



UNHEALTHY ALCOHOL AND OTHER DRUG USE: SCREENING AND ASSESSMENT

Richard Saitz MD. MPH. FACP, FASAM

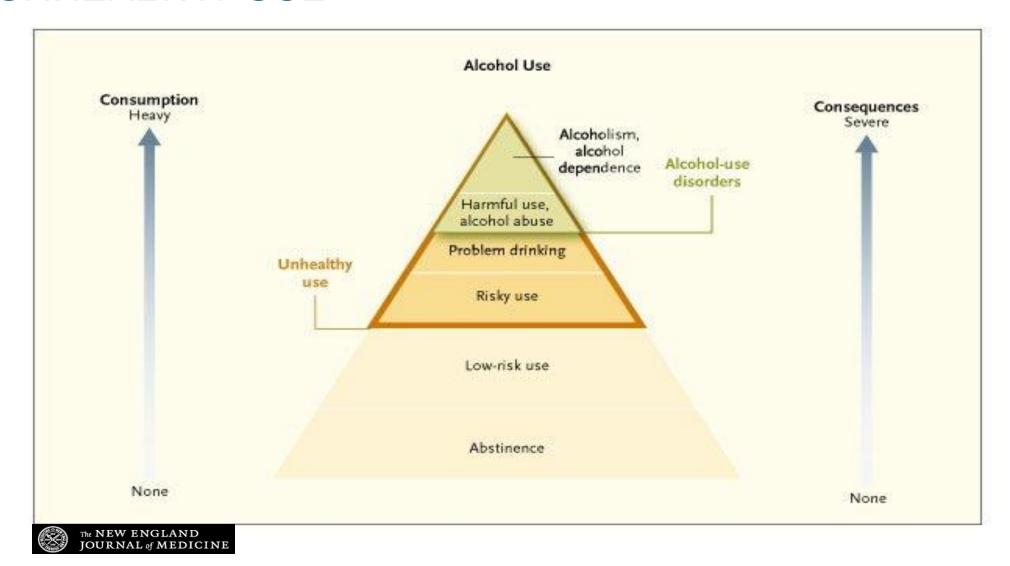
Professor of Medicine & Epidemiology Boston University Schools of Medicine & Public Health

Director, Clinical Addiction, Research and Education (CARE) Unit Boston Medical Center



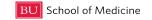


UNHEALTHY USE







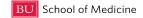


Case

A 36 year old resident enjoys 2-3 beers 2-3 times a week after work















Injury and Alcohol

	Population attributable fraction (%)		
Alcohol dependence	4.0		
Non-dependent use	6.6		

Spurling & Vinson. Ann Fam Med 2005;3:47-52. Case crossover study. 2517 acute injuries, 3 EDs in MO. 10.6% Would not have occurred without alcohol consumption.

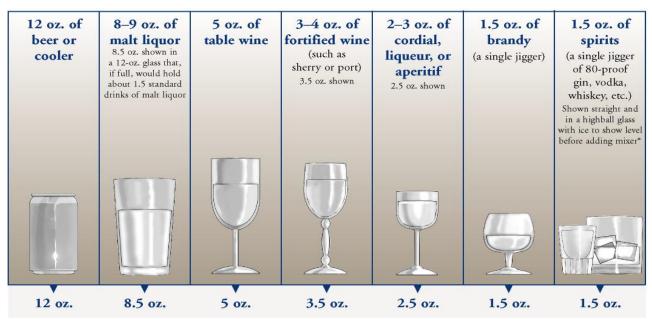






Risky Amounts

- Men
 - >14 drinks per week, >4 per occasion
- Women, <u>></u>65
 - >7 drinks per week, >3 per occasion



