

# **SUBSTANCE USE AND ADDICTION**

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**There are no relevant financial relationships with commercial interests to disclose.**



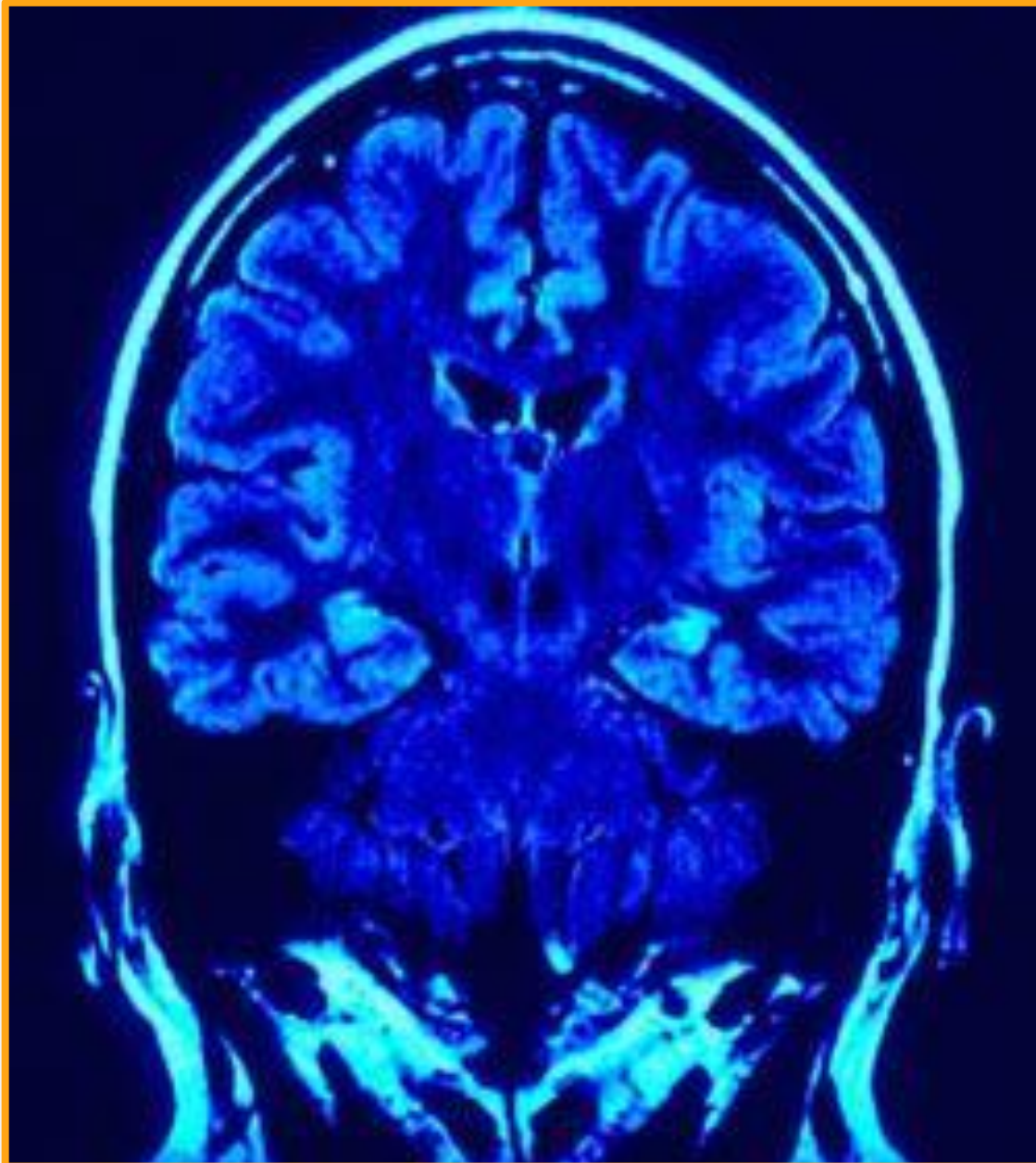
# ADDICTION

- Addiction is a complex condition, a brain disease that is manifested by compulsive substance use despite harmful consequence.
- People with addiction (severe substance use disorder) have an intense focus on substance(s), such as alcohol or drugs, to the point that substance use takes over their life.
  - They keep using alcohol and/or drugs even when they know it will cause problems.

