

1-MINUTE CONSULT

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Q: How do you effectively evaluate the elderly for alcohol use disorder?

A: Alcohol use disorder (AUD) is a significant problem in the elderly and one that is often undiagnosed, resulting in increasing emotional, physical, and social consequences. In 2019, Americans over age 65 accounted for 16.5% of the population (about 54 million), with a projection to reach 22% of the total population (81 million) by 2040.^{1,2} It is estimated that AUD afflicts about 1% to 3% of the elderly, but in treatment settings such as doctors' offices and emergency departments, it may be 10 times more frequent. Studies from primary care settings show that alcohol problems exist in 10% to 15% of older adults, 30% of hospitalized older adults in general medicine, and about 50% of those hospitalized in psychiatric divisions.³ Recent studies show that although the vast majority of those with alcohol use disorder see their doctors regularly for a range of issues, fewer than 1 in 10 ever gets treatment for drinking.⁴

■ THE PROBLEM OF UNDERDIAGNOSIS

In older adults, AUD has an atypical presentation (Table 1), which contributes to the underdiagnosis in this population. Missed diagnosis has many reasons.⁵

First, there is a general lack of awareness and sensitization about AUD among physicians, with a stereotypical view of AUD as a phenomenon of young and middle-aged adults.

Second, clinicians may also be hesitant or embarrassed to screen for AUD in a senior citizen, and this can be compounded by the unwillingness of older adults to acknowledge alcohol problems, due to stigma.

Third, clinicians may fail to link coexist-

TABLE 1

Presentation of alcohol problems in the elderly^a

Anxiety
Poor hygiene, urinary or fecal incontinence
Malnutrition
Confusion, memory loss, dementia, or delirium
Falls
Marital problems
Sleep problems
Depression or mood swings
Financial problems
Seizures (new-onset, idiopathic)
Worsening of chronic medical problems (hypertension, diabetes, heart failure)

^a Note: Crime, antisocial, and substance-seeking illegal behaviors are not common in this group.

ing medical problems with the possibility of underlying substance use such as AUD and instead attribute the problems to aging.

Fourth, clinicians may have a therapeutic nihilism about alcohol use in the elderly: "What is the point in intervening? It is okay for him to use, and besides, at this age, he deserves a break."

And finally, the widespread use of prescription medications among the elderly can hinder the detection of AUD. This is further complicated by survey data showing that only about 47% of primary care physicians ask about maximum alcohol intake, and only 13% use a formal screening tool for alcohol problems.⁶

Older adults are likely to experience more problems with relatively small amounts of al-

A comprehensive patient assessment includes an in-depth history, physical examination, and other testing

doi:10.3949/ccjm.88a.20123

cohol use due to changes in the pharmacokinetics and pharmacodynamics of alcohol, resulting in higher blood-alcohol levels. These are related to decreases in body water and body mass with age, hence a smaller volume of distribution, increased sensitivity, and slower metabolism. Furthermore, many older adults tend to have multiple comorbidities such as hypertension, other cardiovascular problems, and diabetes that can worsen with chronic alcohol use, as well as having drug-drug interactions from multiple medications.^{7,8}

■ UNDERSTANDING THE TYPES OF AUD IN OLDER ADULTS

Older individuals who meet AUD criteria can be divided into 2 groups: those who developed AUD before age 60, and those who developed it after age 60. Patients with earlier onset of AUD account for about two-thirds of the elderly AUD population and have a more severe course of illness. They also tend to be predominately male and have more alcohol-related medical and psychiatric comorbidities, including being less well-adjusted and having more antisocial traits. Those with later onset of AUD tend to have a milder clinical picture and few medical problems, possibly because of the shorter exposure to alcohol. These patients also tend to be women, are more affluent, and are likely to have begun alcohol misuse after a stressful event such as the loss of a spouse, job, or home, or retirement. Hence, it is necessary to explore these areas when taking the history.

Other risk factors for development of later onset of AUD, apart from personal and family history of AUD, include onset of chronic pain, predisposition to affective or anxiety disorders, and decreased alcohol metabolism with age.^{7,9,10}

■ SCREENING: ASK ABOUT DRINKING

The United States Preventive Services Task Force recommends screening adults age 18 and older for alcohol misuse and providing those engaged in risky or hazardous drinking (a pattern of drinking that increases the risk of physical or psychological problems) with brief behavioral counseling interventions to reduce alcohol misuse.¹¹ Given the high use of medical services by the elderly, clinicians are essen-

tial to identifying those who need treatment. This should be explored at every opportunity, such as visits for changes in health status or medications and after major life events such as retirement or the loss of a spouse, in addition to routine health visits.

