9/21/17

Alcohol Misuse: Patient Education, Screening & Intervention

Background

Alcohol misuse poses both a clinical problem and a public health problem. The clinical perspective views alcohol misuse in the context of an individual patient, while the public health perspective views alcohol misuse in the population at large. The interest in minimizing alcohol related harm exists from both perspectives. Alcohol misuse is a leading cause of preventable deaths in the United States. Only smoking, high blood pressure and obesity surpass alcohol misuse as leading causes of preventable deaths nationwide. Alcohol misuse has both acute and chronic consequences to patient health. Those that misuse alcohol are at increased risk for hypertension, heart disease, hemorrhagic stroke, pancreatitis, cirrhosis, vitamin deficiencies and multiple cancers. Fetal alcohol syndrome is a leading cause of birth defects and a leading cause of preventable mental retardation. Compared to the general population, individuals that misuse alcohol are more likely to suffer from depression (20.5% vs 7.2%), anxiety disorders (23.5% vs. 11.1%), and antisocial personality disorders (18.3% vs. 3.6%). In addition, those that misuse alcohol are at increased risk for suicidal behavior, auto homicide, as well as domestic violence. Dementia is also linked to alcohol misuse (1).

The focus of this protocol is primarily to screen and provide education and intervention strategies for individual patients. Decreasing levels of alcohol misuse in the population would positively impact a wide range of physical and mental health parameters in the United States.

Terminology

The term *alcohol misuse* is used to describe a range of behaviors. Misuse includes risky or hazardous alcohol use which is defined as drinking more than the recommended daily, weekly or per-occasion amount resulting in increased risk to health (2). Recommendations for safe alcohol consumption vary depending on the source used. For healthy men it is often recommended that they consume no more than four drinks in a day AND no more than 14 drinks in a week. For healthy women it is recommended that they consume no more than three drinks in a day AND no more than seven drinks in a week (3). However, the 2015 dietary guidelines for Americans state that safe alcohol consumption is limited to one drink a day for women and up to two drinks a day

for men (4). Another term used is *at-risk drinking* or *at-risk drinker*. At risk drinking may include binge drinking. *Binge drinking* is defined as drinking more than 5 drinks, for men, or 4 drinks, for women, within about two hours (5). Alcohol misuse is generally used to describe individuals that do not meet the clinical criteria for *alcohol use disorder* (AUD). AUD is a psychiatric condition defined in the Diagnostic and Statistical Manual of Mental Disorders, 5th ed (DSM-V). AUD is characterized by lack of control over drinking, continued drinking despite knowledge of consequences, and neglecting responsibilities as a result of drinking. AUD can be classified as mild, moderate or severe depending on the symptoms exhibited by the patient (6). AUD is typically used to encompass the older term, alcoholism, although both terms are still utilized (6).

EPIDEMIOLOGY

The consequences of alcohol use, when viewed from the public health perspective, underline the importance of identifying alcohol misuse in individual patients. In 2015 the National Survey on Drug Use and Health reported 15.1 million adults ages 18 and older (6.2% of this age group) had AUD. AUD is diagnosed more frequently in men than in women. According to the results of the 2015 NSDUH, 9.8 million men (8.4% of men in this age group) and 5.3 million women (4.2% of women in this age group) had AUD (7). Tendency to develop AUD generally declines with age, the prevalence of AUD in elderly American is about 3%. Although as the number of older Americans increases it is likely that the prevalence with increase. The prevalence of AUD is generally lower in the African American population than in the Caucasian population. The prevalence of AUD among Hispanic Americans is equal to or higher than Caucasian Americans.

College-age students often engage in binge drinking. In a study of 14,000 college students, 31% met the diagnostic criteria for alcohol misuse and 6% for alcohol dependence (AUD). Individuals that binge drink between the ages of 18 and 24 are at increased risk of developing AUD (8).

PHYSICAL HEALTH RISKS

The health effects of alcohol misuse on the human body include liver disease, cardiovascular disease, pancreatitis and cancer. Ethanol is primarily metabolized in the liver. As a result, liver damage and liver disease are the most well-known health consequences associated with alcohol misuse. Liver disease caused 72,559 deaths in individuals 12 and older in 2013. Of those, 48.5% involved the use of alcohol (9). Cardiovascular health can be compromised by high alcohol intake. However, studies have also touted cardioprotective effects of lesser amounts of alcohol.

