

Addictions Nursing Certification Review: Practice Question Supplement for the CARN and CARN-AP Examinations

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Interdisciplinary Leaders in Substance Use
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Opioid
Response
Network

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Disclaimer

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Introduction

This document was created to provide registered nurses and advanced practice nurses with practice questions to assist in preparation for the Certified Addiction Registered Nurse (CARN) and Certified Addiction Registered Nurse – Advance Practice (CARN-AP) examinations through the Addiction Nursing Certification Board (ANCB). Practice questions and associated rationales were developed based on current best practices in substance use disorders and process addictions care to assess knowledge of the practice activity and patient presentation domains outlined in the ANCB blueprint revisions for the CARN and CARN-AP examinations as of July 2022. Please visit the [ANCB website](#) to access information about the examination and visit the [Center for Nursing Education and Testing \(CNET\) website](#) for access to the updated blueprints.

CARN Practice Questions

1. A patient presents with complaints of poor appetite, weight loss, abdominal cramping, nausea, and vomiting multiple times a day with no relief from prescribed antiemetics for the last 48 hours. Reports taking hot showers provides temporary relief. Reports smoking cannabis multiple times daily to try to manage anxiety and gastrointestinal symptoms. Vital signs are stable and abdominal exam is unremarkable. What is the best intervention to resolve the patient's symptoms?
 - A. Intravenous fluids and ondansetron
 - B. Appendectomy
 - C. Cannabinoid cessation
 - D. Cholecystectomy

2. A patient with cocaine use disorder attends his second nursing-led group, demonstrating poor focus, akathisia, and agitation. He interrupts the group to say, "My skin is crawling, and this isn't helping me! I should just leave and stop coming to group." Which action in response to the patient best supports his treatment?
 - A. Remove the patient from the group immediately to provide medication for agitation.
 - B. Explain that it is a requirement to attend group, so leaving will result in discharge.
 - C. Encourage the patient to share his experience with the group to elicit support.
 - D. Remind the patient to express himself regardless of how it is perceived by the group.

3. A 65-year-old patient with a history of alcohol use disorder presents to the emergency room disclosing daily intake of vodka. Orders placed for the patient include diphenhydramine (Benadryl) 50 mg every 6 hours as needed, ondansetron (Zofran) 4 mg every 8 hours as needed for nausea/vomiting, and chlordiazepoxide (Librium) 50-100 mg symptom-triggered based on CIWA. What question takes priority during the nurse's initial assessment?
 - A. "Do you have a history of seizures?"
 - B. "How much vodka do you drink?"
 - C. "When was your last drink?"
 - D. "Do you have hypertension or cirrhosis?"

4. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses, one of which required intubation. The patient is pale and somnolent with hyperpnea and bradycardia. What is the initial nursing intervention?
- A. Contact the provider to discuss trauma related to overdose
 - B. Monitor vital signs and administer oxygen
 - C. Contact the provider to discuss starting methadone
 - D. Monitor vital signs and administer IV fluids

5. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses, one of which required intubation. The patient is pale and somnolent with hyperpnea and bradycardia.

As vital signs improve, the patient becomes diaphoretic, tachycardic, and begins vomiting. Reports abdominal cramping, muscle aches, and is agitated. States, "I want to get out of here. You people never help me." The most important intervention to discuss with the provider is:

- A. Referring the patient to counseling for trauma therapy
 - B. Placing an order for naltrexone for immediate initiation
 - C. Ordering labs to assess organ damage due to overdose
 - D. Initiating pharmacotherapy for withdrawal management
6. A nurse working at an inpatient facility for eating disorders approaches a young male patient with anorexia nervosa who rarely leaves his room to ask if he will join her for group today. The patient replies, "I am not in the mood to deal with other people." The best initial response from the nurse would be:
- A. "Don't you think going to group will help you learn?"
 - B. "Why do you think it's good to be alone in your room?"
 - C. "What may help you feel more comfortable in group?"
 - D. "Are there things about group you wish were different?"
7. You are completing a nursing visit with a patient with opioid use disorder who discloses "my family has disowned me" due to the behavioral changes associated with substance use. You, as the CARN, reply:
- A. "I'm sorry to hear that, but unfortunately, this happens to many patients."
 - B. "Education about behavioral changes associated with addiction may be helpful."
 - C. "I recommend you look for support from people that are willing to help you."
 - D. "Maybe you can tell them you are sorry and that you will stop using substances."

8. A patient with opioid use disorder arrives to the office-based addiction treatment setting to receive their monthly naltrexone injection and reports having “a slip” and taking one buprenorphine/naloxone film about a week ago. The patient requests to receive the injection today. Urine toxicology screen is positive for buprenorphine and delta-9-tetrahydrocannabinol. Your best initial reply is:
- A. “Unfortunately, I can’t give you the injection today because it will cause precipitated withdrawal.”
 - B. “You can receive your injection today, but we need to talk about strategies to prevent substance use.”
 - C. “Unfortunately, you need to go to a higher level of care for detox before you can receive the injection.”
 - D. “Unfortunately, I can’t give you the injection today, but you can take the oral formulation until you’re negative for buprenorphine.”
9. What is an effective therapeutic modality to gather information and assess individual treatment goals from a patient with binge eating disorder?
- A. Motivational interviewing
 - B. Cognitive behavioral therapy
 - C. Dialectical behavioral therapy
 - D. Motivational enhancement therapy
10. Which of the following is considered an adverse childhood experience that may increase the risk an individual will develop a substance use disorder?
- A. Frequent falls and accidents
 - B. Parent with a substance use disorder
 - C. Decreased athletic participation
 - D. Inability to read at the developmental milestone
11. Which of the following are the most common symptoms of methamphetamine withdrawal?
- A. Paranoia and abdominal upset
 - B. Insomnia and decreased appetite
 - C. Hallucinations and tremors
 - D. Fatigue and depression

12. When performing a biopsychosocial assessment of a patient with opioid use disorder, the CARN identifies all of the following as critical pieces of information for patient evaluation, **except**:
- A. History of overdose
 - B. Age of first substance use
 - C. Living situation
 - D. Readiness for change
13. Injectable buprenorphine (Sublocade) should be administered in the following location:
- A. Subcutaneous injection – upper arm
 - B. Subcutaneous injection – abdomen
 - C. Intramuscular injection – gluteal muscle
 - D. Subcutaneous injection – front of thigh
14. A patient with cocaine use disorder presents to the clinic complaining of a painful erythematous rash on their lower extremities. Upon initial assessment, the nurse recognizes that this dermatitis is most likely associated with injury to which of the following organ systems:
- A. Liver
 - B. Endocrine
 - C. Gastrointestinal
 - D. Immune system
15. An adolescent female patient presents for follow-up after a sports-related injury, and her mother expresses concerns related to eating disordered behavior stating, “Something changed after her injury, and she won’t talk to me about it.” The nurse recognizes the patient is at increased risk for developing which co-occurring disorders:
- A. Major depressive disorder and cocaine use disorder
 - B. Gambling disorder and alcohol use disorder
 - C. Eating disorder and opioid use disorder
 - D. Compulsive shopping disorder and opioid use disorder

16. One of the common challenges associated with treating co-occurring eating and substance use disorders is:
- A. Secrecy is a primary feature of both disorders
 - B. Substance use treatment is prioritized
 - C. Eating disorder treatment is prioritized
 - D. The patient will have to be admitted to an inpatient facility
17. Which of the following medications should be discontinued while a patient is in acute alcohol withdrawal?
- A. Lisinopril
 - B. Sertraline
 - C. Clonidine
 - D. Bupropion
18. A patient in early remission from alcohol use disorder asks the nurse if there are local groups to increase social support. The nurse identifies Alcoholics Anonymous as a community mutual support group based in:
- A. Exposure therapy (ET)
 - B. Motivational Interviewing (MI)
 - C. Twelve Step Facilitation (TSF)
 - D. Motivational Enhancement Therapy (MET)
19. A patient in a nurse-led addiction group reports recent alcohol use and gambling causing financial struggles due to spending savings on scratch tickets. The patient reports increased depression since her son passed away and finds herself socially isolated unless at the corner store with her neighbors. She denies that gambling is a problem for her. What is the most appropriate response by the nurse?
- A. Affirm that no changes are necessary if she does not identify it as problematic.
 - B. Discuss alternative options for socializing and suggest seeking support for grief counseling.
 - C. Encourage her to establish a designated payee to manage her finances temporarily.
 - D. Use motivational interviewing to determine how much she is spending each week.

20. The nurse understands that a patient with compulsive sexual behaviors associated with methamphetamine use is at increased risk for sexually transmitted infections and infectious diseases. The most important intervention to discuss with the patient is:
- A. Prevention of HIV with initiation of pre-exposure prophylaxis.
 - B. Prevention of sexually transmitted infections by using barrier methods.
 - C. Education related to avoiding sexual contact with new partners.
 - D. Education related to treatment of gonorrhea/chlamydia infection.
21. What is the first-line treatment for symptoms of acute stimulant-induced psychosis?
- A. Beta-blockers
 - B. Benzodiazepines
 - C. Antihistamines
 - D. Barbiturates
22. In order to facilitate behavioral change, the nurse counsels a patient regarding risks associated with chronic alcohol use, including:
- A. Cancer
 - B. Cardiovascular disease
 - C. Hormonal dysfunction
 - D. All of the above
23. A nurse running a group for treatment of stimulant use disorder for individuals who identify as LGBTQ+ recognizes attendees are at increased risk for:
- A. Hypertension
 - B. Syncope
 - C. Aneurysm
 - D. Suicide
24. Which of the following is true about tobacco cessation during pregnancy?
- A. Nicotine replacement is considered first-line treatment.
 - B. Smoking cessation education and behavioral modification are effective.
 - C. Transition to nicotine vape product is indicated during labor.
 - D. Bupropion is a category X medication and contraindicated.