# DESPITE THIS...

There are several effective treatments that are available, and people can recover from addiction and lead normal, productive lives.





Addiction is a treatable medical disease of the brain,  
not a moral failing.

# TOLERANCE

- A state in which an organism no longer responds to a drug.
- A higher dose is required to achieve the same effect.

# DEPENDENCE

- A state in which an organism functions normally only in the presence of a drug.
- It is manifested as a physical disturbance when the drug is removed.



# COMMON DRUGS OF ABUSE

ALCOHOL



# ALCOHOL WITHDRAWAL

The severity of withdrawal symptoms increases after repeated withdrawal episodes.





# HOSPITALIZATION FOR ALCOHOL INTOXICATION AND WITHDRAWAL



## When to hospitalize for intoxication:

- Altered mental status
- Intractable vomiting
- Airway compromise
- Other



## When to hospitalize for withdrawal:

- Past history of severe alcohol withdrawals (seizures and/or delirium tremens)
- High Clinical Institute Withdrawal Assessment for Alcohol (CIWA) score
- Severe medical and/or psychosocial comorbidities

# PATIENTS WITH CIWA-AR SCORES

CIWA-Ar is the most important objective tool to measure alcohol withdrawal

Scores > 15



- Patients require inpatient detoxification.

Scores 8 – 15



- Patients should be admitted if they have a history of prior seizures or delirium tremens (DT) but could otherwise be considered for outpatient detoxification.

Scores < 8



- Mild alcohol withdrawal
- These patients can likely be safely treated as outpatient unless they have a history of DT or alcohol withdrawal seizures.

# TOOLS FOR ALCOHOL DETOXIFICATION FOR HOSPITALISTS

Hospitalists unsure of which patients should be admitted for alcohol detoxification can use the Prediction of Alcohol Withdrawal Severity Scale (PAWSS) tool and an initial CIWA-Ar score to help determine a patient's risk for developing complicated alcohol withdrawal syndrome (AWS).

Instructions for the assessment of the patient who requests detoxification are as follows:

- 1) A patient whose last drink of alcohol was more than five days ago and who shows no signs of withdrawal is unlikely to develop significant withdrawal symptoms and does *not* require inpatient detoxification.
- 2) Other medical and psychiatric conditions should be evaluated for admission including alcohol use disorder complications.
- 3) Calculate CIWA-Ar score:
  - Scores < 8 may not need detoxification; consider calculating PAWSS score.
  - Scores of 8 to 15 without symptoms of DT or seizures can be treated as an outpatient detoxification if no contraindication.
  - Scores of  $\geq 15$  should be admitted to the hospital.
- 4) Calculate PAWSS score:
  - Scores  $\geq 4$  suggest high risk for moderate to severe complicated AWS, and admission should be considered.
  - Scores < 4 suggest lower risk for complicated AWS, and outpatient treatment should be considered if patients do not have a medical or surgical diagnosis requiring admission.

# ALCOHOL WITHDRAWAL ASSESSMENT SCORING GUIDELINES (CIWA-AR)

## Nausea/vomiting - Rate on scale 0–7

- 0 none
- 1 mild nausea with no vomiting
- 2
- 3
- 4 intermittent nausea
- 5
- 6
- 7 constant nausea and frequent dry heaves and vomiting

## Anxiety - Rate on scale 0–7

- 0 no anxiety, patient at ease
- 1 mildly anxious
- 2
- 3
- 4 moderately anxious or guarded, so anxiety is inferred
- 5
- 6
- 7 equivalent to acute panic states seen in severe delirium or acute schizophrenic reactions

## Paroxysmal Sweats - Rate on scale 0–7

- 0 no sweats
- 1 barely perceptible sweating, palms moist
- 2
- 3
- 4 beads of sweat obvious on forehead
- 5
- 6
- 7 drenching sweats

## Tactile disturbances - Ask, "Have you experienced any itching, pins & needles sensation, burning or numbness, or a feeling of bugs crawling on or under your skin?"

- |   |                                   |
|---|-----------------------------------|
| 0 none  | 4 moderate hallucinations         |
| 1 very mild itching, pins & needles, burning, or numbness | 5 severe hallucinations           |
| 2 mild itching, pins & needles, burning, or numbness      | 6 extremely severe hallucinations |
| 3 moderate itching, pins & needles, burning, or numbness  | 7 continuous hallucinations       |

## Visual disturbances - Ask, "Does the light appear to be too bright? Is its color different than normal? Does it hurt your eyes? Are you seeing anything that disturbs you or that you know isn't there?"

