95</sup>

In a 10-year follow-up of 158 patients completing inpatient treatment, 61% reported complete or stable remission of alcoholism.<sup>96</sup> Completing an extended inpatient program was associated with significantly lower mortality among alcoholic patients in a second study.<sup>97</sup> Many such studies of alcohol treatment, however, suffer from important methodologic limitations: inadequate control groups, insufficient or selective follow-up, and selection bias due to the characteristics of patients who successfully complete voluntary treatment programs.<sup>91,98,99</sup> Since spontaneous remission occurs in as many as 30% of alcoholics,<sup>100,101</sup> reduced consumption may be inappropriately attributed to treatment. Successful treatment is likely to represent a complex interaction of patient motivation, treatment characteristics, and

the posttreatment environment (family support, stress, etc.).<sup>1,10</sup> The IOM review concluded that treatment of other life problems (e.g., with antidepressant medication, family or marital therapy, or stress management) and empathetic therapists were likely to improve treatment outcomes.<sup>91</sup>

### Recommendations of Other Groups

There is a consensus among professional groups such as the American Medical Association (AMA)<sup>102</sup> and the American Academy of Family Physicians (AAFP)<sup>103</sup> that clinicians should be alert to the signs and symptoms of alcohol abuse and should routinely discuss patterns of alcohol use with all patients. AAFP recommendations are under review. The Canadian Task Force on the Periodic Health Examination (CTF)<sup>104</sup> and a 1990 IOM panel<sup>1</sup> recommended screening adults for problem drinking, using patient inquiry or standardized instruments, and offering brief counseling to nondependent problem drinkers.

The American Academy of Pediatrics (AAP),<sup>105</sup> AMA Guidelines for Adolescent Preventive Services (GAPS),<sup>106</sup> the Bright Futures guidelines,<sup>107</sup> and the AAFP<sup>103</sup> all recommend careful discussion with all adolescents regarding alcohol use and regular advice to abstain from alcohol. The AAP also advises physicians to counsel parents regarding their own use of alcohol in the home. Recommendations of the U.S. Surgeon General,<sup>108</sup> the American College of Obstetricians and Gynecologists,<sup>109</sup> and the AAP<sup>109,110</sup> advise counseling all women who are pregnant or planning pregnancy that drinking can be harmful to the fetus and that abstinence is the safest policy. The CTF recommends that all women be screened for problem drinking and advised to reduce alcohol use during pregnancy.<sup>104</sup>

Several organizations have made recommendations about "safe" levels of alcohol consumption for nonpregnant adults. The National Institute on Alcohol Abuse and Alcoholism,<sup>111</sup> the U.S. Surgeon General,<sup>112</sup> and dietary guidelines produced jointly by the U.S. Departments of Health and Human Services and Agriculture<sup>113,114</sup> recommend no more than 2 drinks per day for men and 1 drink per day for nonpregnant women. Slightly higher limits were proposed by national health authorities in the U.K.<sup>115</sup>

### Discussion

Alcohol problems are common in the primary care setting, but they often go undetected by clinicians. Although imperfect, asking patients direct questions about the quantity, frequency, and pattern of their drinking is an important way to identify those who are most likely to experience problems due to alcohol. Questions about tolerance to the effects of alcohol may circumvent denial among pregnant women and heavy drinkers. The CAGE and other brief screening instruments are useful supplements to the standard patient history, but they may be less sensitive for early prob-

lems and hazardous drinking. The AUDIT may detect a broader range of current drinking problems, but its performance in the primary care setting needs further evaluation. Although laboratory tests such as GGT are not sufficiently sensitive or specific for routine screening, they may be useful in selected high-risk patients to confirm clinical suspicion or to motivate changes in drinking. Neither questionnaires nor laboratory tests should be considered diagnostic of problem drinking without more detailed evaluation (see *Clinical Intervention*).

Detecting early problem drinkers is important, because they account for a large proportion of all alcohol problems and they are more likely to respond to simple interventions than patients with alcohol dependency. There is now good evidence that brief counseling can reduce alcohol consumption in problem drinkers, and several trials have also reported improved clinical outcomes. Since the risks from alcohol rise steadily at higher levels of consumption, reducing drinking should also benefit heavy drinkers (i.e., hazardous drinkers) who do not yet manifest problems due to drinking. Early attention to problem drinking is especially important in young adults: hazardous drinking is common, adverse effects of alcohol increase with duration of use, and few persons initiate drinking after age 30.<sup>116</sup> Early detection is also important for alcohol-dependent patients, but effective treatment requires more intensive and sustained efforts to promote abstinence.