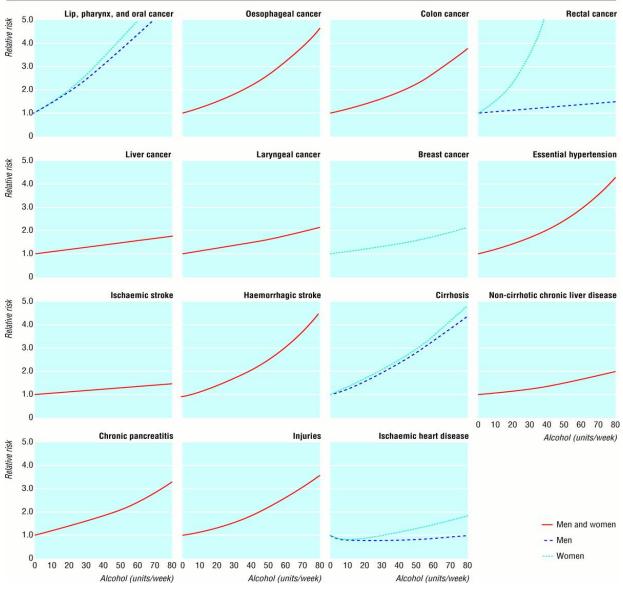
Drugs: Any?





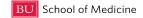


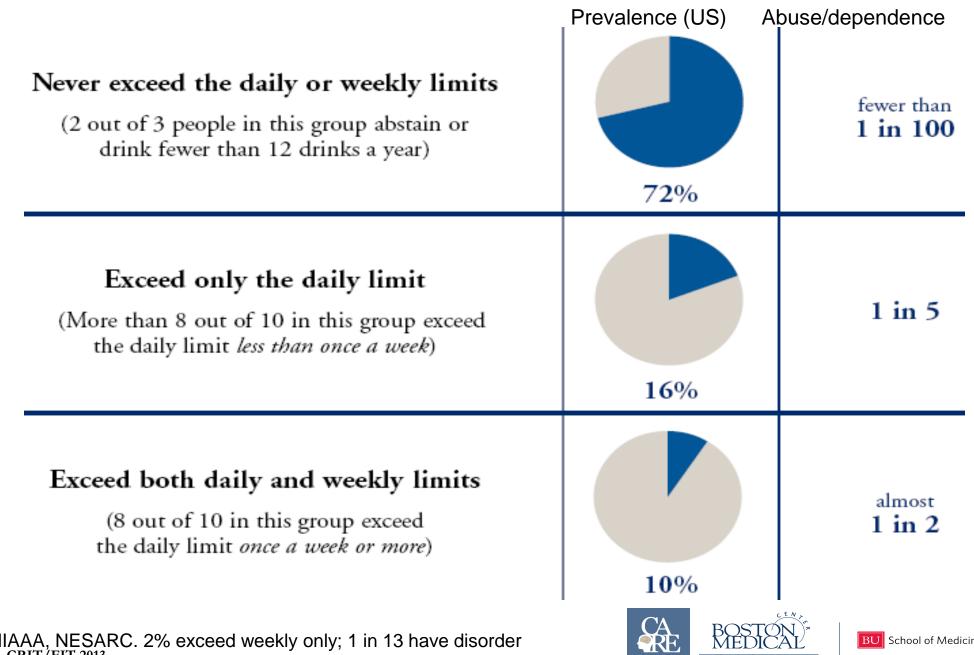
Cause Specific Relative Risks of Health Consequences











NIAAA, NESARC. 2% exceed weekly only; 1 in 13 have disorder CRIT/FIT 2013



BU School of Medicine

LOW RISK USE

Evidence for benefit insufficient for a preventive recommendation which would likely apply to few people anyway (though reassuring for those who drink)

No RCT so dose, harms, benefits unclear

Carcinogen

Based on (many) epidemiological studies with serious problems

*like HRT

e.g.

Low consumption associated with myriad good health markers

Brief time periods of drinking assessed

Quantity and frequency poorly characterized

Sick quitters (not same as abstainers but often mixed)

Occasional drinkers mixed with either abstainers or more frequent drinkers







'Single' Item (Alcohol)

- "Do you sometimes drink beer wine or other alcoholic beverages?"
- "How many times in the past year have you had 5 (4 for women) or more drinks in a day?"
 - +answer:>0
 - 82% sensitive, 79% specific for unhealthy use

NIAAA. Clinicians Guide to Helping Patients Who Drink Too Much, 2007. Smith PC, Schmidt SM, Allensworth-Davies D, Saitz R. J Gen Intern Med 2009 24:783-8 and erratum. DOI: 1007/s11606-009-0928-6.