The National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the Substance Abuse and Mental Health Service Administration (SAMHSA) recommend that men and women age 65 and older consume no more than 1 standard drink per day or 7 standard drinks per week,^{12,13} unlike the guidelines for adults younger than age 65, which are as follows: for women, no more than 1 standard drink per day or 7 standard drinks per week; for men, no more than 2 standard drinks per day and not more than 14 standard drinks per week.¹²⁻¹⁵ The NIAAA defines “risky use” as exceeding the recommended limits of 4 drinks per day (56 g/d based on the US standard of 14 g of ethanol per drink) or 14 drinks per week (196 g/d) for healthy adult men ages 21 to 64, or 3 drinks per day or 7 drinks per week (42 g/d or 98 g/week) for all adult women of any age and men age 65 or older.¹⁶ In addition, older men should not consume more than 4 standard drinks on any day. (A standard drink containing 12 to 14 g of ethanol is equivalent to a 12-oz can of beer, a 5-oz glass of wine, or about 1.5 oz of 80-proof liquor.)

Screening questions should be asked in a confidential setting and in a nonthreatening, nonjudgmental manner. Note that a patient may have cognitive impairment that interferes with the ability to provide complete and accurate responses during the medical history, as well as to self-monitor alcohol intake and understand feedback from healthcare providers.¹⁰ This may necessitate involving family members or friends after discussing permission with the patient.

Formal screening tools for identifying alcohol misuse should be used at every opportunity as they are brief, easy to recall, and highly sensitive and specific. They can be self-administered by the patient while waiting in the doctor’s office and reviewed during the face-to-face encounter. Commonly used tools include:

- CAGE (cut-annoyed-guilty-eye), a simple 4-item yes-or-no questionnaire

Older adults can experience more problems with small amounts of alcohol

TABLE 2

Short Michigan Alcoholism Screening Test—Geriatric Version (SMAST-G)

Please answer yes or no to the following questions:

1. When talking with others, do you ever underestimate how much you drink?
2. After a few drinks, have you sometimes not eaten or been able to skip a meal because you didn't feel hungry?
3. Does having a few drinks help decrease your shakiness or tremors?
4. Does alcohol sometimes make it hard for you to remember parts of the day or night?
5. Do you usually take a drink to relax or calm your nerves?
6. Do you drink to take your mind off your problems?
7. Have you ever increased your drinking after experiencing a loss in your life?
8. Has a doctor or nurse ever said they were worried or concerned about your drinking?
9. Have you ever made rules to manage your drinking?
10. When you feel lonely, does having a drink help?

Extra question (asked, but not calculated in the final score): Do you drink alcohol and take mood or mind-altering drugs, including prescription tranquilizers, prescription sleeping pills, prescription pain pills, or any illicit drugs?

Scoring: 1 point for each "yes" answer, and total the responses. A score of 2 or more points indicates an alcohol problem, and a brief intervention should be conducted.

Adapted from reference 17.

Hypertension, cardiovascular disease, and diabetes can worsen with chronic alcohol use

- AUDIT (Alcohol Use Disorder Identification Test), with good sensitivity and specificity, or its shorter version AUDIT-C questionnaire, which is good at identifying those with hazardous drinking
- SMAST-G (Michigan Alcohol Screening Test—Geriatric Version) and its shorter version (SMAST-G), shown in Table 2.¹⁷ SMAST-G and SMAST-G were designed for older patients who drink less and are better than the CAGE tool at identifying older adults with AUD.¹⁸ Using more than 1 screening tool can provide more data on alcohol quantity consumed, alcohol use patterns, and alcohol-related consequences, which may help identify AUD in older patients across a wide range of demographic characteristics. SAMHSA has published a compilation of these instruments.¹⁹

■ DIAGNOSIS

According to the American Psychiatric Association, the diagnosis of AUD requires a patient to meet 2 of 11 criteria during the same 12-month period.²⁰ The severity of AUD is

defined as mild for the presence of 2 to 3 symptoms, moderate for 4 to 5 symptoms, or severe for 6 or more symptoms.

Assessment and diagnosis provide data for a comprehensive and effective treatment plan, a process called SBIRT (screening, brief intervention, and referral to treatment). Plans range from simple brief intervention in the clinic to admission to a medically managed facility. After discharge, older patients with AUD need to participate in alcohol treatment programs with a focus specific to the elderly that incorporates both pharmacologic treatment and nonpharmacologic treatments, and to participate in support groups such as Alcoholics Anonymous. Other treatment options are cognitive behavior therapy and motivational interviewing techniques and admission to a therapeutic community.