- |                         |                                   |
|-------------------------|-----------------------------------|
| 0 not present           | 4 moderate hallucinations         |
| 1 very mild sensitivity | 5 severe hallucinations           |
| 2 mild sensitivity      | 6 extremely severe hallucinations |
| 3 moderate sensitivity  | 7 continuous hallucinations       |

## Tremors - have patient extend arms & spread fingers. Rate on scale 0–7.

- 0 no tremor
- 1 not visible, but can be felt fingertip to fingertip
- 2
- 3
- 4 moderate, with patient's arms extended
- 5
- 6
- 7 severe, even w/ arms not extended

## Agitation - Rate on scale 0–7

- 0 normal activity
- 1 somewhat normal activity
- 2
- 3
- 4 moderately fidgety and restless
- 5
- 6
- 7 paces back and forth, or constantly thrashes about

## Orientation and clouding of sensorium - Ask, "What day is this? Where are you? Who am I?" Rate on scale 0–4.

- 0 none
- 0 oriented
- 1 cannot do serial additions or is uncertain about date
- 2 disoriented to date by no more than 2 calendar days
- 3 disoriented to date by more than 2 calendar days
- 4 disoriented to place and/or person

## Auditory Disturbances - Ask, "Are you more aware of sounds around you? Are they harsh? Do they startle you? Do you hear anything that disturbs you or that you know isn't there?"

- |   |                                   |
|---|-----------------------------------|
| 0 not present                               | 4 moderate hallucinations         |
| 1 very mild harshness or ability to startle | 5 severe hallucinations           |
| 2 mild harshness or ability to startle      | 6 extremely severe hallucinations |
| 3 moderate harshness or ability to startle  | 7 continuous hallucinations       |

## Headache - Ask, "Does your head feel different than usual? Does it feel like there is a band around your head?" Do not rate dizziness or lightheadedness.

- |               |                     |
|---------------|---------------------|
| 0 not present | 4 moderately severe |
| 1 very mild   | 5 severe            |
| 2 mild        | 6 very severe       |
| 3 moderate    | 7 extremely severe  |

### Procedure:

1. Assess and rate each of the 10 criteria of the CIWA scale. Each criterion is rated on a scale from 0 to 7, except for "Orientation and clouding of sensorium" which is rated on scale 0 to 4. Add up the scores for all ten criteria. This is the total CIWA-Ar score for the patient at that time. Prophylactic medication should be started for any patient with a total CIWA-Ar score of 8 or greater (ie. start on withdrawal medication). If started on scheduled medication, additional PRN medication should be given for a total CIWA-Ar score of 15 or greater.
2. Document vitals and CIWA-Ar assessment on the Withdrawal Assessment Sheet. Document administration of PRN medications on the assessment sheet as well.
3. The CIWA-Ar scale is the most sensitive tool for assessment of the patient experiencing alcohol withdrawal. Nursing assessment is vitally important. Early intervention for CIWA-Ar score of 8 or greater provides the best means to prevent the progression of withdrawal.

# PREDICTION OF ALCOHOL WITHDRAWAL SEVERITY SCALE (PAWSS)

## PART A: THRESHOLD CRITERIA:

("Y" or "N",  
no point)

Have you consumed any amount of alcohol (i.e., been drinking) within the last 30 days?  
OR did the patient have a "+" blood alcohol level (BAL) on admission?

*IF the answer to either is YES, proceed with test:*

## PART B: BASED ON PATIENT INTERVIEW:

(1 point each)

1. Have you been recently intoxicated/drunken within the last 30 days?
2. Have you ever undergone alcohol use disorder rehabilitation treatment or treatment for alcoholism? (i.e., inpatient or outpatient treatment programs or AA attendance)
3. Have you ever experienced any previous episodes of alcohol withdrawal, regardless of severity?
4. Have you ever experienced blackouts?
5. Have you ever experienced alcohol withdrawal seizures?
6. Have you ever experienced delirium tremens, or DT?
7. Have you combined alcohol with other "downers" like benzodiazepines or barbiturates during the last 90 days?
8. Have you combined alcohol with any other substance of abuse during the last 90 days?