25. Synthetic cannabinoid toxicity can result in serious adverse effects, including all of the following, **except**:
- A. Bradycardia
 - B. Hallucinations
 - C. Vomiting
 - D. Agitation
26. Upon assessment of a patient who reports cannabis use, the nurse recognizes that, in addition to assessing patterns of use, it is important she prioritize gathering which piece of information from the patient:
- A. Indication for using cannabis products
 - B. Socialization related to cannabis use
 - C. Potency of THC in cannabis products
 - D. Increased appetite associated with use
27. In order to gather more information about tobacco use in an adolescent patient, which screening tool would provide the most accurate assessment?
- A. Fagerström Test for Nicotine Dependence (FTND)
 - B. Hooked on Nicotine Checklist (HONC)
 - C. Teen Nicotine Use Assessment Tool (TNUAT)
 - D. Nicotine Education and Diagnostic Screening (NEDS)
28. A patient reports they quit smoking cigarettes (15 pack years) and are now using an e-cigarette since they have heard that it helps people quit smoking. The nurse understands that the most effective evidenced-based intervention proven to be safe and effective in tobacco cessation is:
- A. Combination of medications and counseling
 - B. Medications approved for smoking cessation
 - C. Smoking cessation counseling
 - D. Transitioning to e-cigarette use
29. Individuals that use anabolic steroids long term have increased risk for permanent health problems, including all of the following, **except**:
- A. Liver damage
 - B. Cardiomyopathy
 - C. Parathyroid dysfunction
 - D. Rhabdomyolysis

30. Benzodiazepines produce sedative, anxiolytic, and anticonvulsant effects due to the potentiation of which neurotransmitter?
- A. Serotonergic receptors
 - B. Gamma-aminobutyric acid
 - C. Mu opioid receptors
 - D. Cannabinoid receptors

CARN Answer Sheet

1. C
2. C
3. C
4. B
5. D
6. C
7. B
8. A
9. A
10. B
11. D
12. D
13. B
14. D
15. C
16. A
17. D
18. C
19. B
20. A
21. B
22. D
23. D
24. B
25. A
26. C
27. B
28. A
29. D
30. B

CARN Answers, Rationales, and References

1. A patient presents with complaints of poor appetite, weight loss, abdominal cramping, nausea, and vomiting multiple times a day with no relief from prescribed antiemetics for the last 48 hours. Reports taking hot showers provides temporary relief. Reports smoking cannabis multiple times daily to try to manage anxiety and gastrointestinal symptoms. Vital signs are stable and abdominal exam is unremarkable. What is the best intervention to resolve the patient's symptoms?
- A. Intravenous fluids and ondansetron
 - B. Appendectomy
 - C. Cannabinoid cessation
 - D. Cholecystectomy

Answer: C – Cannabinoid cessation

Rationale:

- The patient's presentation is consistent with cannabinoid hyperemesis syndrome, which is characterized by vomiting, abdominal pain, and compulsive bathing or hot showers for temporary relief of symptoms.
- The patient's presentation is not consistent with medical emergency requiring surgical intervention with appendectomy or cholecystectomy.
- While intravenous fluids or antiemetics may provide temporary relief, the only intervention to resolve symptoms associated with cannabinoid hyperemesis syndrome is cessation of cannabis.

Source:

- Sorensen CJ, DeSanto K, Borgelt L, Phillips KT, Monte AA. Cannabinoid hyperemesis syndrome: diagnosis, pathophysiology, and treatment-a systematic review. *J Med Toxicol.* 2017;13(1):71-87. doi:10.1007/s13181-016-0595-z

2. A patient with cocaine use disorder attends his second nursing-led group, demonstrating poor focus, akathisia, and agitation. He interrupts the group to say, “My skin is crawling, and this isn’t helping me! I should just leave and stop coming to group.” Which action in response to the patient best supports his treatment?
- A. Remove the patient from the group immediately to provide medication for agitation.
 - B. Explain that it is a requirement to attend group, so leaving will result in discharge.
 - C. Encourage the patient to share his experience with the group to elicit support.
 - D. Remind the patient to express himself regardless of how it is perceived by the group.

Answer: C – Encourage the patient to share his experience with the group to elicit support.

Rationale:

- The benefits of group therapy include sharing experiences, building relationships, receiving peer feedback, identifying harmful behaviors, socialization, and developing coping skills or strengths. Encouraging the patient to share his experience and elicit peer support will build on these recovery skills and support other patients who may be experiencing similar difficulties in addition to developing group milieu.

Source:

- Center for Substance Abuse Treatment. One groups and substance abuse treatment. In: *Substance Abuse Treatment: Group Therapy*. Substance Abuse and Mental Health Services Administration; 2005:1-8. HHS Publication No. SMA15-3991. *Treatment Improvement Protocol (TIP) Series*; No. 41. Revised October 2015. Accessed September 18, 2022. <https://store.samhsa.gov/sites/default/files/d7/priv/sma15-3991.pdf>

3. A 65-year-old patient with a history of alcohol use disorder presents to the emergency room disclosing daily intake of vodka. Orders placed for the patient include diphenhydramine (Benadryl) 50 mg every 6 hours as needed, ondansetron (Zofran) 4 mg every 8 hours as needed for nausea/vomiting, and chlorthalidone (Hydromorphone) 50-100 mg symptom-triggered based on CIWA. What question takes priority during the nurse's initial assessment?
- A. "Do you have a history of seizures?"
 - B. "How much vodka do you drink?"
 - C. "When was your last drink?"
 - D. "Do you have hypertension or cirrhosis?"

Answer: C – "When was your last drink?"

Rationale:

- Determining the time of last alcohol use is the priority assessment. Time of last alcohol intake will enable the nurse to identify when the patient will be at risk for seizure.
- History of seizure, comorbidities, and daily alcohol consumption help determine the risk for a future seizure but are not predictive of onset.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

4. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses, one of which required intubation. The patient is pale and somnolent with hyperpnea and bradycardia. What is the initial nursing intervention?
- A. Contact the provider to discuss trauma related to overdose
 - B. Monitor vital signs and administer oxygen
 - C. Contact the provider to discuss starting methadone
 - D. Monitor vital signs and administer IV fluids

Answer: B – Monitor vital signs and administer oxygen

Rationale:

- The initial intervention following overdose with continued respiratory and cardiac suppression would be to administer oxygen and monitor for changes in vital signs and patient presentation.

Sources:

- Maurer WG, Walsh M, Viazis N. Basic requirements for monitoring sedated patients: blood pressure, pulse oximetry, and EKG. *Digestion*. 2010;82(2):87-89. doi:10.1159/000285505
- Substance Abuse and Mental Health Services Administration. Five essential steps for first responders. In: *SAMHSA Opioid Overdose Prevention Toolkit*. Substance Abuse and Mental Health Administration; 2013:5-8. HHS Publication No. SMA18-4742. Revised June 2018. Accessed September 25, 2022. <https://store.samhsa.gov/sites/default/files/d7/priv/sma18-4742.pdf>

5. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses, one of which required intubation. The patient is pale and somnolent with hyperpnea and bradycardia.

As vital signs improve, the patient becomes diaphoretic, tachycardic, and begins vomiting. Reports abdominal cramping, muscle aches, and is agitated. States, “I want to get out of here. You people never help me.” The most important intervention to discuss with the provider is:

- A. Referring the patient to counseling for trauma therapy
- B. Placing an order for naltrexone for immediate initiation
- C. Ordering labs to assess organ damage due to overdose
- D. Initiating pharmacotherapy for withdrawal management

Answer: D – Initiating pharmacotherapy for withdrawal management

Rationale:

- The patient is exhibiting symptoms of acute opioid withdrawal due to the administration of naloxone. Initiating targeted pharmacotherapy to manage his symptoms may decrease the risk the patient will leave against medical advice (AMA).
- Overdose education, ensuring access to naloxone, and starting medications for opioid use disorder (MOUD) are important in reducing the risk of future overdoses. Naltrexone, however, cannot be initiated until 7-14 days following last use of opioids.
- Ordering labs and referring the patient to counseling are not feasible interventions given the patient’s experience of acute withdrawal.

Sources:

- Simon R, Snow R, Wakeman S. Understanding why patients with substance use disorders leave the hospital against medical advice: a qualitative study. *Subst Abus.* 2020;41(4):519-525. doi:10.1080/08897077.2019.1671942
- Naltrexone. Substance Abuse and Mental Health Services Administration. Updated April 21, 2022. Accessed September 11, 2022. <https://www.samhsa.gov/medication-assisted-treatment/medications-counseling-related-conditions/naltrexone>

6. A nurse working at an inpatient facility for eating disorders approaches a young male patient with anorexia nervosa who rarely leaves his room to ask if he will join her for group today. The patient replies, "I am not in the mood to deal with other people." The best initial response from the nurse would be:
- A. "Don't you think going to group will help you learn?"
 - B. "Why do you think it's good to be alone in your room?"
 - C. "What may help you feel more comfortable in group?"
 - D. "Are there things about group you wish were different?"

Answer: C – "What may help you feel more comfortable in group?"

Rationale:

- Anorexia nervosa is a process addiction characterized by resistance to changing behaviors and ambivalence around recovery. These characteristics make it challenging to engage patients with this diagnosis effectively in treatment.
- Using motivational interviewing by asking open-ended questions allows the patient autonomy while assessing their motivation for change and may assist the nurse in building rapport.

Source:

- Price-Evans K, Treasure J. The use of motivational interviewing in anorexia nervosa: motivational interviewing and anorexia nervosa. *Child Adolesc Ment Health*. 2011;16(2):65-70. doi:10.1111/j.1475-3588.2011.00595.x

7. You are completing a nursing visit with a patient with opioid use disorder who discloses “my family has disowned me” due to the behavioral changes associated with substance use. You, as the CARN, reply:
- A. “I’m sorry to hear that, but unfortunately, this happens to many patients.”
 - B. “Education about behavioral changes associated with addiction may be helpful.”
 - C. “I recommend you look for support from people that are willing to help you.”
 - D. “Maybe you can tell them you are sorry and that you will stop using substances.”

Answer: B – “Education about behavioral changes associated with addiction may be helpful.”

Rationale:

- Involvement from family members can have a positive impact on treatment outcomes. Educating family members about substance use disorder onset, progression, and treatment can assist in identifying negative behavioral changes or consequences as part of the disease due to the brain changes associated with substance use.