■ MEDICAL HISTORY, PHYSICAL EXAMINATION, TESTS

A comprehensive patient assessment includes an in-depth medical history, physical examination, and other testing (Table 3). History-

taking should inquire about falls, sleep problems, physiologic dependence and withdrawals, level of cognitive function, medical and psychiatric comorbidities, medication history with potential of drug-to-drug and drug-to-alcohol interactions, and surgical history such as bariatric surgery (especially Roux-en-Y gastric bypass), as this can increase the risk of AUD postoperatively. A psychosocial evaluation should include anxiety, presence of chronic pain, level of social activities, family dynamics (ie, level of interaction with family and friends), finances, housing, legal issues, and diet. The evaluation should also include questions about depression and suicide, as well as diagnostic tools such as the Patient Health Questionnaire 9,²¹ if warranted. Also important is assessing the patient's level of readiness and motivation to change. Motivational techniques may be useful for patients exhibiting less willingness to change.

The physical examination should be thorough, assessing for intoxication and alcohol breath. Consider using noninvasive tools such as a breathalyzer or obtaining urine or blood samples to check for alcohol levels with ethyl glucuronide or ethyl sulfate testing. Also assess for alcohol withdrawal using a withdrawal scale such as the Clinical Institute Withdrawal Assessment for Alcohol.²² The physical examination should also assess for comorbidities and complications of AUD such as hypertension, cardiomyopathy, neuropathy, myopathy, and alcoholic liver disease including cirrhosis.

Other testing should include the Mini-Mental State Examination and electrocardiography to identify arteriosclerosis, arrhythmias, and cardiomegaly. Also, include laboratory tests such as gamma-glutamyl transpeptidase, hepatic transaminases such aspartate aminotransferase and alanine aminotransferase (a 2:1 ratio pattern suggests chronic alcohol use), basic blood chemistry panel, and complete blood cell count to check for elevated mean corpuscular volume. These tests, though essential in the overall scheme, are by themselves poor screening tools for AUD in older patients and thus should be used in conjunction with results from the medical history, physical examination, and formal screening tools.^{23,24}

Elevated levels on a carbohydrate-deficient

TABLE 3

Assessment of alcohol use disorder in the elderly ^a

Previous diagnosis of alcohol-use disorder
Drinking patterns, physiologic dependence, withdrawals
Presence of intoxication
Neuropsychiatric comorbidities or manifestations including suicidal ideation
Medical comorbidities and complications including chronic pain; current medications
Psychosocial evaluation including housing, dietary issues, finances, legal issues, sociability, family
Prior treatment, including pharmacotherapy: success, failure, relapse, participation in support groups
Patient's level of motivation to change

^a Assessment should include screening, a thorough medical and psychosocial history, physical examination, and appropriate laboratory tests.

transferrin test, if available, suggest recent alcohol abuse, particularly when corroborated with elevated levels of other liver-associated enzymes. Other uses of this test include long-term monitoring for early detection of relapse drinking during medical treatment, enabling early intervention.

■ A WORD ON TREATMENT

Even though an elaborate and in-depth evaluation of treatments for AUD in older adults is beyond the scope of this article, several studies have documented that older adults with AUD seem to do best in programs that offer age-appropriate care, including individual, group, and family therapy, and in self-help group meetings such as Alcoholics Anonymous with providers who are knowledgeable about aging-related issues. For older patients, these programs can result in higher attendance at group meetings and a greater likelihood of completing treatment than in younger patients.²⁵

Pharmacotherapy for short-term control of alcohol withdrawal includes benzodiazepines such as lorazepam and treatment of medical and psychiatric comorbidities. Treatment of acute withdrawal in patients with multiple severe comorbidities or AUD complications should be done in a medically supervised setting. Pharmacotherapy should follow the

Older adults with AUD benefit from programs that offer age-appropriate care

principle of “start low, go slow” and should be closely monitored for early detection of adverse effects such as cognitive impairment, hypotension, and falls.⁵

Naltrexone

Studies have shown that pharmacotherapy such as naltrexone, which is thought to block the endogenous opioid system contribution to alcohol priming effects, can be an important ally in preventing relapse when used in conjunction with behavioral interventions and treatments.²⁶ The oral dose approved by the US Food and Drug Administration (FDA) is 50 mg daily, but it can be initiated at 25 mg/day with a 25-mg/day increase as often as weekly, to a maximum of 150 mg/day, using desire-to-drink and other patient symptoms as a measure of relative risk of relapse to heavy drinking.