The effects of alcohol on heart health are complicated and the evidence is mixed. Cardiomyopathy, atrial arrhythmias and hemorrhagic stroke are linked to heavy alcohol intake. However, coronary artery disease is reduced in individuals that are light to moderate drinkers of alcohol (10). The relationship between lesser alcohol intake and reduced disease may depend on the age group studied. Recent evidence suggests that the positive dose response relationship between lower consumption of alcohol and all-cause mortality may be limited to females over the

age of 65. Compared to those who never drink, other age groups had little to no health benefits from light to moderate alcohol consumption (11). Inflammation of the pancreas, pancreatitis, is clearly linked to heavy alcohol consumption; however, whether the inflammation is acute or chronic seems to be dependent on the amount of alcohol consumed (12). Alcohol misuse is a significant risk factor for a number of cancers, including liver, colorectal, breast and the upper aerodigestive tract. Unlike other physical risks, data indicates that there is no safe amount of alcohol that can be consumed with regard to cancer. Avoidance of alcohol should be considered to reduce cancer risk (13). There are several suspected mechanisms for damage leading to carcinogenesis, but aberrant DNA methylation is the most widely understood (14).

The role of the primary health provider in addressing alcohol use in patients is an extremely important one. The clinician should be responsible for both the assessment of patient alcohol use and if necessary, intervening in such a way as to better the health of the patient by attempting to reduce alcohol consumption.

Assessment

Careful patient history taking is the key to identifying alcohol misuse. Indirect indicators during a routine history that may trigger a suspicion of misuse or AUD include a history of auto accidents, symptoms of peripheral neuropathy, bipolar disorder, or a family history of alcohol dependence. Weekly or daily consumption of energy drinks by college age patients has also been associated with the development of AUD (OR 2.4; 95% CI 1.27-4.56) (15).

The USPSTF recommends that clinicians should screen all patients, age 18 and older, yearly for possible alcohol misuse. However, it is estimated that less than 50% of patients who see their doctor because of alcohol related issue are even asked about alcohol use (1).

Start by asking your patient “Do you ever drink wine, beer or other alcohol?”

If the answer is no, you are done. If yes, the assessment should proceed by using a single question screening.

However, if the clinician suspects alcohol misuse or AUD, a multiple question screening tool should be utilized rather than the single question test (16). The clinician may suspect alcohol misuse or AUD if the patient presents with health problems related to alcohol use. Several multiple question screening tools are in use in healthcare today. The CAGE (cut down, annoyed, guilty, eye opener) tool is no longer recommended because it does not detect alcohol misuse, is less sensitive in women and the elderly and can miss binge drinking. However, it may still be useful to detect AUD (3). If used, CAGE should be administered verbally, face to face, and before asking about quantity or frequency of drinking (NOTE: CAGE test sensitivity drops if these other questions are asked first). (1). Other available screening tests include the AUDIT (alcohol use disorders identification test) or AUDIT-C, a shorter version of AUDIT (16). These tools can be administered electronically or

by paper. If it is determined that the patient is struggling with alcohol, other drug use (both street and prescription) should be explored (1).

Regardless of the screening tool utilized, the clinician should approach the patient in a non-judgmental way. The patient may be reassured that these questions are being asked only to determine if the alcohol they are consuming may adversely be affecting their health.

SINGLE QUESTION SCREEN

Although it is commonly asked in a clinical setting, the question "how much do you drink" is not recommended. This question has poor sensitivity and should be avoided. The National Institute on Alcohol Abuse and Alcoholism recommends a better single question screening question (see box below) that varies slightly depending on the patient's gender and age (17).

For women>18/men>65: "How many times in the past year have you had 4 or more drinks on one occasion?"

For men>18-65: "How many times in the past year have you had 5 or more drinks on one occasion?"

A patient that answers that they have consumed 4 or more (women/men>65) or, 5 or more (men 18-65) drinks one or more times on a single occasion in the past year has a positive screening result.

For detecting alcohol misuse, this validated single item test has a +LR of 3.90 and a –LR of 0.22 (sensitivity: 82%; specificity: 79%)

For the detection of AUD, it has a +LR of 2.63 and a –LR of 0.19 (sensitivity: 87%; specificity: 67%) (15).

THE AUDIT TEST

The 10 question AUDIT test, developed in 1982 by the World Health Organization, is more accurate for detecting AUD than the single question screen. This test can also detect risky drinking and misuse. It is sensitive even in populations with a lower prevalence of AUD (1).

For detection of alcohol misuse, the AUDIT-10 test has a +LR of 16.4 and a –LR of 0.19 (sensitivity: 82%; specificity: 95%) (18).

For detection of AUD, the AUDIT-10 test has a +LR of 15.33 and a –LR of 0.085 (sensitivity: 92%; specificity: 94%) (16).