Source:

- Lander L, Howsare J, Byrne M. The impact of substance use disorders on families and children: from theory to practice. *Soc Work Public Health*. 2013;28(3-4):194-205. doi:10.1080/19371918.2013.759005

8. A patient with opioid use disorder arrives to the office-based addiction treatment setting to receive their monthly naltrexone injection and reports having “a slip” and taking one buprenorphine/naloxone film about a week ago. The patient requests to receive the injection today. Urine toxicology screen is positive for buprenorphine and delta-9-tetrahydrocannabinol. Your best initial reply is:
- A. “Unfortunately, I can’t give you the injection today because it will cause precipitated withdrawal.”
 - B. “You can receive your injection today, but we need to talk about strategies to prevent substance use.”
 - C. “Unfortunately, you need to go to a higher level of care for detox before you can receive the injection.”
 - D. “Unfortunately, I can’t give you the injection today, but you can take the oral formulation until you’re negative for buprenorphine.”

Answer: A – “Unfortunately, I can’t give you the injection today because it will cause precipitated withdrawal.”

Rationale:

- Individuals must be abstinent from opioids, including synthetic opioids like buprenorphine, for 7-14 days prior to receiving naltrexone as an oral formulation or extended-release injectable formulation due to risk of precipitated withdrawal.

Source:

- Wightman RS, Nelson LS, Lee JD, Fox LM, Smith SW. Severe opioid withdrawal precipitated by Vivitrol®. *Am J Emerg Med.* 2018;36(6):1128.e1-1128.e2. doi:10.1016/j.ajem.2018.03.052

9. What is an effective therapeutic modality to gather information and assess individual treatment goals from a patient with binge eating disorder?
- A. Motivational interviewing
 - B. Cognitive behavioral therapy
 - C. Dialectical behavioral therapy
 - D. Motivational enhancement therapy

Answer: A – Motivational interviewing

Rationale:

- Motivational interviewing utilizes open-ended questions to assess self-efficacy to engage in change and elicit internal motivation to promote behavioral modifications in patients with binge eating disorders.

Source:

- Pietrabissa G. Group motivation-focused interventions for patients with obesity and binge eating disorder. *Front Psychol.* 2018;9:1104. doi:10.3389/fpsyg.2018.01104

10. Which of the following is considered an adverse childhood experience that may increase the risk an individual will develop a substance use disorder?
- A. Frequent falls and accidents
 - B. Parent with a substance use disorder
 - C. Decreased athletic participation
 - D. Inability to read at the developmental milestone

Answer: B – Parent with a substance use disorder

Rationale:

- Childhood neglect or abuse, family history of substance use disorder, and household dysfunction are considered adverse childhood experiences (ACEs) that increase the risk for developing a substance use disorder.

Source:

- Lander L, Howsare J, Byrne M. The impact of substance use disorders on families and children: from theory to practice. *Soc Work Public Health*. 2013;28(3-4):194-205. doi:10.1080/19371918.2013.759005

11. Which of the following are the most common symptoms of methamphetamine withdrawal?

- A. Paranoia and abdominal upset
- B. Insomnia and decreased appetite
- C. Hallucinations and tremors
- D. Fatigue and depression

Answer: D – Fatigue and depression

Rationale:

- Fatigue, weight gain/increased appetite, depression, and suicidal ideation are common symptoms of methamphetamine withdrawal.

Source:

- Center for Substance Abuse Treatment. *Treatment for Stimulant Use Disorders*. Substance Abuse and Mental Health Services Administration; 1999. SAMHSA Publication No. PEP21-02-01-004. *Treatment Improvement Protocol (TIP) Series*; No. 33. Updated October 2021. Accessed September 21, 2022. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP21-02-01-004.pdf

12. When performing a biopsychosocial assessment of a patient with opioid use disorder, the CARN identifies all of the following as critical pieces of information for patient evaluation, **except**:
- A. History of overdose
 - B. Age of first substance use
 - C. Living situation
 - D. Readiness for change

Answer: D – Readiness for change

Rationale:

- Biopsychosocial assessments examine medical, psychological, and social factors in order to provide the health care professional with a holistic view of the patient.
- Individuals with substance use disorder should be asked questions about their family history of substance use, age of first substance use, current use patterns and routes of use, medical and psychiatric diagnoses, acute medical issues, social network, and living situation.

Source:

- Center for Substance Abuse Treatment. *Treatment for Stimulant Use Disorders*. Substance Abuse and Mental Health Services Administration; 1999. SAMHSA Publication No. PEP21-02-01-004. *Treatment Improvement Protocol (TIP) Series*; No. 33. Updated October 2021. Accessed September 21, 2022. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP21-02-01-004.pdf

13. Injectable buprenorphine (Sublocade) should be administered in the following location:

- A. Subcutaneous injection – upper arm
- B. Subcutaneous injection – abdomen
- C. Intramuscular injection – gluteal muscle
- D. Subcutaneous injection – front of thigh

Answer: B – Subcutaneous injection – abdomen

Rationale:

- Sublocade is administered into the abdominal subcutaneous tissue in the abdomen only.
- Sublocade is the only FDA approved formulation on the market as of September 2022.

Source:

- Dosing & administration. Sublocade Healthcare Professionals. Accessed September 12, 2022. <https://www.sublocadehcp.com/dosing-administration>

14. A patient with cocaine use disorder presents to the clinic complaining of a painful erythematous rash on their lower extremities. Upon initial assessment, the nurse recognizes that this dermatitis is most likely associated with injury to which of the following organ systems:
- A. Liver
 - B. Endocrine
 - C. Gastrointestinal
 - D. Immune system

Answer: D – Immune system

Rationale:

- Chronic cocaine use is associated with vasculitis syndromes impacting the skin and muscle that can mimic rheumatologic conditions such as Raynaud's.
- Cocaine has little effect on the liver, endocrine, and gastrointestinal systems.

Sources:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)
- Swe T, Pervil-Ulysse M, Baqui AA. Cocaine-induced vasculitis with cutaneous manifestation: a recurrent episode after 2 years. *J Family Med Prim Care*. 2016;5(3):712-715. doi:10.4103/2249-4863.197294

15. An adolescent female patient presents for follow-up after a sports-related injury, and her mother expresses concerns related to eating disordered behavior stating, “Something changed after her injury, and she won’t talk to me about it.” The nurse recognizes the patient is at increased risk for developing which co-occurring disorders:
- A. Major depressive disorder and cocaine use disorder
 - B. Gambling disorder and alcohol use disorder
 - C. Eating disorder and opioid use disorder
 - D. Compulsive shopping disorder and opioid use disorder

Answer: C – Eating disorder and opioid use disorder

Rationale:

- Adolescent female athletes are at increased risk for developing eating disorders and opioid use disorders due to the rigorous lifestyle, competitive environment, and potential for injury.
- Isolation and secrecy are hallmark features of both conditions and increase barriers to engaging patients in treatment.

Sources:

- US Preventive Services Task Force. Screening for eating disorders in adolescents and adults: US Preventive Services Task Force recommendation statement. *JAMA*. 2022;327(11):1061–1067. doi:10.1001/jama.2022.1806
- Ackerman KE, Misra M. Amenorrhoea in adolescent female athletes. *Lancet Child Adolesc Health*. 2018;2(9):677-688. doi:10.1016/S2352-4642(18)30145-7

16. One of the common challenges associated with treating co-occurring eating and substance use disorders is:

- A. Secrecy is a primary feature of both disorders
- B. Substance use treatment is prioritized
- C. Eating disorder treatment is prioritized
- D. The patient will have to be admitted to an inpatient facility

Answer: A – Secrecy is a primary feature of both disorders

Rationale:

- Secrecy is a primary feature of both eating and substance use disorders which creates treatment barriers.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

17. Which of the following medications should be discontinued while a patient is in acute alcohol withdrawal?

- A. Lisinopril
- B. Sertraline
- C. Clonidine
- D. Bupropion

Answer: D – Bupropion

Rationale:

- Bupropion is the only medication listed in the answer options that lowers the seizure threshold. Medications that lower the seizure threshold should be discontinued temporarily while the patient is in acute alcohol withdrawal.

Sources:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)
- Silverstone PH, Williams R, McMahon L, Fleming R, Fogarty S. Alcohol significantly lowers the seizure threshold in mice when co-administered with bupropion hydrochloride. *Ann Gen Psychiatry*. 2008;7:11. doi:10.1186/1744-859X-7-11

18. A patient in early remission from alcohol use disorder asks the nurse if there are local groups to increase social support. The nurse identifies Alcoholics Anonymous as a community mutual support group based in:

- A. Exposure therapy (ET)
- B. Motivational Interviewing (MI)
- C. Twelve Step Facilitation (TSF)
- D. Motivational Enhancement Therapy (MET)

Answer: C – Twelve Step Facilitation (TSF)

Rationale:

- Alcoholics Anonymous (A.A.) is a community-based mutual support group that was developed out of the Twelve Step Facilitation (TSF) model.

Source:

- What is A.A.? Alcoholics Anonymous. Accessed September 12, 2022.
<https://www.aa.org/what-is-aa>

19. A patient in a nurse-led addiction group reports recent alcohol use and gambling causing financial struggles due to spending savings on scratch tickets. The patient reports increased depression since her son passed away and finds herself socially isolated unless at the corner store with her neighbors. She denies that gambling is a problem for her. What is the most appropriate response by the nurse?
- A. Affirm that no changes are necessary if she does not identify it as problematic.
 - B. Discuss alternative options for socializing and suggest seeking support for grief counseling.
 - C. Encourage her to establish a designated payee to manage her finances temporarily.
 - D. Use motivational interviewing to determine how much she is spending each week.

Answer: B – Discuss alternative options for socializing and suggest seeking support for grief counseling.

Rationale:

- The patient’s presentation is consistent with someone who has a diagnosis of gambling disorder. The most appropriate response would be to discuss options for socialization that do not involve substance use or gambling. Additionally, seeking support related to grief may help this patient.