## PART C: BASED ON CLINICAL EVIDENCE:

(1 point each)

9. Was the patient's BAL on presentation  $\geq 200$ ?
10. Is there evidence of increased autonomic activity? (e.g., HR  $> 120$  bpm, tremor, sweating, agitation, nausea)

TOTAL SCORE: \_\_\_\_\_

*Notes: Maximum score = 10. This instrument is intended as a SCREENING TOOL. The greater the number of positive findings, the higher the risk for the development of AWS. A score of  $\geq 4$  suggests HIGH RISK for moderate to severe (complicated) AWS; prophylaxis and/or treatment may be indicated.*

**Source:** Adapted from Maldonado JR, Sher Y, Ashouri JF, et al. The "prediction of alcohol withdrawal severity scale" (PAWSS): systematic literature review and pilot study of a new scale for the prediction of complicated alcohol withdrawal syndrome. *Alcohol*. 2014;48(4):375-390.



# OUTPATIENT ALCOHOL TREATMENT

- Outpatient treatment for withdrawals:
  - Gabapentin (does not help with seizures)
  - Chlordiazepoxide (be careful) and other moderate to long acting benzodiazepines
  - Other medications: carbamazepine, topiramate, etc.
- Outpatient treatment for Alcohol Use Disorder (FDA approved):
  - Naltrexone
  - Disulfiram
  - Acamprosate

# COMMON DRUGS OF ABUSE

BENZODIAZEPINES AND  
SLEEPING PILLS



# WITHDRAWAL AND TREATMENT

- Withdrawal
  - The concept of kindling applies here as well
- Outpatient treatment for sedative use disorder
  - Treatment of choice: Gradual dose reduction





# COMMON DRUGS OF ABUSE

METHAMPHETAMINES



# METHAMPHETAMINE INTOXICATION

## Short term effects may include:

- Increased attention and decreased fatigue
- Increased activity and wakefulness
- Decreased appetite
- Euphoria and rush
- Increased respiration
- Rapid/irregular heartbeat
- Hyperthermia
- Dilated pupils





# METHAMPHETAMINE WITHDRAWAL

Exact opposite of intoxication symptoms

## Where it gets tricky:

- Psychotic symptoms and syndromes are frequently experienced among individuals who use methamphetamine, both with intoxication and withdrawal.
  - Though transient in a large proportion of users, acute symptoms can include agitation, violence, and delusions, and may require management in an inpatient psychiatric or other crisis intervention setting.
  - In a subset of individuals, psychosis can recur and persist and may be difficult to distinguish from a primary psychotic disorder such as schizophrenia.

# METHAMPHETAMINE TREATMENT AND FOLLOW-UP

- Use of benzodiazepines
- Cooling
- Protection of patient and staff
- Possible antipsychotics
- Other

# COMMON DRUGS OF ABUSE

OPIOIDS



# OPIOID INTOXICATION

- Analgesia
- Euphoria
- Miosis ('pinned' pupils)
- Constipation
- Sedation
- Itching, red eyes (histamine release)
- Respiratory depression and reduced cough reflex
- Decreased level of consciousness ('on the nod')
- Hypotension/bradycardia



# OPIOID WITHDRAWAL AND TREATMENT

- **Withdrawal:**
  - Exact opposite of intoxication symptoms
- **Treatment with FDA approved medications:**
  - Methadone
  - Buprenorphine
  - Naltrexone



# COMMON DRUGS OF ABUSE

MARIJUANA

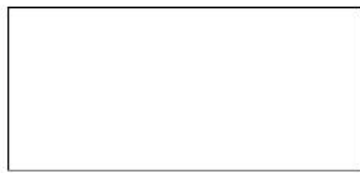


# SCREENING, BRIEF INTERVENTION, AND REFERRAL TO TREATMENT (SBIRT)


- **Screening** – a healthcare professional assesses a patient for risky substance use behaviors using standardized screening tools. Screening can occur in any healthcare setting.
- **Brief intervention** – a healthcare professional engages a patient showing risky substance use behaviors in a short conversation, providing feedback and advice.
- **Referral to Treatment** – a healthcare professional provides a referral to brief therapy or additional treatment to patients who screen in need of additional services.


## Annual Questionnaire


Once a year, all our patients are asked to complete this form because drug use, alcohol use, and mood can affect your health as well as medications you may take. Please help us provide you with the best medical care by answering the questions below.