AUDIT

1. How often do you have a drink containing alcohol?
2. How many drinks containing alcohol do you have on a typical day when you are drinking?
3. How often do you have six or more drinks on one occasion?
4. How often during the last year have you found that you were not able to stop drinking once you had started?
5. How often during the last year have you failed to do what was normally expected from you because of drinking?
6. How often during the last year have you been unable to remember what happened the night before because you had been drinking?
7. How often during the last year have you needed an alcoholic drink first thing in the morning to get yourself going after a night of heavy drinking?
8. How often during the last year have you had a feeling of guilt or remorse after drinking?
9. Have you or someone else been injured as a result of your drinking?
10. Has a relative, friend, doctor, or another health professional expressed concern about your drinking or suggested you cut down?

A score of 8 or more is considered to be a positive screen for alcohol misuse. Further questioning (listed in the next section) is warranted to assess the impact on the patient's life and to determine if they may be diagnosed with AUD. To see the entire questionnaire and how to score it, see Appendix I or go to http://www.integration.samhsa.gov/AUDIT_screener_for_alcohol.pdf.

The 3 question AUDIT-C test was developed and tested in 1998. Evidence suggests that it is a practical and valid screen for detecting alcohol misuse or AUD (19).

For detection of alcohol misuse, the AUDIT-C test has a +LR of 4.85 and a –LR of 0 (sensitivity: 100%; specificity: 79.4%) (18).

For detection of AUD, the AUDIT-C test has a +LR of 3.07 and a –LR of 0.19 (sensitivity: 86%; specificity: 72%) (3).

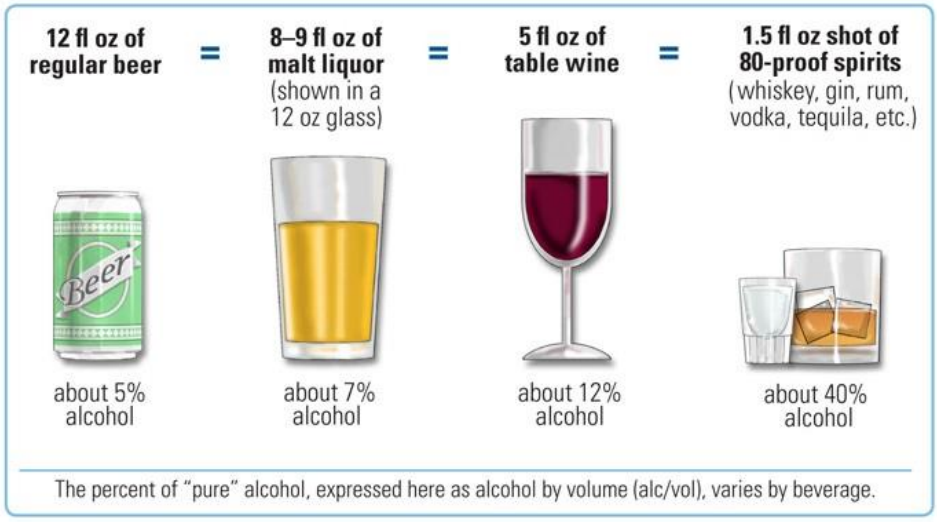
AUDIT-C

1. How often do you have a drink containing alcohol?
2. How many standard drinks containing alcohol do you have on a typical day?
3. How often do you have six or more drinks on one occasion?

A score of 3 in women or 4 in men on the AUDIT-C test is considered a positive screen for alcohol misuse. To see the entire questionnaire and how to score it, see Appendix I or go to http://www.integration.samhsa.gov/images/res/tool_auditc.pdf.

WHAT CONSTITUTES A SINGLE DRINK?

When considering asking questions about "a drink" it may be useful to know that a standard drink is defined as:



This image is in the public domain, from https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/what-standard-drink

ADDITIONAL FOLLOW UP QUESTIONS TO ASSESS THE EXTEND AND IMPACT OF ALCOHOL USE

The questions below will help the clinician assess the effects on the patient's life and help to separate individuals that misuse alcohol from those with AUD. In a study to determine prevalence of alcohol dependence, it was shown that approximately 10% of individuals that drink excessively are diagnosed as having AUD. Excessive drinking was defined in this study as binge drinking; heavy drinking; any past 30-day drinking by respondents 18 to 20 years of age; or any past 30-day alcohol consumption by pregnant women (20).

The answers to these questions can be compared to the DSM-V criteria for AUD. See Appendix II. (1, 21)

- Have you ever had a drinking problem?
- Has it interfered with you job/school/relationships?
- When was your last drink (<24 hours ago can be a red flag)?
- Have you experienced insomnia, sweating, tremors, or nausea several hours after you stopped drinking?
- Do you use alcohol to relieve pain, anxiety or insomnia?

- Have you started to need to drink more to get a buzz or high?
- Have you ever been arrested for drinking (such as DUI)?
- Have you ever lost friends or significant others because of your drinking?
- Have you ever been to an AA meeting?
- For geriatric patients: Did your drinking increase after someone close to you died? Does alcohol make you sleepy so that you often fall asleep in your chair?
- For adolescents: Do you drink alone? Do you ever miss school to go drinking or because you have a hangover?