Source:

- Bodor D, Ricijaš N, Filipčić I. Treatment of gambling disorder: review of evidence-based aspects for best practice. *Curr Opin Psychiatry*. 2021;34(5):508-513. doi:10.1097/YCO.0000000000000728

20. The nurse understands that a patient with compulsive sexual behaviors associated with methamphetamine use is at increased risk for sexually transmitted infections and infectious diseases. The most important intervention to discuss with the patient is:
- A. Prevention of HIV with initiation of pre-exposure prophylaxis.
 - B. Prevention of sexually transmitted infections by using barrier methods.
 - C. Education related to avoiding sexual contact with new partners.
 - D. Education related to treatment of gonorrhea/chlamydia infection.

Answer: A – Prevention of HIV with initiation of pre-exposure prophylaxis.

Rationale:

- While barrier protection and treatment education are important, HIV prevention is prioritized due to the increased risks associated with compulsive sexual behavior and methamphetamine use. Pre-exposure prophylaxis (PrEP) can decrease the risk of HIV acquisition by 99% when taken as prescribed.
- Abstinence is not a realistic treatment intervention.

Source:

- Pre-exposure prophylaxis (PrEP). Centers for Disease Control and Prevention. Accessed September 12, 2022. <https://www.cdc.gov/hiv/risk/prep/index.html>

21. What is the first-line treatment for symptoms of acute stimulant-induced psychosis?

- A. Beta-blockers
- B. Benzodiazepines
- C. Antihistamines
- D. Barbiturates

Answer: B – Benzodiazepines

Rationale:

- Benzodiazepines are considered first-line treatment for symptoms of acute stimulant intoxication, including perceptual disturbances, paranoia, hypervigilance, and agitation.

Source:

- Center for Substance Abuse Treatment. *Treatment for Stimulant Use Disorders*. Substance Abuse and Mental Health Services Administration; 1999. SAMHSA Publication No. PEP21-02-01-004. *Treatment Improvement Protocol (TIP) Series*; No. 33. Updated October 2021. Accessed September 21, 2022. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP21-02-01-004.pdf

22. In order to facilitate behavioral change, the nurse counsels a patient regarding risks associated with chronic alcohol use, including:

- A. Cancer
- B. Cardiovascular disease
- C. Hormonal dysfunction
- D. All of the above

Answer: D – All of the above

Rationale:

- Individuals with chronic alcohol use have increased risk for cardiovascular disease, hormonal dysfunction, cancers, gastrointestinal issues, cognitive impairments, depression, and social issues.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

23. A nurse running a group for treatment of stimulant use disorder for individuals who identify as LGBTQ+ recognizes attendees are at increased risk for:
- A. Hypertension
 - B. Syncope
 - C. Aneurysm
 - D. Suicide

Answer: D – Suicide

Rationale:

- Sexual minority populations are at significantly increased risk for depression, suicidal ideations, and suicide attempts. Transgender adults have an increased risk of having a psychiatric diagnosis and are more than 12 times as likely to attempt suicide.

Source:

- Horwitz AG, Berona J, Busby DR, et al. Variation in suicide risk among subgroups of sexual and gender minority college students. *Suicide Life Threat Behav.* 2020;50(5):1041-1053. doi:10.1111/sltb.12637

24. Which of the following is true about tobacco cessation during pregnancy?

- A. Nicotine replacement is considered first-line treatment.
- B. Smoking cessation education and behavioral modification are effective.
- C. Transition to nicotine vape product is indicated during labor.
- D. Bupropion is a category X medication and contraindicated.

Answer: B – Smoking cessation education and behavioral modification are effective.

Rationale:

- Nicotine replacement therapy is not considered a first-line treatment during pregnancy.
- Bupropion is considered a category B medication.
- There is evidence that smoking cessation counseling and behavioral modifications can significantly increase smoking cessation during pregnancy.

Source:

- Diamanti A, Papadakis S, Schoretsaniti S, et al. Smoking cessation in pregnancy: an update for maternity care practitioners. *Tob Induc Dis.* 2019;17(August):57. doi:10.18332/tid/109906

25. Synthetic cannabinoid toxicity can result in serious adverse effects, including all of the following, **except**:

- A. Bradycardia
- B. Hallucinations
- C. Vomiting
- D. Agitation

Answer: A – Bradycardia

Rationale:

- Synthetic cannabinoid use can result in toxicity, producing adverse effects, including tachycardia, hallucinations, vomiting, agitation, and confusion.

Source:

- Synthetic cannabinoids: what are they? what are their effects? Centers for Disease Control and Prevention. Accessed September 12, 2022.
<https://www.cdc.gov/nceh/hsb/chemicals/sc/default.html>

26. Upon assessment of a patient who reports cannabis use, the nurse recognizes that, in addition to assessing patterns of use, it is important she prioritize gathering which piece of information from the patient:

- A. Indication for using cannabis products
- B. Socialization related to cannabis use
- C. Potency of THC in cannabis products
- D. Increased appetite associated with use

Answer: C – Potency of THC in cannabis products

Rationale:

- Potency of THC in cannabis products being used and recommended serving/dosage are important factors to assess in a patient with cannabis use. Potency increases risk for adverse effects associated with toxicity.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

27. In order to gather more information about tobacco use in an adolescent patient, which screening tool would provide the most accurate assessment?

- A. Fagerström Test for Nicotine Dependence (FTND)
- B. Hooked on Nicotine Checklist (HONC)
- C. Teen Nicotine Use Assessment Tool (TNUAT)
- D. Nicotine Education and Diagnostic Screening (NEDS)

Answer: B – Hooked on Nicotine Checklist (HONC)

Rationale:

- The Hooked on Nicotine Checklist (HONC) is a more sensitive measure for improved detection of low-level smoking and thus improves ability to assess for risk of tobacco dependency.

Source:

- Carpenter MJ, Baker NL, Gray KM, Upadhyaya HP. Assessment of nicotine dependence among adolescent and young adult smokers: a comparison of measures. *Addict Behav.* 2010;35(11):977-982. doi:10.1016/j.addbeh.2010.06.013

28. A patient reports they quit smoking cigarettes (15 pack years) and are now using an e-cigarette since they have heard that it helps people quit smoking. The nurse understands that the most effective evidenced-based intervention proven to be safe and effective in tobacco cessation is:
- A. Combination of medications and counseling
 - B. Medications approved for smoking cessation
 - C. Smoking cessation counseling
 - D. Transitioning to e-cigarette use

Answer: A – Combination of medications and counseling

Rationale:

- A combination of medications and behavioral health counseling is the most effective evidenced-based intervention for smoking cessation. Medication or counseling alone have also shown efficacy for smoking cessation, but success more than doubles when the two interventions are combined.
- The FDA has not approved e-cigarettes for smoking cessation, and the research is inconclusive on whether use results in smoking cessation.

Source:

- Centers for Disease Control and Prevention. *E-cigarette, or Vaping, Products Visual Dictionary*. Centers for Disease Control and Prevention. December 12, 2019. Accessed September 12, 2022. https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/ecigarette-or-vaping-products-visual-dictionary-508.pdf

29. Individuals that use anabolic steroids long term have increased risk for permanent health problems, including all of the following, **except**:

- A. Liver damage
- B. Cardiomyopathy
- C. Parathyroid dysfunction
- D. Rhabdomyolysis

Answer: D – Rhabdomyolysis

Rationale:

- Long-term anabolic steroid use can increase risk for permanent damage, including liver damage, renal dysfunction, parathyroid dysfunction, cardiomyopathy, hypertension, hyperlipidemia, prostate cancer, and decreased sperm count.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

30. Benzodiazepines produce sedative, anxiolytic, and anticonvulsant effects due to the potentiation of which neurotransmitter?
- A. Serotonergic receptors
 - B. Gamma-aminobutyric acid
 - C. Mu opioid receptors
 - D. Cannabinoid receptors

Answer: B – Gamma-aminobutyric acid

Rationale:

- Benzodiazepines potentiate the gamma-aminobutyric acid (GABA) receptor, producing sedative, anxiolytic, and anticonvulsant effects.

Source:

- Morlock EV, Czajkowski C. Different residues in the GABAA receptor benzodiazepine binding pocket mediate benzodiazepine efficacy and binding. *Mol Pharmacol.* 2011;80(1):14-22. doi:10.1124/mol.110.069542

CARN-AP Practice Questions

1. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses and a recent admission for cellulitis. Chart review indicates that the patient was receiving methadone last year to manage withdrawal and cravings. The patient is unemployed and estranged from family due to substance use. What is the most accurate diagnosis?
 - A. Opioid use disorder, mild
 - B. Opioid use disorder, severe
 - C. Opioid use disorder, moderate
 - D. Does not meet criteria

2. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses and a recent admission for cellulitis. Chart review indicates that the patient was receiving methadone last year to manage withdrawal and cravings. The patient is unemployed and estranged from family due to substance use.

The patient's condition continues to improve. When he wakes up, he is sweating, nauseous, and agitated, stating, "I want to get out of here. You people aren't helping me." His heart rate is now at 90 bpm, and he begins to complain of abdominal pain and muscle cramping. What is the priority intervention by the CARN-AP?

