

Fundamentals of Addiction Science

Addiction Science · Answer Key · 10 Questions

1. Which primary neurotransmitter is most strongly associated with the brain's reward system and the reinforcement of addictive behaviors?

- A) Acetylcholine
- B) Dopamine**
- C) Serotonin
- D) GABA

2. What is the term used to describe the condition where a person needs increasingly larger doses of a substance to achieve the same effect?

- A) Tolerance**
- B) Withdrawal
- C) Relapse
- D) Dependence

3. Which part of the brain is primarily responsible for executive functions like decision-making, impulse control, and planning, which are often impaired by chronic substance use?

- A) Cerebellum
- B) Brain stem
- C) Prefrontal cortex**
- D) Occipital lobe

4. What is the term for the set of negative physical and mental symptoms that occur when a person stops using a substance they have become dependent on?

- A) Tolerance
- B) Withdrawal**
- C) Homeostasis
- D) Tolerance

5. In addiction science, what does the term 'psychoactive' mean?

- A) A substance that changes brain function and alters perception or mood**
- B) A substance that is only found in illegal drugs
- C) A medicine used to treat physical pain only
- D) A substance that has no effect on the nervous system

6. Which of these is a common physiological effect of stimulant drugs?

- A) Lowered heart rate
- B) Increased alertness and energy**
- C) Decreased blood pressure
- D) Enhanced sleep patterns

7. What is the primary function of the blood-brain barrier in the context of addiction?

- A) To produce dopamine
- B) To protect the brain from harmful substances in the blood**
- C) To store memories of drug experiences
- D) To regulate body temperature

8. Which of the following is considered a 'depressant' substance?

- A) Caffeine
- B) Nicotine
- C) Alcohol**
- D) Amphetamines

9. Chronic substance use disorder is best classified by medical professionals as a:

- A) Lack of willpower
- B) Chronic, relapsing brain disease**
- C) Behavioral choice
- D) Temporary moral failing

10. How do opioids interact with the brain's pain-signaling pathways?

- A) They increase the number of pain receptors
- B) They bind to opioid receptors to block pain signals**
- C) They destroy nerve endings
- D) They increase the production of endorphins