SCREENING SUMMARY

Start by asking your patient "Do you ever drink wine, beer or other alcohol?"

IF NO

SCREENING IS COMPLETE

IF YES

Ask: "How many times in the past year have you had more than 5 drinks (men 18-65) or more than 4 drinks (women, men>65) in a day?"

OR

if patient presents with possible comorbid condition, go directly to AUDIT 10 or AUDIT C screen

IS THE SCREENING POSITIVE?

Positive screen = "one day or more" to the above question OR an AUDIT 10≥8 OR AUDIT C score ≥3 (women) or ≥4 (men)

NO- NEGATIVE

Remind the patient of the healthy limits

YES-POSITIVE

Further questioning to determine extent of alcohol use, assess readiness for change, and possible intervention strategies.

PHYSICAL EXAM

The physical exam primarily has value to assess the effects of chronic alcohol abuse, as opposed to being part of a routine screen or assessment of alcohol misuse. Positive exam findings include the following:

- Gynecomastia
- Spider angiomata
- Dupuytren contractures (also may be congenital)
- Testicular atrophy
- Enlarged or shrunken liver
- Enlarged spleen

Severe neurological manifestations of chronic alcoholism include Wernicke encephalopathy (ataxia, lateral gaze palsy, and confusion), Korsakoff syndrome (amnesia, confabulation, and preceded by Wernicke encephalopathy, and hepatic encephalopathy (asterixis and confusion) (1).

ANCILLARY STUDIES

Although certain blood tests can indicate alcohol ingestion and may reflect AUD, they are not sensitive enough to be used by themselves as an alcohol screen. No single test can accurately predict alcohol intake across genders, all ages, and drinking patterns. They can be helpful in when ordered in conjunction by a history and physical assessment (22).

Even the historically best test, gamma glutamyl transferase, has a sensitivity of only approximately 50%. Like the physical exam, these tests are best reserved to establish the deleterious effects, for example, alcoholic liver disease. Indicators include an increase in any or all of the following tests:

- Aspartate aminotransferase (AST)
- Alanine aminotransferase (ALT)
- Gamma glutamyltransferase (GGT)
- Mean corpuscular volume (MCV)
- Carbohydrate-deficient transferrin (CDT)

The sensitivity/specificity of CDT has generally been reported higher than the other lab findings, although it is less sensitive/specific in women than men (1).

Other tests that should be considered if liver disease is expected include the following:

- complete blood count
- prothrombin time (PT)/INR
- partial thromboplastin time (PTT)
- other liver function tests (e.g., bilirubin, ALP, LDH, protein, ammonium)
- abdominal ultrasound or computed tomography

Intervention

Patients in general, but especially those who already have known risk factors for cancer, should be advised that research suggests that there is no safe amount of alcohol consumption and avoidance of alcohol should be considered to reduce cancer risk (13).

If a determination has been made that the patient does have a problem with alcohol, the next step is a brief intervention. In a chiropractic setting in which patients are likely to be seeing the chiropractor over an extended period of time, this intervention might wait until after the patient is over the acute phase of the presenting complaint and some rapport has been established.

Brief interventions are typically provided by a primary care clinician and consist of 1-4 brief (5-15 minute) encounters (23).

The clinician should first clearly state the patient has a problem with alcohol, in an empathic but non-judgmental manner (1). Avoid terms such as “alcoholic" or "addict", instead use phrases such as "an individual with an alcohol problem.” It is important to emphasize to the patient that this determination is *not based simply on the quantity consumed* but on the effects on the patient’s life, including family, friends, and occupation, as well as their physical health.

The next step is to determine the patient’s readiness to change. Patient centered care (PCC), in which the care shifts from being focused on the disease to being focused on the patient, is frequently used in alcohol interventions, the idea being that the doctor should not be an authority figure in these interactions. Rather, the clinician and the patient share the responsibility for handling the patient’s condition. The clinician’s role is to help the patient make decisions based on the patient’s own symptoms and values (24).

One of the central features of the PCC model is the use of motivational interviewing (MI). Although PCC and motivational interviewing continue to be viewed as the most acceptable, high quality model of care, the evidence for efficacy is mixed. The mixed results from a number of studies and different ways in which PCC and MI are utilized make it difficult to draw conclusions regarding PCC-based alcohol interventions (24, 25).

When a patient has a positive screen for alcohol misuse or AUD, the clinician should employ MI to conduct a brief intervention. The most critical features of this technique include empathic listening, eliciting self-motivation in the patient, and responding to resistance (26).

This can be accessed by using open-ended questions about the patient’s use of alcohol.