- A. Place a referral to behavioral health for individual counseling.
 - B. Educate the patient that you are unable to start medications for opioid use disorder until 48 hours since last use.
 - C. Provide overdose prevention education and recommend the patient be admitted for observation due to risk for overdose.
 - D. Initiate medication management of withdrawal symptoms and medication for opioid use disorder based on patient preference.
3. Following an opioid overdose, the CARN-AP identifies that it is a priority to provide patients with education regarding:
 - A. Harm reduction interventions to reduce overdose risk
 - B. Information about community support services
 - C. Access to sterile supplies to reduce skin infections
 - D. Adherence to medications for alcohol use disorder

4. When providing medication education to a patient who will be initiated on a selective serotonin reuptake inhibitor (SSRI) for major depressive disorder, the CARN-AP should prioritize educating the patient about which of the following features of the medication:
 - A. Increased risk for causing tremors and memory impairment
 - B. Indication to be taken as needed for situational stressors
 - C. Onset of therapeutic action may be four weeks
 - D. Requires adjunctive psychotherapy for optimal efficacy

5. The American College of Obstetricians and Gynecologists supports methadone and buprenorphine as first-line treatment for opioid use disorder during pregnancy due to improved outcomes. Which of the following is not considered a benefit of treatment during pregnancy?
 - A. Reducing risk of infectious disease transmission
 - B. Reducing risk of neonatal abstinence syndrome
 - C. Reducing risk of prenatal fetal distress due to withdrawal
 - D. Reducing risk of prenatal tobacco exposure

6. A man reports intrarectal use of methamphetamines associated with transactional sex with primarily male partners. What is the most important piece of patient education to decrease risk of HIV infection?
 - A. Abstain from sexual encounters after using substances
 - B. Decrease engagement in penetrative sex
 - C. Routine testing for sexually transmitted infections
 - D. Encourage patient to use barrier protection during sex

7. A patient with opioid use disorder reports they are scheduled for an elective knee surgery next week and are concerned about post-operative pain management. The patient received an extended-release naltrexone injection 14 days prior. What is the most appropriate treatment plan?
 - A. The patient received their last naltrexone injection two weeks ago, so it will not impact pain management after the procedure.
 - B. The patient should receive their naltrexone injection today since the surgery may interfere with the patient's next injection.
 - C. The patient should postpone the elective procedure for four weeks following the last naltrexone injection to avoid complications with pain management.
 - D. The patient should reschedule the procedure for when they have completed treatment with naltrexone and should plan to manage pain with NSAIDs.

8. A staff member with a history of an eating disorder appears thin and pale and presents looking disheveled late to work with pressured speech. One of the common challenges associated with treating co-occurring eating and substance use disorders is:
- A. Secrecy is a primary feature of both disorders
 - B. Substance use treatment is prioritized
 - C. Eating disorder treatment is prioritized
 - D. The patient will have to be admitted to an inpatient facility
9. A patient is hospitalized due to injuries sustained during a motor vehicle collision. Three days following admission, the patient begins to present with symptoms of self-talk, accusing staff of knocking on his door and complaining of auditory hallucinations. Vital signs show elevated blood pressure and heart rate. What is the most likely diagnosis?
- A. Post-traumatic stress disorder
 - B. Schizoaffective disorder
 - C. Major depressive disorder with psychotic features
 - D. Delirium tremens
10. What class of medications is considered first-line treatment for delirium tremens?
- A. Antipsychotics
 - B. Benzodiazepines
 - C. Sympathomimetics
 - D. Antispasmodics
11. Acute methamphetamine intoxication produces symptoms of psychosis, including perceptual disturbances and paranoia. What is considered the first-line treatment for acute psychosis?
- A. Benzodiazepines
 - B. Antipsychotics
 - C. Barbiturates
 - D. Beta-blockers

12. A patient with gambling disorder reports smoking one pack of cigarettes daily and endorses medication adherence to antihypertensives, antidepressants, and biguanides with integration of exercise and diet changes. What is the priority assessment?
- A. Order labs for assessment of hyperlipidemia due to comorbidity with diabetes.
 - B. Screening for bladder cancer using cystoscopy due to risk associated with smoking.
 - C. Referral for pulmonary function tests due to risk for developing chronic obstructive pulmonary disease (COPD).
 - D. Assess for unhealthy alcohol use due to comorbidity with gambling disorder.
13. The mechanism of action of acamprosate (Campral) is:
- A. Reduces excitatory neurotransmitter glutamate and increases inhibitory neurotransmitter gamma-aminobutyric acid (GABA).
 - B. Increases excitatory neurotransmitter glutamate and reduces inhibitory neurotransmitter gamma-aminobutyric acid (GABA).
 - C. Reduces excitatory neurotransmitter dopamine and increases inhibitory neurotransmitter serotonin.
 - D. Increases excitatory neurotransmitter serotonin and reduces inhibitory neurotransmitter dopamine.
14. A patient with alcohol use disorder reports they have a day procedure scheduled a few days before their next naltrexone injection. What is the most important education the CARN-AP should provide to the patient?
- A. Abstinence from alcohol is required to receive the next injection.
 - B. Discontinue antidepressants prior to the planned procedure.
 - C. Evidence shows tobacco use results in delayed wound healing.
 - D. Pain management may complicate timing of the next injection.

15. A nurse gives report on a patient who is using 1-2 g IV fentanyl daily and is interested in medication for opioid use disorder. Naltrexone has not worked for him in the past, but he is interested in methadone. Given the CARN-AP's knowledge of medications for opioid use disorder, what is the most appropriate treatment plan?
- A. Methadone is an opioid antagonist, so the patient needs to stop using opioids before he can initiate treatment.
 - B. Naltrexone is an opioid antagonist, so the patient could start treatment while actively using opioids.
 - C. Naltrexone is an opioid agonist, so the patient needs to stop using opioids before he can initiate treatment.
 - D. Methadone is an opioid agonist, so the patient could start treatment while actively using opioids.
16. Which of the following should prompt a provider to assess for substance use disorder in an adolescent patient?
- A. Frequent falls and accidents
 - B. Parent with substance use disorder
 - C. Decreased athletic participation
 - D. Missed developmental milestones
17. Which are the most important symptoms for the CARN-AP to educate her nursing team about when assessing patients who recently stopped using methamphetamines?
- A. Paranoia and abdominal upset
 - B. Insomnia and decreased appetite
 - C. Hallucinations and tremors
 - D. Fatigue and depression
18. A patient with alcohol use disorder expresses concern about his family's limited understanding of the disease due to lack of support. What is the best response by the CARN-AP?
- A. "May I give you a copy of your treatment plan to give to them?"
 - B. "Would your family consider meeting with a therapist with you?"
 - C. "Are you willing to attend Al-Anon as a way to support them?"
 - D. "Is there anyone else in your family with alcohol use disorder?"

19. Which screening tool provides the most accurate assessment of tobacco use in adolescent patients?
- A. Fagerström Test for Nicotine Dependence (FTND)
 - B. Hooked on Nicotine Checklist (HONC)
 - C. Teen Nicotine Use Assessment Tool (TNUAT)
 - D. Nicotine Education and Diagnostic Screening (NEDS)
20. Chronic pain and biopsychosocial factors frequently result in a co-occurring mood disorder, which requires:
- A. Referring the patient for pain management treatment plan prior to initiating mood disorder treatment.
 - B. Educating the patient on the possibility of tolerance and dependence if they are receiving pain medication.
 - C. Referring the patient to initiate mood disorder treatment prior to initiating pain management treatment.
 - D. Educating the patient on the importance of treating pain and any co-occurring mood disorder simultaneously.
21. A female patient reports to her opioid treatment program provider that she is pregnant and expresses concern about breastfeeding while on methadone. What is the most appropriate response by the CARN-AP?
- A. Breastfeeding is contraindicated due to risk for further dependency from continued exposure to methadone.
 - B. Consider tapering off methadone and instead transitioning to naltrexone, as it does not pass through breastmilk.
 - C. Exposure to methadone is minimal through breastfeeding and is considered safe and healthy for infants.
 - D. Strongly recommend formula feeding to decrease any health risks associated with methadone exposure.
22. During an initial evaluation for a new 43-year-old patient with substance use disorder, the CARN-AP should implement all of the following validated assessment tools, **except**:
- A. CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble)
 - B. AUDIT-C (Alcohol Use Disorders Identification Test-Consumption)
 - C. BDI (Beck Depression Inventory)
 - D. ASSIST (Alcohol, Smoking and Substance Involvement Screening Test)

23. The CARN-AP is consulted regarding a patient with opioid use disorder who is in the PACU after shoulder surgery using a nerve block. The patient is on 75 mg of methadone daily and is receiving ibuprofen 800 mg every 8 hours and oxycodone 5 mg every 6 hours as needed for pain. As the nerve block wears off, the patient continues to report 10/10 pain after administration of short-acting opioids and states, “I feel like the nurses don’t believe me, but I am in a lot of pain.” What is the most appropriate pain management technique?
- A. The patient is unable to receive additional opioid medications due to history of opioid use disorder and should be instructed to deep breathe.
 - B. The patient should receive scheduled administration of short-acting opioids at an increased dose and more frequent intervals.
 - C. The patient’s methadone dose should be increased to 85 mg daily, which will provide an increased analgesic effect and improve pain control.
 - D. The patient’s drug-seeking behaviors should be addressed and reminded that this dose of pain medication is typically effective for pain control.
24. Evidence supports efficacy of all of the following interventions for smoking cessation, **except**:
- A. Nicotine patch
 - B. Clonidine
 - C. Bupropion
 - D. Varenicline
25. A 68-year-old male patient with a history of anxiety reports memory impairments and episodes of confusion. The CARN-AP identifies the importance of prioritizing which screening tool during his assessment?
- A. SBIRT (Screening, Brief Intervention, and Referral to Treatment)
 - B. SMAST-G (Short Michigan Alcohol Screening Test-Geriatric Version)
 - C. G-SADS (Geriatric Substance and Depression Screen)
 - D. ELMS (Elderly Lifestyle and Mood Screen)
26. Which of the following laboratory assessments should be prioritized in assessment of Wernicke-Korsakoff syndrome?
- A. Thiamine (B1)
 - B. Serum ammonia
 - C. Liver function test
 - D. Complete blood count with differential

27. Fluoxetine (Prozac) is FDA approved for treatment of bulimia nervosa. The rationale for prescribing this medication is:
- A. Decreases associated symptoms of obsessive-compulsive disorder.
 - B. Serotonergic effect acts to reduce appetite and promote weight stability.
 - C. Serotonin dysregulation can increase episodes of the binge-purge cycle.
 - D. Reduces presence of anxiety associated with comorbid panic disorder.
28. Which of the following has the highest mortality rate?
- A. Bipolar I disorder
 - B. Bulimia nervosa
 - C. Schizophrenia
 - D. Anorexia nervosa
29. Cannabis use in teenagers can increase risk for injury and engaging in risky sexual behaviors. Which of the following is an example of an effective primary prevention approach?
- A. Peer-led substance use resistance programs
 - B. Anonymous STI testing and treatment
 - C. Engagement in family therapy
 - D. Intensive outpatient programs
30. A patient reports he is having a hard time coordinating his medication taper off benzodiazepines due to transitioning between levels of care after a surgery. The CARN-AP identifies that the patient would benefit from comprehensive health services that evolve with the patient over time and ensure health care needs. Which of the following best fits this modality?
- A. Continuum of care
 - B. Evolution of outcomes
 - C. Long-range treatment
 - D. Risk-reduction care