Alcohol Use Disorders Identification Test Consumption items (AUDIT-C)

AUDIT-C

Question #1: How often did you have a drink containing alcohol in the past year?					
Never	(0 points)				
Monthly or less	(1 point)				
Two to four times a month	(2 points)				
Two to three times per week	(3 points)				
Four or more times a week	(4 points)				
Question #2: How many drinks did you have on a typical day when you were drinking in the past year?					
• 1 or 2	(0 points)				
• 3 or 4	(1 point)				
• 5 or 6	(2 points)				
• 7 to 9	(3 points)				
• 10 or more	(4 points)				
Question #3: How often did you have six or more drinks on one occasion in the past year?					
Never	(0 points)				
Less than monthly	(1 point)				
Monthly	(2 points)				
Weekly	(3 points)				
Daily or almost daily	(4 points)				

The AUDIT-C is scored on a scale of 0-12 (scores of 0 reflect no alcohol use). In men, a score of 4 or more is considered positive; in women, a score of 3 or more is considered posterior. The place 3x with four for women, in item 3

- Requires scoring
- >3 women, >4 men
 - 73-86% sensitivity
 - 89-91% specificity
- ≥7 to 12 suggests dependence

Bradley K et al. Alcohol Clin Exp Res. 2007 Jul;31(7):1208-17. Saitz R. Screening for unhealthy use of alcohol and other drugs. **UpToDate 2012**

McGinnis, Justice, Kraemer, Bryant, Fiellin. Alcohol Clin Exp Res. 2012 Oct 10. [Epub ahead of print] (in HIV)







PREVALENCE IN PRIMARY CARE

- Alcohol
 - >1/3 Abstinent
 - > 1/3 Low risk
 - <1/3 Unhealthy</p>
 - >1/5 dependent
 - <2/5 problem use (nondependent)
 - <2/5 risky use







What ever happened to the CAGE? What about laboratory tests?







CAGE

For current	Sensitivity	Specificity
Unhealthy alcohol use (≥2)	53-69	70-97
Alcohol abuse or dependence (≥2)	77	79
Alcohol abuse or dependence (≥1)	89	81







CAGE & CONSUMPTION

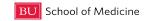
- All patients
 - Do you drink alcohol, including beer, wine or distilled spirits?
 - CAGE
- Current drinkers
 - On average, how many days per week do you drink alcohol?
 - On a typical day when you drink how many drinks do you have?
 - What is the maximum number of drinks you had on any given *occasion* during the last month?

LABORATORY TESTS (ALCOHOL)

Test for Unhealthy Alcohol Use	Sensitivity	Specificity
Questionnaire (\$12.48)	69%	98%
CDT (\$291.89)	47%	71%
GGT (\$72.59)	37%	72%
MCV (\$130.92)	32%	71%
AST (\$132.74)	20%	80%



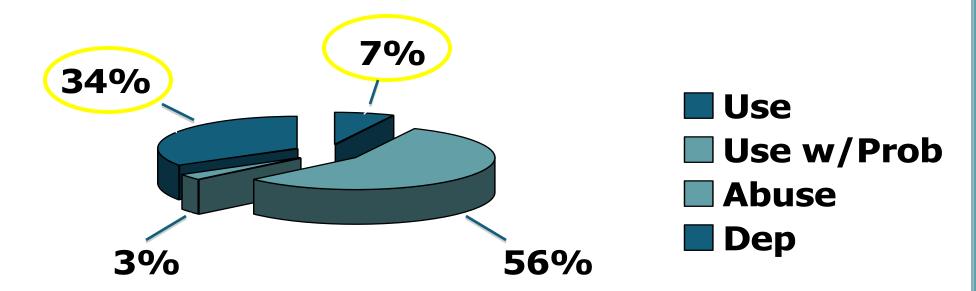




PREVALENCE IN PRIMARY CARE, OTHER DRUGS

3%, most not with alcohol

34% of those have dependence, only 7% use with no problems





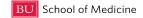


SINGLE ITEM, OTHER DRUGS

- "How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?"
 - If asked to clarify the meaning of "non-medical reasons", add "for instance because of the experience or feeling it caused"
 - a response of ≥1 is considered positive
 - 100% sensitive, 74% specific for drug use disorder, similar to 10item DAST (n=286)
 - 93% and 94% for past-year drug use
 - 82%, 96%, respectively, for saliva test or self-report