READINESS TO CHANGE

Change can be seen as a process composed of 5 phases: *precontemplation, contemplation, preparation, action, and maintenance*. The appropriate interaction and intervention is based on the phase the patient is currently experiencing.

PRECONTEMPLATION

The patient may be stuck in the precontemplation phase and has no interest in change. They may deny having a problem. It may be that they still don't recognize the consequences of their drinking, don't realize that they have a genetic pre-disposition, or fear they will be reported to their employers. If the patient clearly indicates they are not ready to make a change, the clinician should be accepting of the patient's decision, but remain concerned and follow up again later. (Spithoff). If the patient denies the problem, recommending group support such as Alcoholics Anonymous (AA) will not work. The clinician might still suggest a two-week abstinence trial and recommend that a family member come to the next appointment (1).

CONTEMPLATION

A patient in the contemplation stage may be at least entertaining the possibility that their alcohol use could be harmful. The dominant features of this phase are ambivalence and skepticism. If the patient is considering a change but is unsure, the clinician should ask questions to help the patient explore their ambivalence. Questions such as: "so how have you noticed alcohol affects your mood?" or "what do you think you may lose if you give up drinking" or "what do you want to do next". The patient's answers should be affirmed by the clinician. Comments such as "thank you for sharing that" or "you're really courageous to be talking about this" or "that's a good suggestion" will keep the communication open (26). Offering the patient information sources or pamphlets concerning alcohol abuse is an option as is suggesting an abstinence trial (1). (See the Mental Health Center, Infections Center, and Digestive Disorders Center. Also, see the patient education articles Alcoholism, Drug Dependence and Abuse, Alcohol Intoxication, Hepatitis B, Hepatitis C, and Cirrhosis).

PREPARATION AND ACTION

If the clinician successfully guides the patient to a willingness to make a change, the patient enters the preparation stage and then must be supported to move from preparation to implementation. The action phase is identified by observable evidence that steps are being taken to implement the action plan. The action plan itself will depend, in part, on whether the problem is alcohol misuse, where alcohol reduction is a reasonable goal, or AUD, where complete abstinence is the target. However, the clinician should be advised that distinguishing alcohol misuse from AUD can be a difficult judgment call (1). See Appendix II, for criteria for AUD.

ALCOHOL MISUSE

If the patient expresses interest in reduction of alcohol intake, the clinician may offer suggestions to facilitate action (16):

- Set a goal for reduced drinking
- Recording drinks in a calendar or a phone
- Arrive and leave drinking events at prescribed times (only stay 2 hours at a party)
- Eat before and while drinking
- Start drinking later in the evening

- Switch to a drink that is less preferred
- Pace drinking (no more than 1 per hour)
- Sip drinks
- Alternate alcohol drinks with soda or water
- Take a 20-minute break between deciding to drink and having a drink

ALCOHOL USE DISORDER (AUD)

Treatment of AUD is more challenging. AUD was previously referred to as alcoholism. Complete abstinence is the goal in these cases. Rather than declaring "You need to stop drinking" or "I want you to start attending AA meetings," using the motivational interview technic discussed above may be more successful. When the patient has accepted the diagnosis and expresses a willingness to take action, help them explore what tools are available to help them succeed.

At least initially, patients should remove alcohol from their homes and avoid bars and other environments where there is strong pressure to drink. A key message that must be repeated and re-enforced is that the most common error made is *underestimating the amount of help needed to stop drinking*. The patient should be offered a list of options for treatment, including AA and pharmacotherapy. A common approach is to recommend regularly attending Alcoholics Anonymous (AA) as one of the cheapest and most accessible options. For this to be given a fair trial, patients will need to attend meetings daily at first. They may not always have a good first experience at an AA meeting. To find a good fit, they may need to try as many as 5-10 different meetings, "shopping" different locations because the makeup and gestalt of the meetings can vary significantly. They will usually need to attend for at least 2 years.

Family members should be encouraged to contact Al-Anon and Alateen via its Web site (Al-Anon/Alateen) or mailing address (Al-Anon Family Group Headquarters; PO Box 182; Madison Square Garden Station; New York, NY 10159-0182).

Additional sources of help include the Substance Abuse Treatment FACILITY LOCATOR, Self-Help Group Sourcebook Online, and SMART Recovery. The acronym SMART is for Self-Management and Recovery Training.

REASONS FOR REFERRAL

It is important to determine whether referral for additional help is necessary (1).

- Hospitalization is indicated if there is a history of delirium tremens, a significant comorbidity, or reason to believe that the patient presents an imminent risk to themselves or another person. Hospitalization may require the assistance of family members, a primary care medical physician, or consultation with a psychiatrist.
- Inpatient treatment is indicated in cases where there is a poor social support network, significant psychiatric problems, history of relapse after treatment, or risk for suicidal or homicidal behavior.