CARN-AP Answer Sheet

1. B
2. D
3. A
4. C
5. D
6. B
7. C
8. A
9. D
10. B
11. A
12. D
13. A
14. D
15. D
16. B
17. D
18. B
19. B
20. D
21. C
22. A
23. B
24. B
25. A
26. A
27. C
28. D
29. A
30. A

CARN-AP Answers, Rationales, and References

1. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses and a recent admission for cellulitis. Chart review indicates that the patient was receiving methadone last year to manage withdrawal and cravings. The patient is unemployed and estranged from family due to substance use. What is the most accurate diagnosis?
 - A. Opioid use disorder, mild
 - B. Opioid use disorder, severe
 - C. Opioid use disorder, moderate
 - D. Does not meet criteria

Answer: B – Opioid use disorder, severe

Rationale:

- The patient meets DSM-5 criteria for opioid use disorder due to demonstrating a problematic pattern of opioid use that leads to significant impairment in at least two of eleven criteria for the last twelve-month period. Individuals who meet six or more of the eleven criteria are classified as having a severe opioid use disorder.

Source:

- American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. American Psychiatric Association; 2013.

2. A patient presents to the emergency room following an opioid overdose, having received 12 mg of intranasal naloxone in the community. They have a history of more than five overdoses and a recent admission for cellulitis. Chart review indicates that the patient was receiving methadone last year to manage withdrawal and cravings. The patient is unemployed and estranged from family due to substance use.

The patient's condition continues to improve. When he wakes up, he is sweating, nauseous, and agitated, stating, "I want to get out of here. You people aren't helping me." His heart rate is now at 90 bpm, and he begins to complain of abdominal pain and muscle cramping. What is the priority intervention by the CARN-AP?

- A. Place a referral to behavioral health for individual counseling.
- B. Educate the patient that you are unable to start medications for opioid use disorder until 48 hours since last use.
- C. Provide overdose prevention education and recommend the patient be admitted for observation due to risk for overdose.
- D. Initiate medication management of withdrawal symptoms and medication for opioid use disorder based on patient preference.

Answer: D – Initiate medication management of withdrawal symptoms and medication for opioid use disorder based on patient preference.

Rationale:

- Initiating medication for opioid use disorder and managing withdrawal symptoms with pharmacotherapy may encourage the patient to stay in the emergency room to further engage in treatment and enable better continuity of care following discharge.

Sources:

- Maurer WG, Walsh M, Viazis N. Basic requirements for monitoring sedated patients: blood pressure, pulse oximetry, and EKG. *Digestion*. 2010;82(2):87-89. doi:10.1159/000285505
- Substance Abuse and Mental Health Services Administration. Five essential steps for first responders. In: *SAMHSA Opioid Overdose Prevention Toolkit*. Substance Abuse and Mental Health Administration; 2013:5-8. HHS Publication No. SMA18-4742. Revised June 2018. Accessed September 25, 2022. <https://store.samhsa.gov/sites/default/files/d7/priv/sma18-4742.pdf>

3. Following an opioid overdose, the CARN-AP identifies that it is a priority to provide patients with education regarding:
- A. Harm reduction interventions to reduce overdose risk
 - B. Information about community support services
 - C. Access to sterile supplies to reduce skin infections
 - D. Adherence to medications for alcohol use disorder

Answer: A – Harm reduction interventions to reduce overdose risk

Rationale:

- Harm reduction education is critical in engaging individuals who are actively using opioids, as it provides concrete interventions to reduce overdose risk.
- Route of substance use is not specified so providing interventions regarding reducing skin infections may not be indicated.

Source:

- Harm reduction. Substance Abuse and Mental Health Services Administration. Updated August 16, 2022. Accessed September 18, 2022. <https://www.samhsa.gov/find-help/harm-reduction>

4. When providing medication education to a patient who will be initiated on a selective serotonin reuptake inhibitor (SSRI) for major depressive disorder, the CARN-AP should prioritize educating the patient about which of the following features of the medication:
- A. Increased risk for causing tremors and memory impairment
 - B. Indication to be taken as needed for situational stressors
 - C. Onset of therapeutic action may be four weeks
 - D. Requires adjunctive psychotherapy for optimal efficacy

Answer: C – Onset of therapeutic action may be four weeks

Rationale:

- Provide education surrounding delayed onset of action to ensure medication adherence and decrease risk of cessation of medication due to limited initial benefit.

Source:

- Stahl SM. Fluoxetine. In: *Prescriber's Guide: Stahl's Essential Psychopharmacology*. 6th ed. Cambridge University Press; 2017:277-282.

5. The American College of Obstetricians and Gynecologists supports methadone and buprenorphine as first-line treatment for opioid use disorder during pregnancy due to improved outcomes. Which of the following is not considered a benefit of treatment during pregnancy?
- A. Reducing risk of infectious disease transmission
 - B. Reducing risk of neonatal abstinence syndrome
 - C. Reducing risk of prenatal fetal distress due to withdrawal
 - D. Reducing risk of prenatal tobacco exposure

Answer: D – Reducing risk of prenatal tobacco exposure

Rationale:

- The American College of Obstetricians and Gynecologists (ACOG) supports methadone and buprenorphine as first-line treatment for opioid use disorder during pregnancy due to improved outcomes. Benefits of receiving medications for opioid use disorder during pregnancy include:
 - Linking pregnant persons to treatment for infectious diseases to reduce risk of transmission.
 - Reducing the severity and treatment length of neonatal abstinence syndrome.
 - Reducing risk of prenatal fetal distress due to opioid withdrawal.
 - Improving long-term health outcomes for the pregnant person and baby.

Source:

- National Institute on Drug Abuse. Treating opioid use disorder during pregnancy. National Institute on Drug Abuse. Published July 1, 2017. Accessed September 18, 2022. <https://nida.nih.gov/publications/treating-opioid-use-disorder-during-pregnancy>

6. A man reports intrarectal use of methamphetamines associated with transactional sex with primarily male partners. What is the most important piece of patient education to decrease risk of HIV infection?
- A. Abstain from sexual encounters after using substances
 - B. Decrease engagement in penetrative sex
 - C. Routine testing for sexually transmitted infections
 - D. Encourage patient to use barrier protection during sex

Answer: B – Decrease engagement in penetrative sex

Rationale:

- HIV risk is increased in men who have sex with men and in men who use methamphetamines associated with unprotected sex. Methamphetamine use has been shown to cause increased inflammatory cytokines, resulting in rectal mucosal inflammation and increased risk for HIV transmission. Additionally, intrarectal substance use can result in torn or damaged rectal tissue, increasing risk for HIV transmission.

Sources:

- Donnadieu-Rigole H, Peyrière H, Benyamina A, Karila L. Complications related to sexualized drug use: what can we learn from literature? *Front Neurosci.* 2020;14:548704. doi:10.3389/fnins.2020.548704
- Fulcher JA, Shoptaw S, Makgoeng SB, et al. Brief report: recent methamphetamine use is associated with increased rectal mucosal inflammatory cytokines, regardless of HIV-1 serostatus. *J Acquir Immune Defic Syndr.* 2018;78(1):119-123. doi:10.1097/QAI.0000000000001643
- Prillwitz J. How to booty bump better. San Francisco AIDS Foundation. July 19, 2018. Accessed September 25, 2022. <https://www.sfaf.org/collections/beta/how-to-booty-bump-better/>

7. A patient with opioid use disorder reports they are scheduled for an elective knee surgery next week and are concerned about post-operative pain management. The patient received an extended-release naltrexone injection 14 days prior. What is the most appropriate treatment plan?
- A. The patient received their last naltrexone injection two weeks ago, so it will not impact pain management after the procedure.
 - B. The patient should receive their naltrexone injection today since the surgery may interfere with the patient's next injection.
 - C. The patient should postpone the elective procedure for four weeks following the last naltrexone injection to avoid complications with pain management.
 - D. The patient should reschedule the procedure for when they have completed treatment with naltrexone and should plan to manage pain with NSAIDs.

Answer: C – The patient should postpone the elective procedure for four weeks following the last naltrexone injection to avoid complications with pain management.

Rationale:

- Naltrexone is an opioid antagonist that blocks the effects of opioids at the receptor. Individuals receiving the naltrexone injection should plan elective procedures for 4-6 weeks after their last injection to decrease complications associated with pain management.

Source:

- Vickers AP, Jolly A. Naltrexone and problems in pain management. *BMJ*. 2006;332(7534):132-133. doi:10.1136/bmj.332.7534.132

8. A staff member with a history of an eating disorder appears thin and pale and presents looking disheveled late to work with pressured speech. One of the common challenges associated with treating co-occurring eating and substance use disorders is:
- A. Secrecy is a primary feature of both disorders
 - B. Substance use treatment is prioritized
 - C. Eating disorder treatment is prioritized
 - D. The patient will have to be admitted to an inpatient facility

Answer: A – Secrecy is a primary feature of both disorders

Rationale:

- Secrecy is a primary feature of both eating and substance use disorders which creates treatment barriers.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

9. A patient is hospitalized due to injuries sustained during a motor vehicle collision. Three days following admission, the patient begins to present with symptoms of self-talk, accusing staff of knocking on his door and complaining of auditory hallucinations. Vital signs show elevated blood pressure and heart rate. What is the most likely diagnosis?
- A. Post-traumatic stress disorder
 - B. Schizoaffective disorder
 - C. Major depressive disorder with psychotic features
 - D. Delirium tremens

Answer: D – Delirium tremens

Rationale:

- Delirium tremens and seizures are symptoms of severe alcohol withdrawal. Delirium tremens can occur 3-5 days following last use of alcohol, producing nervous system changes such as increased blood pressure, altered mental status, and perceptual disturbances.
- Post-traumatic stress disorder, schizoaffective disorder, and major depressive disorder with psychotic features can produce auditory hallucinations, but these symptoms would be present consistently during admission. Additional information is required to differentiate between the three psychiatric diagnoses.