Alcohol: One drink =

 12 oz. beer

 5 oz. wine

 1.5 oz. liquor (one shot)

	None	1 or more
<b>MEN:</b> How many times in the past year have you had 5 or more drinks in a day?	<input type="radio"/>	<input type="radio"/>
<b>WOMEN:</b> How many times in the past year have you had 4 or more drinks in a day?	<input type="radio"/>	<input type="radio"/>

**Drugs:** Recreational drugs include methamphetamines (speed, crystal) cannabis (marijuana, pot), inhalants (paint thinner, aerosol, glue), tranquilizers (Valium), barbiturates, cocaine, ecstasy, hallucinogens (LSD, mushrooms), or narcotics (heroin).

	None	1 or more
How many times in the past year have you used a recreational drug or used a prescription medication for nonmedical reasons?	<input type="radio"/>	<input type="radio"/>

<b>Mood:</b>	No	Yes
During the past two weeks, have you been bothered by little interest or pleasure in doing things?	<input type="radio"/>	<input type="radio"/>
During the past two weeks, have you been bothered by feeling down, depressed, or hopeless?	<input type="radio"/>	<input type="radio"/>

\*Any answer other than "none" constitutes a positive screen. Follow up with the AUDIT and/or DAST-10 as appropriate.

# SCREENING

## Step 1:

Start with the pre-screening form:

- There is only one question for alcohol and one question for drugs.
- If they screen in, move to Step 2.

### Alcohol screening questionnaire (AUDIT)

Our clinic asks all patients about alcohol use at least once a year. Drinking alcohol can affect your health and some medications you may take. Please help us provide you with the best medical care by answering the questions below.

Patient name: \_\_\_\_\_  
Date of birth: \_\_\_\_\_

One drink equals:



12 oz. beer



5 oz. wine



1.5 oz. liquor (one shot)

1. How often do you have a drink containing alcohol?	Never	Monthly or less	2 - 4 times a month	2 - 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?	0 - 2	3 or 4	5 or 6	7 - 9	10 or more
3. How often do you have four 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, in 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, in the last year

0 1 2 3 4



### Drug Screening Questionnaire (DAST)

Using drugs can affect your health and some medications you may take. Please help us provide you with the best medical care by answering the questions below.

Patient name: \_\_\_\_\_  
Date of birth: \_\_\_\_\_

- methamphetamines (speed, crystal)     cocaine  
 cannabis (marijuana, pot)             narcotics (heroin, oxycodone, methadone, etc.)  
 inhalants (paint thinner, aerosol, glue)     hallucinogens (LSD, mushrooms)  
 tranquilizers (valium)                     other \_\_\_\_\_

How often have you used these drugs?    Monthly or less    Weekly    Daily or almost daily

1. Have you used drugs other than those required for medical reasons?	No	Yes
2. Do you abuse more than one drug at a time?	No	Yes
3. Are you unable to stop using drugs when you want to?	No	Yes
4. Have you ever had blackouts or flashbacks as a result of drug use?	No	Yes
5. Do you ever feel bad or guilty about your drug use?	No	Yes
6. Does your spouse (or parents) ever complain about your involvement with drugs?	No	Yes
7. Have you neglected your family because of your use of drugs?	No	Yes
8. Have you engaged in illegal activities in order to obtain drugs?	No	Yes
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	No	Yes
10. Have you had medical problems as a result of your drug use (e.g. memory loss, hepatitis, convulsions, bleeding)?	No	Yes

0 1

Have you ever injected drugs?    Never    Yes, in the past 90 days    Yes, more than 90 days ago

Have you ever been in treatment for substance abuse?    Never    Currently    In the past

# SCREENING

## Step 2:

- If they screen in for alcohol, move on to the Alcohol Screening Questionnaire (AUDIT).
- If they screen in for drugs, move on to the Drug Screening Questionnaire (DAST).



# BRIEF INTERVENTION OR REFERRAL TO TREATMENT

RISK ZONE	I – LOW RISK	II – RISKY	III – HARMFUL	IV – SEVERE
<b>AUDIT Score</b>	0-3	4-9	10-13	14+
<b>DAST Score</b>	0	1-2	3-5	6+
<b>Description of Zone</b>	“At low risk for health or social complications.”	“May develop health problems or existing problems may worsen.”	“Has experienced negative effects from substance use.”	“Could benefit from more assessment and assistance.”



Brief intervention



Refer to treatment

- Raise the subject
- Provide feedback
- Enhance motivation
- Negotiate plan