OTHER SCREENING TESTS TO BE AWARE OF

- Adolescents: 2-items (see NIAAA website), CRAFFT (disorders)
- Geriatrics: CARET, G-MAST
- Pregnancy: TWEAK, T-ACE, 4Ps Plus (use, Pregnancy, use by Parents and Partners)
- Note: here we want to identify ANY use (children, pregnancy)

Other tests, formerly known as screening tests...to be aware of

- CAGE, CAGE-AID, 2-item conjoint
- AUDIT
- DAST
- ASSIST
- May want to use these as severity assessments







LABORATORY TESTS

- Useful
 - detect (heavy) use (usually recent)
 - overdose, intoxication, poisoning
 - screening trauma patients
 - assessment and monitoring
- Not so useful
 - screening for unhealthy use
 - general health care settings
 - less sensitive for potent substances like LSD, fentanyl, psylocibin, ecstasy, amphetamines, designer drugs, THC, PCP, etc.

- "Routine screen" (urine, serum)
 - Opiates (less often '-oids')
 - Cocaine
 - Benzodiazepines
 - Barbiturates
 - Alcohol
 - ACTM
 - ASA
- Less available/need to request opioids, other specific drugs





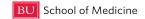


URINE DETECTION TIME

- Up to 30 days
 - Benzodiazepines, long-acting (metabolites)
 - Long-term PCP or marijuana use
- 2-4 days
 - Amphetamine, methamphetamine, short-acting barbiturates, methadone
- 1-3 days
 - Marijuana, heroin, codeine, cocaine, morphine





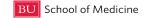


POSSIBLE UTILITY OF URINE SCREEN

- 415 young adult men urban walk-in clinic (89% uninsured)
- 39% positive urine cocaine
 - 72% denied cocaine use in past 3 days
 - 86% denied "illegal drug use"
 - 61% denied "any form of cocaine use"







SALIVA, SWEAT, HAIR

- Newer less available more costly technologies
- Saliva similar to urine, briefer detection time
- Sweat and hair: risk environmental contamination, longer term/cumulative use





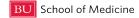


Assess for dependence (DSM IV)

- Impaired control /Preoccupation
 - A great deal of time getting, using, recovering
 - Activities given up or reduced
 - More or longer than intended
 - Cannot cut down or control
 - Use despite knowledge of health problem
- Withdrawal
 - Symptoms, using to relieve symptoms
- Tolerance
 - Increased amounts to achieve effect
 - Diminished effect from same amount







Alcohol use disorder (DSM 5) no more "abuse" or "dependence"*

2 or more in 12 mo; 4 or more=severe (proposed)

- recurrent use resulting in a failure to fulfill major role obligations at work, school, or home
- recurrent use in situations in which it is physically hazardous
- continued use despite having persistent or recurrent social or interpersonal problems
- [legal deleted]
- tolerance
- withdrawal
- use in larger amounts or over a longer period than intended
- persistent desire or unsuccessful efforts to cut down
- a great deal of time is spent obtaining alcohol, using it, recovering from it
- important social, occupational, or recreational activities given up or reduced
- use despite knowledge of related physical or psychological problem
- craving (new)







DSM IV Dependence Criteria in the form of questions

Clinician's Guide at www.niaaa.nih.gov

Alcohol Dependence:

Sample Questions for Assessment Based on Diagnostic Criteria*

A diagnosis of alcohol **dependence** requires that the patient meet **three** or more of the following criteria, occurring at any time in the same 12-month period.

All questions are prefaced by "In the past 12 months..."

■ Drinking more or longer than intended:

Have you had times when you ended up drinking more than you meant to? Or kept on drinking for longer than you intended?

■ Impaired control:

Have you more than once wanted to stop or cut down on your drinking? Or tried more than once to stop or cut down but found you couldn't?

■ Tolerance:

Have you found that you have to drink much more than you once did to get the effect you want? Or that your usual number of drinks has much less effect on you than it once did?