Uncertainties remain about optimal screening methods and interventions during pregnancy, but screening is justified by the strong evidence of the adverse effects of alcohol on the fetus. Although the risks of occasional, light drinking during pregnancy have not been established, abstinence can be recommended as a prudent approach for pregnant women. At the same time, women concerned about the effects of previous moderate drinking early in pregnancy can be reassured that important harms have not been demonstrated from such limited exposures. Because exposure early in pregnancy may be most important, screening and advice should be directed toward women contemplating pregnancy and those at risk for unintended pregnancy, not just women who are already pregnant.

There is insufficient evidence to make precise recommendations about desirable levels of drinking, but the strong association between heavy alcohol use and risk of future complications justifies advising all drinkers to drink moderately and avoid frequent intoxication, even in the absence of current problems (see below).

#### CLINICAL INTERVENTION

Screening to detect problem drinking and hazardous drinking is recommended for all adult and adolescent patients (“B” recommendation). Screening should involve a careful history of alcohol use and/or the use of

standardized screening questionnaires. Patients should be asked to describe the quantity, frequency, and other characteristics of their use of wine, beer, and liquor, including frequency of intoxication and tolerance to the effects of alcohol. One drink is defined as 12 ounces of beer, a 5-ounce glass of wine, or 1.5 fluid ounces (one jigger) of distilled spirits. Brief questionnaires such as the CAGE or AUDIT may help clinicians assess the likelihood of problem drinking or hazardous drinking (see Table 52.1). Responses suggestive of problem drinking should be confirmed with more extensive discussions with the patient (and family members where indicated) about patterns of use, problems related to drinking, and symptoms of alcohol dependence.<sup>2</sup> Routine measurement of biochemical markers, such as serum GGT, is not recommended for screening purposes. Discussions with adolescents should be approached with discretion to establish a trusting relationship and to respect the patient's concerns about the confidentiality of disclosed information.

All pregnant women should be screened for evidence of problem drinking or risk drinking (2 drinks per day or binge drinking) ("B" recommendation). Including questions about tolerance to alcohol may improve detection of at-risk women. All pregnant women and women contemplating pregnancy should be informed of the harmful effects of alcohol on the fetus and advised to limit or cease drinking. Although there is insufficient evidence to prove or disprove harms from occasional, light drinking during pregnancy, abstinence from alcohol can be recommended on other grounds: possible risk from even low-level exposure to alcohol, lack of harm from abstaining, and prevailing expert opinion ("C" recommendation). Women who smoke should be advised that the risk of low birth weight is greatest for mothers who both smoke and drink.

Patients with evidence of alcohol dependence should be referred, where possible, to appropriate clinical specialists or community programs specializing in the treatment of alcohol dependence. Patients with evidence of alcohol abuse or hazardous drinking should be offered brief advice and counseling. Counseling should involve feedback of the evidence of a drinking problem, discussion of the role of alcohol in current medical or psychosocial problems, direct advice to reduce consumption, and plans for regular follow-up. Problems related to alcohol (e.g., physical symptoms, behavioral or mood problems, or difficulties at work and home) should be monitored to determine whether further interventions are needed. There is no single definition of "hazardous" drinking in asymptomatic persons, but successful intervention trials have generally defined 5 drinks per day in men, 3 drinks per day in women, or frequent intoxication to identify persons at risk. Several U.S. organizations have suggested lower limits for "safe" drinking: 2 drinks per day in men and 1 drink per day in women.<sup>18</sup> All persons who drink should be informed of the dangers of dri-

**Table 52.1**  
AUDIT Structured Interview<sup>a</sup>

Question	Score				
	0	1	2	3	4
How often do you have a drink containing alcohol?	Never	Monthly or less	2–4 times/mo	2–3 times/wk	4 or more times/wk
How many drinks do you have on a typical day when you are drinking?	None	1 or 2	3 or 4	5 or 6	7–9*
How often do you have 6 or more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you found that you were unable to stop drinking once you had started?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you failed to do what was normally expected from you because of drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you had a feeling of guilt or remorse after drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
Have you or someone else been injured as a result of your drinking?	Never	Yes, but not in last year (2 points)		Yes, during the last year (4 points)	
Has a relative, doctor, or other health worker been concerned about your drinking or suggested you cut down?	Never	Yes, but not in last year (2 points)		Yes, during the last year (4 points)	

<sup>a</sup>Score of greater than 8 (out of 41) suggests problem drinking and indicates need for more in-depth assessment. Cut-off of 10 points recommended by some to provide greater specificity.

\*5 points if response is 10 or more drinks on a typical day.

ving or other potentially dangerous activities after drinking (see Chapter 57). The use of alcohol should be discouraged in persons younger than the legal age for drinking (“B” recommendation), although the effectiveness of alcohol abstinence messages in the primary care setting is uncertain.

The draft update of this chapter was prepared for the U.S. Preventive Services Task Force by David Atkins, MD, MPH, with contributions from materials prepared for the Canadian Task Force on the Periodic Health Examination by Deborah L. Craig, MPH, and Jean L. Haggerty, MSc.

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