Source:

- Center for Substance Abuse Treatment. *Detoxification and Substance Abuse Treatment*. Substance Abuse and Mental Health Services Administration; 2006. HHS Publication No. SMA15-4131. *Treatment Improvement Protocol (TIP) Series*; No. 45. Revised October 2015. Accessed September 1, 2022.
<https://store.samhsa.gov/sites/default/files/d7/priv/sma15-4131.pdf>

10. What class of medications is considered first-line treatment for delirium tremens?

- A. Antipsychotics
- B. Benzodiazepines
- C. Sympathomimetics
- D. Antispasmodics

Answer: B – Benzodiazepines

Rationale:

- Benzodiazepines are considered first-line treatment for alcohol withdrawal and delirium tremens.

Source:

- Center for Substance Abuse Treatment. *Detoxification and Substance Abuse Treatment*. Substance Abuse and Mental Health Services Administration; 2006. HHS Publication No. SMA15-4131. *Treatment Improvement Protocol (TIP) Series*; No. 45. Revised October 2015. Accessed September 1, 2022.
<https://store.samhsa.gov/sites/default/files/d7/priv/sma15-4131.pdf>

11. Acute methamphetamine intoxication produces symptoms of psychosis, including perceptual disturbances and paranoia. What is considered the first-line treatment for acute psychosis?
- A. Benzodiazepines
 - B. Antipsychotics
 - C. Barbiturates
 - D. Beta-blockers

Answer: A – Benzodiazepines

Rationale:

- Benzodiazepines are considered the first-line treatment for management of psychosis due to acute stimulant intoxication.

Source:

- Center for Substance Abuse Treatment. *Treatment for Stimulant Use Disorders*. Substance Abuse and Mental Health Services Administration; 1999. SAMHSA Publication No. PEP21-02-01-004. *Treatment Improvement Protocol (TIP) Series*; No. 33. Updated October 2021. Accessed September 21, 2022. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP21-02-01-004.pdf

12. A patient with gambling disorder reports smoking one pack of cigarettes daily and endorses medication adherence to antihypertensives, antidepressants, and biguanides with integration of exercise and diet changes. What is the priority assessment?
- A. Order labs for assessment of hyperlipidemia due to comorbidity with diabetes.
 - B. Screening for bladder cancer using cystoscopy due to risk associated with smoking.
 - C. Referral for pulmonary function tests due to risk for developing chronic obstructive pulmonary disease (COPD).
 - D. Assess for unhealthy alcohol use due to comorbidity with gambling disorder.

Answer: D – Assess for unhealthy alcohol use due to comorbidity with gambling disorder.

Rationale:

- Evidence shows a comorbidity between gambling disorders and alcohol use disorder. Assessing the patient for unhealthy alcohol use is indicated due to history of gambling and tobacco use.

Source:

- Tackett JL, Krieger H, Neighbors C, Rinker D, Rodriguez L, Edward G. Comorbidity of alcohol and gambling problems in emerging adults: a bifactor model conceptualization. *J Gambl Stud.* 2017;33(1):131-147. doi:10.1007/s10899-016-9618-6

13. The mechanism of action of acamprosate (Campral) is:

- A. Reduces excitatory neurotransmitter glutamate and increases inhibitory neurotransmitter gamma-aminobutyric acid (GABA).
- B. Increases excitatory neurotransmitter glutamate and reduces inhibitory neurotransmitter gamma-aminobutyric acid (GABA).
- C. Reduces excitatory neurotransmitter dopamine and increases inhibitory neurotransmitter serotonin.
- D. Increases excitatory neurotransmitter serotonin and reduces inhibitory neurotransmitter dopamine.

Answer: A – Reduces excitatory neurotransmitter glutamate and increases inhibitory neurotransmitter gamma-aminobutyric acid (GABA).

Rationale:

- The mechanism of action of acamprosate (Campral) is to balance the inhibitory and excitatory neurotransmitters by increasing GABA, which is decreased during withdrawal following chronic alcohol use, and reducing glutamate.

Source:

- Stahl SM. Acamprosate. In: *Prescriber's Guide: Stahl's Essential Psychopharmacology*. 6th ed. Cambridge University Press; 2017:1-4.

14. A patient with alcohol use disorder reports they have a day procedure scheduled a few days before their next naltrexone injection. What is the most important education the CARN-AP should provide to the patient?
- A. Abstinence from alcohol is required to receive the next injection.
 - B. Discontinue antidepressants prior to the planned procedure.
 - C. Evidence shows tobacco use results in delayed wound healing.
 - D. Pain management may complicate timing of the next injection.

Answer: D – Pain management may complicate timing of the next injection.

Rationale:

- Individuals must be abstinent from opioids for 7-14 days prior to receiving naltrexone due to risk for precipitated withdrawal. Opioids administered during a procedure or post-operatively would result in delaying the next injection to avoid precipitating withdrawal.

Source:

- Wightman RS, Nelson LS, Lee JD, Fox LM, Smith SW. Severe opioid withdrawal precipitated by Vivitrol®. *Am J Emerg Med.* 2018;36(6):1128.e1-1128.e2. doi:10.1016/j.ajem.2018.03.052

15. A nurse gives report on a patient who is using 1-2 g IV fentanyl daily and is interested in medication for opioid use disorder. Naltrexone has not worked for him in the past, but he is interested in methadone. Given the CARN-AP's knowledge of medications for opioid use disorder, what is the most appropriate treatment plan?
- A. Methadone is an opioid antagonist, so the patient needs to stop using opioids before he can initiate treatment.
 - B. Naltrexone is an opioid antagonist, so the patient could start treatment while actively using opioids.
 - C. Naltrexone is an opioid agonist, so the patient needs to stop using opioids before he can initiate treatment.
 - D. Methadone is an opioid agonist, so the patient could start treatment while actively using opioids.

Answer: D – Methadone is an opioid agonist, so the patient could start treatment while actively using opioids.

Rationale:

- Methadone is an opioid agonist treatment, so it can be initiated in patients who are actively using illicit opioids. Federal regulations require methadone maintenance be dispensed out of an opioid treatment program.

Source:

- Medications for opioid use disorder improve patient outcomes. Pew Charitable Trusts. December 17, 2020. Accessed September 18, 2022.
<https://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2020/12/medications-for-opioid-use-disorder-improve-patient-outcomes>

16. Which of the following should prompt a provider to assess for substance use disorder in an adolescent patient?

- A. Frequent falls and accidents
- B. Parent with substance use disorder
- C. Decreased athletic participation
- D. Missed developmental milestones

Answer: B – Parent with substance use disorder

Rationale:

- Childhood neglect or abuse, family history of substance use disorder, and household dysfunction are considered adverse childhood experiences (ACEs) that increase the risk for developing a substance use disorder.

Source:

- Lander L, Howsare J, Byrne M. The impact of substance use disorders on families and children: from theory to practice. *Soc Work Public Health*. 2013;28(3-4):194-205. doi:10.1080/19371918.2013.759005

17. Which are the most important symptoms for the CARN-AP to educate her nursing team about when assessing patients who recently stopped using methamphetamines?
- A. Paranoia and abdominal upset
 - B. Insomnia and decreased appetite
 - C. Hallucinations and tremors
 - D. Fatigue and depression

Answer: D – Fatigue and depression

Rationale:

- Fatigue, weight gain/increased appetite, depression, and suicidal ideation are common symptoms of methamphetamine withdrawal. Screening for depression and suicidal ideation is a priority to ensure patient safety.

Source:

- Center for Substance Abuse Treatment. *Treatment for Stimulant Use Disorders*. Substance Abuse and Mental Health Services Administration; 1999. SAMHSA Publication No. PEP21-02-01-004. *Treatment Improvement Protocol (TIP) Series*; No. 33. Updated October 2021. Accessed September 21, 2022. https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP21-02-01-004.pdf

18. A patient with alcohol use disorder expresses concern about his family's limited understanding of the disease due to lack of support. What is the best response by the CARN-AP?
- A. "May I give you a copy of your treatment plan to give to them?"
 - B. "Would your family consider meeting with a therapist with you?"
 - C. "Are you willing to attend Al-Anon as a way to support them?"
 - D. "Is there anyone else in your family with alcohol use disorder?"

Answer: B – "Would your family consider meeting with a therapist with you?"

Rationale:

- Involvement from family members can have a positive impact on treatment outcomes. Meeting with a therapist as a family may assist the patient in expressing his concerns to his family in a supportive environment. Educating family members about substance use disorder can help them better understand behavioral or relationship challenges associated with the disease and allow them to communicate concerns or struggles related to their experience as family members.

Source:

- Lander L, Howsare J, Byrne M. The impact of substance use disorders on families and children: from theory to practice. *Soc Work Public Health*. 2013;28(3-4):194-205. doi:10.1080/19371918.2013.759005

19. Which screening tool provides the most accurate assessment of tobacco use in adolescent patients?

- A. Fagerström Test for Nicotine Dependence (FTND)
- B. Hooked on Nicotine Checklist (HONC)
- C. Teen Nicotine Use Assessment Tool (TNUAT)
- D. Nicotine Education and Diagnostic Screening (NEDS)

Answer: B – Hooked on Nicotine Checklist (HONC)

Rationale:

- The Hooked on Nicotine Checklist (HONC) is a more sensitive measure for improved detection of low-level smoking and thus improves ability to assess for risk of tobacco dependency.

Source:

- Carpenter MJ, Baker NL, Gray KM, Upadhyaya HP. Assessment of nicotine dependence among adolescent and young adult smokers: a comparison of measures. *Addict Behav.* 2010;35(11):977-982. doi:10.1016/j.addbeh.2010.06.013

20. Chronic pain and biopsychosocial factors frequently result in a co-occurring mood disorder, which requires:

- A. Referring the patient for pain management treatment plan prior to initiating mood disorder treatment.
- B. Educating the patient on the possibility of tolerance and dependence if they are receiving pain medication.
- C. Referring the patient to initiate mood disorder treatment prior to initiating pain management treatment.
- D. Educating the patient on the importance of treating pain and any co-occurring mood disorder simultaneously.