■ Withdrawal syndrome or drinking to relieve withdrawal:

- When the effects of alcohol are wearing off, have you had trouble sleeping? Found yourself shaking? Nervous? Nauseous? Restless? Sweating or with your heart beating fast? Have you sensed things that aren't really there? Had seizures?
- Have you taken a drink or used any drug or medicine (other than over-the-counter pain relievers) to keep from having bad aftereffects of drinking? Or to get over them?

■ Continued use despite recurrent psychological or physical problems:

Have you continued to drink even though you knew it was making you feel depressed or anxious? Or causing a health problem or making one worse? Or after having had a blackout?

■ Time spent related to drinking or recovering:

Have you had a period when you spent a lot of time drinking? Or being sick or getting over the bad aftereffects of drinking?

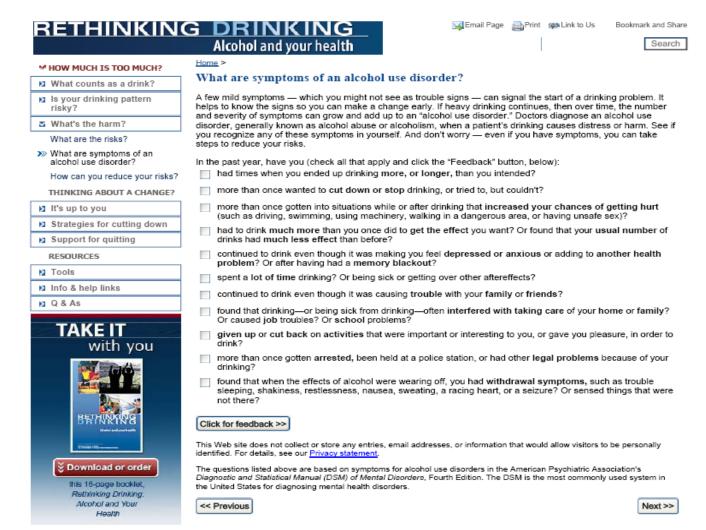
■ Neglect of activities:

In order to drink, have you given up or cut down on activities that were important or interesting to you or gave you pleasure?

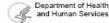
^{*}Adapted with permission from the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition, Text Revision. Copyright 2000 American Psychiatric Association.

Assessment: Dependence vs. Not Patient self-assessment http://ref

http://rethinkingdrinking.niaaa.nih.gov











Symptoms and signs of disorder or risk

- Abscess
- Burns, injuries
- Heartburn
- Gastrointestinal upset
- AM cough or HA
- Anxiety, stress
- Insomnia
- Concentration
- Memory
- Tachycardia
- Hypertension
- Skin track marks
- Nasal congestion, perforation
- Tremor
- Pupil dilation or constriction
- Menstrual irregularity
- Ecchymosis/purpura

- Palmar erythema
- Scars from trauma
- Gynecomastia
- Hepatomegaly
- Spiders
- Uric acid, glucose
- MCV, AST, HDL, GGT
- Medical history
 - Cellulitis, phlebitis
 - STD/HIV
 - Endocarditis
 - Blackouts
 - Depression
 - Hypertension
 - Trauma
 - Chronic abdominal pain
 - Liver disease
 - Sexual dysfunction

- Sleep disorders
- Use in high risk situations?
- Medical condition
- Medications
- How often maximum?
- Personal or family history?
- Pregnancy
- Interpersonal or work problems
 - Family
 - Work/school
 - Accidents/injuries

CAGE

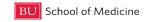
- Have you ever felt you should <u>Cut down</u> on your drinking?
- Have people <u>Annoyed</u> you by criticizing your drinking?
- Have you ever felt bad or <u>Guilty</u> about your drinking?
- Have you ever taken a drink first thing in the morning (<u>Eye-opener</u>) to steady your nerves or get rid of a hangover?

CAGE-AID

- Or drug use?
- · Or drug use?
- Or drug use?
- Or used drugs?

Mayfield D et al. Am J Psych 1974;131:1121 Brown RL & Rounds LA. Wisconsin Med J 1995;94:135-40.





2 items suggest alcohol disorder

- "In the past year, have you sometimes been under the influence of alcohol in situations where you could have caused an accident or gotten hurt?"
- "Have there often been times when you had a lot more to drink than you intended to have?"