- Consultation with a psychiatrist might be indicated in cases in which questions of suicide, violence, or comorbid psychiatric disorders might be present.
- Consultation with a medical physician is indicated if the patient wishes to do a therapeutic trial with one of a number of medications that are currently available. Drugs such as ondansetron, naltrexone, topiramate, and baclofen have been shown to affect drinking behavior (1).

DIETARY SUPPORT

AUD is associated with nutritional deficiencies, some of which are caused by a poor diet and others that result from the effects of alcohol on nutrient absorption or liver function (27). Dietary support is particularly important for patients suffering from chronic AUD. Several B-vitamin deficiencies are associated with alcoholism (28). Folate and vitamin B12 deficiency may produce megaloblastic anemia. Low thiamine or B12 can result in cord involvement (subacute posterolateral sclerosis) and polyneuropathy, causing peripheral neurological symptoms that could be mistaken for nerve compression signs (28, 29) Patients should be advised to consume a nutritionally-balanced diet and to consider taking a multivitamin supplement. In some cases, additional supplementation or intravenous therapy with B1, B12 or folic acid may be necessary. For patients with advanced liver disease, a round of enteral nutrition can improve survival and other outcomes (30).

Improving the overall diet should be a top priority. Animal research shows that junk food increases alcohol intake (31). Increasing healthy food intake and reducing sugar and junk food consumption has helped improve abstinence rates in humans (32, 33).

TREATMENT EFFECTIVENESS

Many physicians believe that no effective treatment is available for alcoholism; consequently, they do not screen patients for alcohol abuse nor refer for treatment. Multiple studies (over 4000 patients) support the value of brief interventions, especially for heavy drinkers who have not yet suffered a significant consequence of their alcohol consumption. Early warning and intervention appears to make a difference (1).

Patients with AUD can be categorized into 2 types: early-onset, where there appears to be a biological predisposition, and late-onset, which may be triggered by environmental or psychosocial factors. There can be a difference in prognosis between early- and late-onset alcoholism. Early onset AUD has been linked with criminal behavior, drinking primarily to get high, and severe problems with family, peers, and school before the age of 15 (and before the onset of alcohol problems). Early onset alcoholism, especially if the patient has an antisocial personality, has generally a poorer prognosis (1).

Late onset AUD is more often associated with primary depression, anxiety disorder, or another potentially contributory disorder. These other disorders antedate the problems with alcohol or remain a significant problem even during long periods of sobriety. If these primary problems are also managed, the prognosis can be greatly improved (1).

MAINTENANCE

Frequent follow-up is essential to support recovery. Again, messaging from the clinician plays an important therapeutic role. The following are key elements of this interaction.

- **Be vigilant.** Both the patient and provider should be cautious in presuming that the patient's action plan and behaviors have stabilized. More than 80% of patients relapse within the first year. At 2 years' sobriety, the relapse rate is cut in half, but remains high. At 5 years, longer-term prognosis improves significantly, *but relapse remains an ongoing risk.*

- **Continue to identify triggers.** Patients should continue to identify the psychosocial and environmental triggers that make them want to drink. These may include stress, anxiety or even just boredom. Situations where there is drinking or socializing with friends who are heavy drinkers can be challenging. The clinician and patient can discuss specific strategies to avoid or to cope with these triggers.

- **Monitor AA meetings.** A useful outcome to monitor is attendance of AA meetings. A pattern of missed meetings (or even missed chiropractic care appointments) can serve as a warning sign and should be discussed with the patient. A related inquiry can be how the patient is getting along with their AA sponsor.

- **Encourage a healthy life style.** The patient should be encouraged to make sobriety part of an overall healthy life style, including exercise and a good diet. Mindful mediation may be useful for patients who are interested. Building a stronger support system with family and close friends should also be encouraged.

Relapse is likely, so the clinician's response to relapse is critical. The clinician should remain nonjudgmental, supportive, and empathic. A relapse should be re-cast as a learning moment, retracing the circumstances and triggers that lead to the relapse so that the patient is better to resist them next time. In many cases, the patient may need to understand that the first objective is avoiding those circumstances, not just avoiding drinking. Again following a motivational interview style, the clinician and patient should assess the previous action plan and revise as necessary. Following a relapse, the then maintenance phase begins again (1).