Answer: D – Educating the patient on the importance of treating pain and any co-occurring mood disorder simultaneously.

Rationale:

- Treating pain and co-occurring mood disorders concurrently leads to better treatment outcomes than treating them separately.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

21. A female patient reports to her opioid treatment program provider that she is pregnant and expresses concern about breastfeeding while on methadone. What is the most appropriate response by the CARN-AP?

- A. Breastfeeding is contraindicated due to risk for further dependency from continued exposure to methadone.
- B. Consider tapering off methadone and instead transitioning to naltrexone, as it does not pass through breastmilk.
- C. Exposure to methadone is minimal through breastfeeding and is considered safe and healthy for infants.
- D. Strongly recommend formula feeding to decrease any health risks associated with methadone exposure.

Answer: C – Exposure to methadone is minimal through breastfeeding and is considered safe and healthy for infants.

Rationale:

- Breastfeeding while on methadone is encouraged due to the positive health benefits associated with bonding and nutrition. Minimal amounts of methadone pass through breastmilk and are not associated with infant dependency.

Source:

- American College of Obstetricians and Gynecologists. Committee opinion No. 711: opioid use and opioid use disorder in pregnancy. *Obstet Gynecol.* 2017;130(2):e81-e94. doi:10.1097/AOG.0000000000002235

22. During an initial evaluation for a new 43-year-old patient with substance use disorder, the CARN-AP should implement all of the following validated assessment tools, **except**:
- A. CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble)
 - B. AUDIT-C (Alcohol Use Disorders Identification Test-Consumption)
 - C. BDI (Beck Depression Inventory)
 - D. ASSIST (Alcohol, Smoking and Substance Involvement Screening Test)

Answer: A – CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble)

Rationale:

- The CRAFFT screening tool is used for patients who are 12-21 years old and would not be indicated for a 43-year-old patient.

Source:

- Sheno RP, Linakis JG, Bromberg JR, et al. Predictive validity of the CRAFFT for substance use disorder. *Pediatrics*. 2019;144(2):e20183415. doi:10.1542/peds.2018-3415

23. The CARN-AP is consulted regarding a patient with opioid use disorder who is in the PACU after shoulder surgery using a nerve block. The patient is on 75 mg of methadone daily and is receiving ibuprofen 800 mg every 8 hours and oxycodone 5 mg every 6 hours as needed for pain. As the nerve block wears off, the patient continues to report 10/10 pain after administration of short-acting opioids and states, “I feel like the nurses don’t believe me, but I am in a lot of pain.” What is the most appropriate pain management technique?
- A. The patient is unable to receive additional opioid medications due to history of opioid use disorder and should be instructed to deep breathe.
 - B. The patient should receive scheduled administration of short-acting opioids at an increased dose and more frequent intervals.
 - C. The patient’s methadone dose should be increased to 85 mg daily, which will provide an increased analgesic effect and improve pain control.
 - D. The patient’s drug-seeking behaviors should be addressed and reminded that this dose of pain medication is typically effective for pain control.

Answer: B – The patient should receive scheduled administration of short-acting opioids at an increased dose and more frequent intervals.

Rationale:

- Individuals with opioid dependency have an increased tolerance to opioid medications and are at risk of developing opioid-induced hyperalgesia, a heightened pain perception. Increasing the dose and frequency of short-acting oral opioids may improve pain management. Scheduled dosing instead of as-needed administration of short-acting opioid medications may provide improved pain management and decrease the patient’s anxiety that their pain will not be managed.

Source:

- Lee M, Silverman S, Hansen H, Patel V, Manchikanti L. A comprehensive review of opioid-induced hyperalgesia. *Pain Physician*. 2011;14(2):145-161.

24. Evidence supports efficacy of all of the following interventions for smoking cessation, **except**:

- A. Nicotine patch
- B. Clonidine
- C. Bupropion
- D. Varenicline

Answer: B – Clonidine

Rationale:

- Nicotine replacement therapy, bupropion, and varenicline are first-line pharmacotherapies for smoking cessation, with evidence of reducing cravings and withdrawal symptoms to improve smoking cessation outcomes.

Source:

- Watts SA, Noble SL, Smith PO, Disco M. First-line pharmacotherapy for tobacco use and dependence. *J Am Board Fam Pract.* 2002;15(6):489-497.

25. A 68-year-old male patient with a history of anxiety reports memory impairments and episodes of confusion. The CARN-AP identifies the importance of prioritizing which screening tool during his assessment?
- A. SBIRT (Screening, Brief Intervention, and Referral to Treatment)
 - B. SMAST-G (Short Michigan Alcohol Screening Test-Geriatric Version)
 - C. G-SADS (Geriatric Substance and Depression Screen)
 - D. ELMS (Elderly Lifestyle and Mood Screen)

Answer: A – SBIRT (Screening, Brief Intervention, and Referral to Treatment)

Rationale:

- The recommendation is to offer the SBIRT annually to patients who are over 18 years old to assess for severity of substance use and implement appropriate interventions or referrals to treatment. Benzodiazepines can result in impaired memory, with increased effects in the elderly population, so screening this patient with a history of anxiety would be indicated.

Source:

- Herron AJ, Brennan T, eds.; American Society of Addiction Medicine. *The ASAM Essentials of Addiction Medicine*. 3rd ed. Wolters Kluwer Health/Lippincott Williams & Wilkins; 2020. Accessed September 16, 2022.
[http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG\(0\)&EPUB=Y](http://ovidsp.ovid.com/ovidweb.cgi?T=JS&NEWS=n&CSC=Y&PAGE=booktext&D=books&AN=02118578&XPATH=/PG(0)&EPUB=Y)

26. Which of the following laboratory assessments should be prioritized in assessment of Wernicke-Korsakoff syndrome?

- A. Thiamine (B1)
- B. Serum ammonia
- C. Liver function test
- D. Complete blood count with differential

Answer: A – Thiamine (B1)

Rationale:

- Wernicke-Korsakoff syndrome is a degenerative brain disorder caused by thiamine (vitamin B1) deficiency, typically as a result of chronic alcohol use.

Source:

- Wernicke-Korsakoff syndrome. National Institute of Neurological Disorders and Stroke. Accessed September 24, 2022. <https://www.ninds.nih.gov/health-information/disorders/wernicke-korsakoff-syndrome>

27. Fluoxetine (Prozac) is FDA approved for treatment of bulimia nervosa. The rationale for prescribing this medication is:

- A. Decreases associated symptoms of obsessive-compulsive disorder.
- B. Serotonergic effect acts to reduce appetite and promote weight stability.
- C. Serotonin dysregulation can increase episodes of the binge-purge cycle.
- D. Reduces presence of anxiety associated with comorbid panic disorder.

Answer: C – Serotonin dysregulation can increase episodes of the binge-purge cycle.

Rationale:

- In addition to increased comorbidity of bulimia and depression, serotonin dysregulation increases the urge to engage in the binge-purge cycle. Fluoxetine regulates serotonin, reducing binge-purge behaviors.

Source:

- Bello NT, Yeomans BL. Safety of pharmacotherapy options for bulimia nervosa and binge eating disorder. *Expert Opin Drug Saf.* 2018;17(1):17-23.
doi:10.1080/14740338.2018.1395854

28. Which of the following has the highest mortality rate?

- A. Bipolar I disorder
- B. Bulimia nervosa
- C. Schizophrenia
- D. Anorexia nervosa

Answer: D – Anorexia nervosa

Rationale:

- Anorexia has the highest rate of mortality at 10% due to starvation, electrolyte imbalance, and suicide.

Source:

- Substance Abuse and Mental Health Services Administration. *Clients With Substance Use and Eating Disorders*. Substance Abuse and Mental Health Services Administration; 2011. HHS Publication No. SMA10-4617. Accessed September 27, 2022. <https://store.samhsa.gov/sites/default/files/d7/priv/sma10-4617.pdf>

29. Cannabis use in teenagers can increase risk for injury and engaging in risky sexual behaviors. Which of the following is an example of an effective primary prevention approach?
- A. Peer-led substance use resistance programs
 - B. Anonymous STI testing and treatment
 - C. Engagement in family therapy
 - D. Intensive outpatient programs

Answer: A – Peer-led substance use resistance programs

Rationale:

- Primary prevention aims to prevent the disease before it occurs. Peer-led substance use resistance programs are an example of a primary prevention approach.

Source:

- Substance use and sexual risk behaviors among youth. Centers for Disease Control and Prevention. Accessed September 24, 2022. <https://www.cdc.gov/healthyyouth/substance-use/dash-substance-use-fact-sheet.htm>

30. A patient reports he is having a hard time coordinating his medication taper off benzodiazepines due to transitioning between levels of care after a surgery. The CARN-AP identifies that the patient would benefit from comprehensive health services that evolve with the patient over time and ensure health care needs. Which of the following best fits this modality?
- A. Continuum of care
 - B. Evolution of outcomes
 - C. Long-range treatment
 - D. Risk-reduction care

Answer: A – Continuum of care

Rationale:

- A continuum of care system provides a comprehensive range of health services so that care can evolve with the patient over time. With the understanding that a patient's health may be most vulnerable during gaps in care, the continuum of care exists to ensure those gaps are filled.

Source:

- Perlman DC, Jordan AR. Considerations for the development of a substance-related care and prevention continuum model. *Front Public Health*. 2017;5:180. doi:10.3389/fpubh.2017.00180

Appendix: Additional Resources

- [ANCB](#): access information about the CARN and CARN-AP examinations.
- [CNET](#): access updated blueprints and examination information.
- [Boston Medical Center Grayken Center for Addiction Training and Technical Assistance](#): free [trainings](#) with continuing education credits, [resources](#), and [support](#) for health care professionals caring for patients with substance use disorders.

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