Group	Sensitivity	Specificity	
Subjects in the development sample	96%	85%	
Subjects in the 3 validation samples	72% to 94%	80% to 95%	
Screen-positive subjects in the 3 validation samples	77% to 95%	62% to 86%	







Alcohol Use Disorders **Identification Test**

AUDIT

For item 3 use 5 for men, 4 for women;

≥8 is positive; ≥20 suggests dependence.

is important that we ask some questions about your use of alcohol. Your answers will remain confidential, so please

Place an X in one box that best describes your answer to each question.

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

Note: This questionnaire (the AUDIT) is reprinted with permission from the World Health Organization. To reflect standard drink sizes in the United States, the number of drinks in question 3 was changed from 6 to 5. A free AUDIT manual with guidelines for use in primary care settings is available online at www.who.org.

2-ITEM CONJOINT

- In the last year, have you ever drunk or used drugs more than you meant to?
- Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?
 - 1 or more "yes"=approx. 80% sensitive and specific for abuse/dependence





DAST-10

≥3 'yes"='need to assess further'

These questions refer to the past 12 months.

- 1. Have you used drugs other than those required for medical reasons?
- 2.Do you abuse more than one drug at a time?
- 3. Are you unable to stop using drugs when you want to?
- 4. Have you ever had blackouts or flashbacks as a result of drug use?
- 5.Do you ever feel bad or guilty about your drug use?
- 6.Does your spouse (or parents) ever complain about your involvement with drugs?
- 7. Have you neglected your family because of your use of drugs?
- 8. Have you engaged in illegal activities in order to obtain drugs?
- 9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?
- 10. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding)?

Skinner HA. Addict Behav 1982;7:363-71
Bohn MJ et al. NIDA Res Monogr 119, 1992
Gavin DR et al. Br J Addict 1989;84:301-7
Maist 21.3 Psychol Assess 2000;12:186-92.







Single screening questions to determine dependence

Test	AUC	Ss	Sp	PPV	LR+ (CI)	LR- (CI)
SSQ Alcohol	0.88	88%	84%	35%	5.6 (4.1, 7.7)	0.1 (0.05, 0.4)
AUDIT-C	0.87	92%	71%	23%	3.2 (2.5, 3.9)	0.1 (0.02, 0.4)
SSQ Drug	0.93	97%	79%	38%	4.6 (3.6, 5.9)	0.04 (0.01, 0.2)
DAST	0.96	100%	84%	46%	6.3 (4.7, 8.3)	0

Optimal cutoffs SSQ=single screening question

SSQ Alcohol <u>></u>8 AUDIT-C=Alcohol Use Disorders Identification Test, consumption items

DAST=Drug Abuse Screening Test

AUC=area under the receiver operating characteristic curve

Ss=sensitivity

Sp=specificity

Saitz et al PPV=positive predictive value

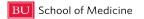
LR+=Likelihood ratio positive

LR-=Likelihood ratio negative

CI=confidence interval







Under review

AUDIT-C ≥3

DAST >4

SSQ Drug ≥3

SCREENING: TOOLS

NIDAMED 5





WITHOUT THE WHOLE PICTURE, YOU MIGHT NOT TREATMENT.

To give you the best possible care, your doctor needs to know about any and all drugs you are taking, including tobacco, alcohol, illicit drugs, and over-the-counter and prescription medications—even those not prescribed for you.

Tell Your Doctor About ALL The Drugs You Use.

www.drugabuse.gov/NIDAMED

Comments or inquiries? email: drugpubs@nida.nih.gov To order free copies, call: 1-877-NIDA-NIH

law. For more information on privacy rights, visit http://www.hhs.gov/ocr/ hipaa, or call 1-866-627-7748.

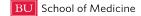




NIDAMED + NIDA NATIONAL ENSTITUTE
ON DRUG ABUSE







STEP 1

Ask the patient about past drug use.

Which of the following substances have you used in your lifetime?

- Tobacco products

 (cigarettes, chewing tobacco, cigars, etc.)
- Alcoholic beverages (beer, wine, liquor, etc.)
- c. Cannabis (marijuana, pot, grass, hash, etc.)
- d. Cocaine (coke, crack, etc.)
- e. Prescription stimulants* (Ritalin, Concerta, Dexedrine, Adderall, diet pills, etc.)
- f. Methamphetamine (speed, ice, etc.)
- g. Inhalants (nitrous, glue, gas, paint thinner, etc.)