Primary author: Kara Burnham, PhD

Contributing author: Ron LeFebvre DC

Reviewed by: Stan Ewald, DC, MPH, M.Ed.
Jenny Nordeen, MD
Joseph Pfeifer, DC

Reviewed by the Clinical Standards Protocols & Education (CSPE) Working Group (2016)

- Amanda Armington, DC
- Lorraine Ginter, DC
- Shawn Hatch, DC, DACBSP
- Ronald LeFebvre, DC
- Owen Lynch, DC
- Ryan Ondick, DC
- James Strange, MS, DC, CCSP

References

1. Thompson W, Welton R et al. Alcoholism treatment and management. Medscape Nov 14, 2016.
2. Moyer VA. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. Preventive services task force recommendation statement. Ann Intern Med 2013; 159: 210-18.
3. Berger D and Bradley K. Primary care management of alcohol misuse. Med Clin N Am 2015; 99: 989-1016.
4. U.S. Department of Health and Human Services and U.S. Department of Agriculture. 2015-2020 Dietary Guidelines for Americans. 8th ed., Washington DC; 2015.
5. Substance Abuse and Mental Health Services Administration (SAMHSA). *Binge Drinking: Terminology and Patterns of Use*. Available at:https://www.samhsa.gov/capt/tools-learning-resources/binge-drinking-terminology-patterns.
6. Diagnostic and statistical manual of mental disorders (5th ed.). American Psychiatric Association 2013. Arlington, VA: American Psychiatric Publishing.
7. Substance Abuse and Mental Health Services Administration (SAMHSA). 2015 National Survey on Drug Use and Health (NSDUH). Table 5.6A—Substance Use Disorder in Past Year among Persons Aged 18 or Older, by Demographic Characteristics: Numbers in Thousands, 2014 and 2015. Available at:https://www.samhsa.gov/data/sites/default/files/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015/NSDUH-DetTabs-2015.htm#tab5-6a.
8. Knight Jr, Wechsler H, Kuo M et al. Alcohol abuse and dependence among U.S. college students. J Stud Alcohol 2002; 63(3): 263-70.
9. https://pubs.niaaa.nih.gov/publications/AlcoholFacts&Stats/AlcoholFacts&Stats.htm
10. Klatsky AL. Alcohol and cardiovascular diseases: where do we stand today? J Intern Med 2015; 278: 238-250.
11. Knott CS, Coombs N, Stamatakis E and Biddulph JP. All cause mortality and the case for age specific alcohol consumption guidelines: pooled analyses of up to 10 population based cohorts. BMJ 2015; 350:h384 doi: 10.1136/bmj.h384.
12. Samokhvalov AV, Rehm J, Roerecke M. Alcohol consumption as a risk factor for acute and chronic pancreatitis: A Systematic Review and a Series of Meta-analyses. EbioMedicine 2015; 2: 1996-2002.
13. Nelson DE, Jarman DW, Rehm J, et al. Alcohol-attributable cancer deaths and years of potential life lost in the United States. AJPH 2013; 103(4): 641-648.
14. Varela-Rey M, Woodhoo A, Martinez-Chantar M, et al. Alcohol, DNA methylation and cancer. Alcohol Res 2013; 35:25-35.

15. Arria AM, Caldeira KM, Kasperski SJ et al. Energy drink consumption and increased risk for alcohol dependence. Alcohol Clin Exp Res 2011; 35(2): 365-75.
16. Spithoff S and Kahan M. Primary care management of alcohol use disorder and at-risk drinking Part 1: screening and assessment. Can Fam Physician 2015; 61: 509-521.
17. National Institute on Alcohol Abuse and Alcoholism. Helping patients who drink too much: a clinician's guide. 2005; Services DoHaH, editor.
18. Gomez A, Conde D, Santana A, et al. Diagnostic usefulness of brief versions of alcohol use disorders identification test (AUDIT) for detecting hazardous drinkers in primary care settings. J Stud Alcohol 2005; 66(2): 305-308.
19. Bush K, Kivlahan D, McDonell M, et al. The AUDIT alcohol consumption questions (AUDIT-C). Arch Intern Med 1998; 158: 1789-95.
20. Esser M, Hedden S, Kanny D, et al. Prevalence of alcohol dependence among US adult drinkers, 2009-2011. Prev Chronic Dis 2014; 11:140329. DOI: http://dx.doi.org/10.5888/pcd11.140329.
21. Johnson B. Medication treatment of different types of alcoholism. Am J Psychiatry 2010 167(6):630-9.
22. Sommers M, Savage C, Wray J, et al. Laboratory measures of alcohol (ethanol) consumption: strategies to assess drinking patterns with biochemical measures. Biol Res Nurs 2003; 4(3):203-17.
23. Dynamed 2017.
24. Barrio P and Gual A. Patient-centered care interventions for the management of alcohol use disorders: a systematic review of randomized controlled trials. Patient Prefer Adher 2016; 10: 1823-45.
25. Foxcroft DR, Coombes L, Wood S, et al. Motivational interviewing for the prevention of alcohol misuse in young adults. Cochrane Database Syst Rev 2016 Jul 18;7 CD007025.doi:10.1002/14651858.CD007025.pub4.
26. Rollnick S and Allison J. Chapter 7: Motivational interviewing. The Essential Handbook of Treatment and Prevention of Alcohol Problems. Ed. N. Heather and T.Stockwell. West Sussex, ENG: Wiley, 2004. 107-113.
27. Green PH. Alcohol, nutrition and malabsorption. Clin Gastroenterol. 1983; 12(2):563-74.
28. Ryle PR, Thomson AD. Nutrition and vitamins in alcoholism. Contemp Issues Clin Biochem. 1984; 1:188-224.
29. Chopra K, Tiwari V. Alcoholic neuropathy: possible mechanisms and future treatment possibilities. Br J Clin Pharmacol. 2012; 73(3):348-62.
30. McClain CJ, Barve SS, Barve A, Marsano L. Alcoholic liver disease and malnutrition. Alcohol Clin Exp Res. 2011; 35(5):815-20.
31. Werbach MR. Alcohol craving. *Int J Altern Complementary Med* 1993; July:32.
32. Guenther RM. Role of nutritional therapy in alcoholism treatment. *Int J Biosoc Res* 1983; 4:5-18.
33. Biery JR, Williford JH, McMullen EA. Alcohol craving in rehabilitation: assessment of nutrition therapy. *J Am Diet Assoc* 1991;91:463-6.