Compared with placebo, naltrexone has been found to be well tolerated, with no significant differences in frequency of self-reported adverse effects or in liver enzyme values. But treatment has resulted in reduced craving for alcohol, as well as in fewer drinking days and relapse events.²⁶

Long-acting naltrexone, available as a 380-mg dose given every 4 weeks as a deep intramuscular gluteal injection, is an alternative, especially if patients do not adhere to the daily oral regimen. Avoid long-acting naltrexone in patients taking opioids and in those with elevated levels of liver enzymes.

Acamprosate

Another medication useful in AUD rehabilitation is acamprosate, an amino acid derivative that fosters gamma-aminobutyric acid neurotransmission. It seems to interact with glutamate at the *N*-methyl-D-aspartate receptor, although its exact mechanism is unclear. It is an alternative and has an FDA-approved dosing of 1,998 mg/day, usually administered as two 333-mg capsules 3 times a day. It has

been found to reduce alcohol consumption and increase abstinence rates.²⁷ It is renally excreted unmetabolized; thus, before prescribing it, the patient's renal function should be determined, as renal dysfunction is not uncommon in the elderly. Acamprosate is most effective at maintaining abstinence in patients who are not currently drinking alcohol.^{27,28}

Disulfiram

The evidence is inconsistent on the efficacy of disulfiram, the only alcohol-sensitizing medication FDA-approved to treat AUD in the elderly. It decreases alcohol consumption by irreversibly binding with the enzyme aldehyde dehydrogenase, hence causing a disulfiram-ethanol reaction. Daily dosage ranges from 250 mg to 500 mg.

Factors that make disulfiram a less suitable choice for many older patients with AUD include problems with adherence and serious adverse effects (drowsiness, optic neuritis, peripheral neuropathy, hepatotoxicity). It is contraindicated in patients with history of seizure, psychosis, or cerebrovascular accident, and in those not willing to achieve complete abstinence.^{5,28}

THE BOTTOM LINE

AUD is a significant problem in the elderly, and as this segment of the population continues to grow, we can expect to see more elderly patients with AUD. Fortunately, studies have shown that elderly patients with AUD have very good outcomes when it is diagnosed and treatment is initiated, especially with age-specific care and programming. It behooves clinicians to be knowledgeable about the presentations, screening, and assessment of AUD in the elderly, with the goal of timely interventions and referral to appropriate care. ■

DISCLOSURES

The authors report no relevant financial relationships which, in the context of their contributions, could be perceived as a potential conflict of interest.