- h. Sedatives or sleeping pills (Valium, Serepax, Xanax, etc.)
- Hallucinogens (LSD, acid, mushrooms, PCP, Special K, ecstasy, etc.)
- j. Street opioids (heroin, opium, etc.)
- k. Prescription opioids* (fentanyl, oxycodone, hydrocodone, methadone, buprenorphine, etc.)
- I. Other-Specify
- Please report nonmedical use only: do not record medications that are used as prescribed by a doctor.

Patient reports no lifetime drug use:

Reinforce abstinence. Screening is complete.

Alcohol, Smoking and Substance Involvement Screening Test. WHO ASSIST Working TEST. WHO ASSIST W







Patient reports lifetime use of	one
or more substances:	

Ask the following questions for each drug mentioned (scores will be tallied at the end). For Tobacco and Alcohol, go to page 6. 1. In the past 3 months, how often have you used each of the 0 2 3 substances you mentioned [first drug, second drug, etc.]? If the answer to Question 1 is "Never," skip to Question 5. Otherwise, continue: In the past three months... 2. How often have you had a strong desire or urge to use? 0 3 5 4 6 How often has your use of [first drug, second drug, etc.] 5 6 7 0 4 led to health, social, legal, or financial problems? 4. How often have you failed to do what was normally expected 5 7 8 0 6 of you because of your use of [first drug, second drug, etc.]? For each substance ever used YES, but not in the YES, in the past NO (i.e., those mentioned in the "lifetime" question): past three months three months 5. Has a friend or relative or anyone else ever expressed 3 0 6 concern about your use of [first drug, second drug, etc.]? 6. Have you ever tried and failed to control, cut down, 0 3 6 or stop using [first drug, second drug, etc.]? 7. Have you ever used any drug by injection? Ask about pattern of Recommend HIV/ (nonmedical use only) injecting. Recommend HIV/ Hepatitis B & C Testing Hepatitis B & C Testing







Tobacco and Alcohol

For any frequency of use in the past 3 months:

TOBACCO USE

Any current tobacco use places a patient at risk. **Advise** all tobacco users to quit.

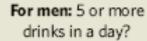
For more information on smoking cessation, please see "Helping Smokers Quit: A Guide for Clinicians" at http://www.ahrq.gov/ clinic/tobacco/clinhlpsmksqt.htm.

ALCOHOL USE

Question the patient in more detail about frequency and quantity of use:

How many times in the past year have you had:







For women: 4 or more drinks in a day?

If the answer is:

- None—Advise patient to stay within these limits:
 - ✓ For healthy men under the age of 65: No more than 4 drinks per day AND no more than 14 drinks per week.
 - ✓ For healthy women under the age of 65: No more than 3 drinks per day AND no more than 7 drinks per week.
 - Encourage talking openly about alcohol and any concerns it may raise and rescreen annually.
- One or more times of heavy drinking—
 Patient is an at-risk drinker.

Please see "Helping Patients Who Drink Too Much: A Clinician's Guide" at http://pubs.niaaa.nih.gov/publications/Practitioner/CliniciansGuide2005/clinicians_guide.htm for information to help assess, advise, and assist at-risk drinkers or patients with alcohol use disorders.







STEP 2

Determine Risk Level

For each substance (except tobacco and alcohol), add up the scores for questions 1 through 6. To determine patient's risk level and the respective recommendations, see below:

High risk Score >27

Moderate risk Score 4-26

Lower risk Score 0-3





- ✓ Provide feedback
- Advise, Assess, and Assist
- ✓ Consider referral based on clinical judgment
- ✓ Offer continuing support



- ✓ Provide feedback
- ✓ Reinforce abstinence
- ✓ Offer continuing support

Do this for EACH substance







Summary

- Screen to identify the spectrum of unhealthy use
 - Includes (risky) use, problem use (and abuse), dependence
- Validated questions best
- Incorporate into health history, ask "matter of fact"
- Assess after a positive screening test
 - To confirm unhealthy use
 - To identify dependence (and consequences not meeting criteria)