Appendix I: AUDIT & AUDIT C

The Alcohol Use Disorders Identification Test (AUDIT) is good screen and identify people at risk of alcohol problems.

1. How often do you have a drink containing alcohol?
    (0) Never (Skip to Questions 9-10)
    (1) Monthly or less
    (2) 2 to 4 times a month
    (3) 2 to 3 times a week
    (4) 4 or more times a 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, 8, or 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 had 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 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

7. How often during the last year have you needed an alcoholic drink first thing in the morning to get yourself going after a night of heavy 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 had a feeling of guilt or remorse after 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, friend, doctor, or another health professional expressed concern about your drinking or suggested you cut down?

(0) No
(2) Yes, but not in the last year
(4) Yes, during the last year

Add up the points associated with answers. A total score of 8 or more indicates harmful drinking behavior.

AUDIT-C

1. How often do you have a drink containing alcohol?
   a. Never
   b. Monthly or less
   c. 2-4 times a month
   d. 2-3 times a week
   e. 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day?
   a. 1 or 2
   b. 3 or 4
   c. 5 or 6
   d. 7 or 9
   e. 10 or more

3. How often do you have six or more drinks on one occasion?
   a. Never
   b. Less than monthly
   c. Monthly
   d. Weekly
   e. Daily or almost daily

Scoring

The AUDIT-C is scored on a scale of 0-12.
Each AUDIT-C question has 5 answer choices. Points allotted are:
a= 0 points, b=1 point, c=2 points, d=3 points, e=4 points

In men, a score of 4 or more is considered positive, optimal for identifying hazardous drinking or active alcohol use disorders.

In women, a score of 3 or more is considered positive (same as above).

However, when the points are all from Question #1 alone (#2 and #3 are zero), it can be assumed that the patient is drinking below recommended limits and it is suggested that the clinician review the patient's alcohol intake over the past few months to confirm accuracy.

Appendix II: DSM V criteria for AUD

Alcohol use disorder is defined as a problematic pattern of alcohol use leading to clinically significant impairment or distress as manifested by at least 2 of the following criteria over the same 12-month period:

- Alcohol used in larger amounts or over a longer period of time than intended
- Persistent desire or unsuccessful attempts to cut down or control alcohol use
- Significant time spent obtaining, using, and recovering from the effects of alcohol
- Craving to use alcohol
- Recurrent alcohol use leading to failure to fulfil major role obligations at work, school, or home
- Recurrent use of alcohol, despite having persistent or recurring social or interpersonal problems caused or worsened by alcohol
- Recurrent alcohol use despite having persistent or recurring physical or psychological problems caused or worsened by alcohol
- Giving up or missing important social, occupational, or recreational activities due to alcohol use
- Recurrent alcohol use in hazardous situations
- Tolerance: markedly increased amounts of alcohol are needed to achieve intoxication or the desired effect, or continued use of the same amount of alcohol achieves a markedly diminished effect
- Withdrawal: there is the characteristic alcohol withdrawal syndrome, or alcohol is taken to relieve or avoid withdrawal symptoms.

Severity is specified based on the number of criteria met: mild alcohol use disorder when 2 to 3 criteria are met, moderate alcohol use disorder when 4 to 5 criteria are met, and severe alcohol use disorder when 6 or more criteria are met. Remission is specified when no criteria, other than cravings, are met for at least 3 months (early remission) or 12 months (sustained remission).