REFERENCES

1. **United States Census Bureau.** Quick facts. <https://www.census.gov/quickfacts/fact/table/US/PST045219>. Accessed July 20, 2021.
2. **US Department of Health and Human Services, Administration for Community Living.** 2020 Profile of older Americans. <https://acl.gov/aging-and-disability-in-america/data-and-research/profile-older-americans>. Accessed July 20, 2021.
3. **Caputo F, Vignoli T, Leggio L, Addolorato G, Zoli G, Bernardi M.** Alcohol use disorders in the elderly: a brief overview from epidemiology to treatment options. *Exp Gerontol* 2012; 47(6):411–416. doi:10.1016/j.exger.2012.03.019
4. **Dryden J.** Alcohol problems severely undertreated. Washington University School of Medicine in St. Louis. May 17, 2021. <https://medicine.wustl.edu/news/alcohol-problems-severely-undertreated/>. Accessed July 20, 2021.
5. **Lal R, Pattanayak RD.** Alcohol use among the elderly: issues and considerations. *J Geriatr Ment Health* 2017; 4:4–10. doi:10.4103/jgmh.jgmh_34_16
6. **Friedmann PD, McCullough D, Chin MH, Saitz R.** Screening and intervention for alcohol problems. A national survey of primary care physicians and psychiatrists. *J Gen Intern Med* 2000; 15(2):84–91. doi:10.1046/j.1525-1497.2000.03379.x
7. **Offsay J.** Treatment of alcohol-related problems in the elderly. *Ann Long Term Care* 2007; 15:39–44.
8. **National Institute on Alcohol Abuse and Alcoholism.** Alcohol and aging. April 1998. <https://pubs.niaaa.nih.gov/publications/aa40.htm>. Accessed July 12, 2021.
9. **Liberto JG, Oslin DW.** Early versus late onset of alcoholism in the elderly. *Int J Addict* 1995; 30(13–14):1799–1818. doi:10.3109/10826089509071056
10. **Trevisan LA.** Elderly alcohol use disorders: epidemiology, screening, and assessment issues. *Psychiatric Times* 2014; 31(5).
11. **US Preventive Services Task Force (USPSTF).** Unhealthy alcohol use in adolescents and adults: screening and behavioral counseling interventions. Updated November 13, 2018. <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/unhealthy-alcohol-use-in-adolescents-and-adults-screening-and-behavioral-counseling-interventions>. Accessed July 20, 2021.
12. **National Institute on Alcohol Abuse and Alcoholism.** Drinking levels defined. <https://www.niaaa.nih.gov/alcohol-health/overview-alcohol-consumption/moderate-binge-drinking>. Accessed July 20, 2021.
13. **Substance Abuse and Mental Health Services Administration (SAMHSA).** SAMHSA—Get connected: linking older adults with resources on medication, alcohol, and mental health. 2019 edition. https://store.samhsa.gov/sites/default/files/d7/priv/sma03-3824_2.pdf. Accessed July 20, 2021.
14. **Dufour M, Fuller RK.** Alcohol in the elderly. *Annu Rev Med* 1995; 46:123–132. doi:10.1146/annurev.med.46.1.123
15. **Blow FC, Barry KL.** Use and misuse of alcohol among older women. *National Institute on Alcohol Abuse and Alcoholism*. June 2003. <https://pubs.niaaa.nih.gov/publications/arh26-4/308-315.htm>. Accessed July 20, 2021.
16. **National Institute on Alcohol Abuse and Alcoholism.** Helping patients who drink too much: a clinician's guide. Updated 2005 edition. <https://www.niaaa.nih.gov/guide>. Accessed July 20, 2021.
17. **Blow FC, Brower KJ, Schulenberg JE, et al.** The Michigan Alcoholism Screening Test - Geriatric Version (MAST-G): A new elderly-specific screening instrument. *Alcoholism: Clinical and Experimental Research* 1992; 16:372.
18. **Moore AA, Seeman T, Morgenstern H, Beck JC, Reuben DB.** Are there differences between older persons who screen positive on the CAGE questionnaire and the Short Michigan Alcoholism Screening Test-Geriatric Version? *J Am Geriatr Soc* 2002; 50(5):858–862. doi:10.1046/j.1532-5415.2002.50211.x
19. **Substance Abuse and Mental Health Services Administration (SAMHSA).** A guide to substance abuse services for primary care clinicians. Treatment Improvement Protocol (TIP) series, No. 24. Published 1997. <https://www.ncbi.nlm.nih.gov/books/NBK64829/#A45987>. Accessed July 20, 2021.
20. **Diagnostic and Statistical Manual of Mental Disorders, 5th ed.** Arlington, VA: American Psychiatric Association, 2013.
21. **American Psychological Association.** Patient health questionnaire (PHQ-9). <https://www.apa.org/depression-guideline/patient-health-questionnaire.pdf>. Accessed July 20, 2021.
22. **Sullivan JT, Sykora K, Schneiderman J, Naranjo CA, Sellers EM.** Assessment of alcohol withdrawal: the revised clinical institute withdrawal assessment for alcohol scale (CIWA-Ar). *Br J Addict* 1989; 84(11):1353–7. doi:10.1111/j.1360-0443.1989.tb00737.x
23. **Di Bari M, Silvestrini G, Chiarlone M, et al.** Features of excessive alcohol drinking in older adults distinctively captured by behavioral and biological screening instruments. An epidemiological study. *J Clin Epidemiol* 2002; 55(1):41–47. doi:10.1016/s0895-4356(01)00408-5
24. **Hietala J, Koivisto H, Anttila P, Niemelä O.** Comparison of the combined marker GGT-CDT and the conventional laboratory markers of alcohol abuse in heavy drinkers, moderate drinkers and abstainers. *Alcohol Alcohol* 2006; 41(5):528–533. doi:10.1093/alcal/agl050
25. **Sattar SP, Petty F, Burke WJ.** Diagnosis and treatment of alcohol dependence in older alcoholics. *Clin Geriatr Med* 2003; 19(4):743–761. doi:10.1016/s0749-0690(03)00045-4
26. **Oslin D, Liberto JG, O'Brien J, Krois S, Norbeck J.** Naltrexone as an adjunctive treatment for older patients with alcohol dependence. *Am J Geriatr Psychiatry* 1997; 5(4):324–332. doi:10.1097/00019442-199700540-00007
27. **Winslow BT, Onysko M, Hebert M.** Medications for alcohol use disorder. *Am Fam Physician* 2016; 93(6):457–465. PMID:26977830
28. **Substance Abuse and Mental Health Services Administration (SAMHSA).** Treating substance use disorder in older adults. Treatment Improvement Protocol (TIP) series, No. 26. Updated 2020. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP20-02-01-011%20PDF%20508c.pdf. Accessed July 20, 2021.

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