

Continuing Education Questions

SPRING 2005

To receive three contact hours of basic level P.A.C.E.[®] credit for the **Focus: Psychostimulants** questions, insert your answers in the appropriate spots on the immediately following page; then complete and mail the form as directed.

NOTE: There may be more answer spaces on the answer sheet than needed. If so, leave them blank. Make sure the number of the answer space being filled matches the number of the questions being answered.

LEARNING OBJECTIVES

After reading the three **Focus: Psychostimulants** articles in this issue, the reader will be able to:

1. Describe the physiologic actions for amphetamine.
2. Describe the behavioral effects of some common psychostimulants.
3. Identify several therapeutic uses for psychostimulants.
4. Describe the mechanisms of action of amphetamine.
5. List symptoms associated with high doses of amphetamine.
6. List the common psychostimulants of forensic interest.
7. List the illicit psychostimulants that show an increasing trend of abuse in the United States.
8. Describe the composition of crack.
9. List the common routes of administration of cocaine.
10. Identify the major metabolites of cocaine, MDMA, and methamphetamine.
11. Describe symptoms related to toxic doses of cocaine, MDMA, and methamphetamine.
12. List the drugs that are commonly referred to as 'designer' or 'rave' drugs.
13. Describe the adverse effects of MDMA and related drugs caused by chronic intoxication.
14. Describe specimen collection for on site screening for MDMA.
15. List suitable analytical methods for analysis of MDMA and related amines in tablets, saliva, sweat, plasma, urine, hair, and vitreous humor.

CONTINUING EDUCATION QUESTIONS

1. Which of the following physiologic actions is **NOT** attributed to amphetamine?
 - a. Euphoria
 - b. Appetite suppression

- c. Hypotension
- d. Tachycardia

2. Which of the following behavioral effects is **NOT** associated with common psychostimulants?
 - a. Locomotor suppression
 - b. Sexual stimulation
 - c. Increased sociality
 - d. Increased mental attention
3. Amphetamine is used in the treatment of all of the following disorders **EXCEPT**:
 - a. obesity.
 - b. narcolepsy.
 - c. attention-deficit hyperactivity disorder.
 - d. nasal congestion.
4. The mechanisms of action of amphetamine include all of the following **EXCEPT**:
 - a. inhibition of monoamine neurotransmitter uptake.
 - b. binding to intracellular catecholamine receptors.
 - c. inhibition of monoamine oxidase.
 - d. release of catecholamines from neurons.
5. An individual exhibiting symptoms of tremors, vomiting, and tonic-clonic convulsions is possibly experiencing:
 - a. withdrawal from amphetamine.
 - b. high dose amphetamine.
 - c. chronic tolerance to amphetamine.
 - d. gastrointestinal complication associated with amphetamine.
6. All of the following drugs are likely to be included in a drug screen protocol in a forensic laboratory **EXCEPT**:
 - a. cocaine.
 - b. methamphetamine.
 - c. ethylenedioxyamphetamine.
 - d. methylenedioxymethamphetamine.
7. The most frequently mentioned illicit drug reported in emergency room visits over the last several years is:
 - a. cocaine.
 - b. methamphetamine.
 - c. methylenedioxyamphetamine.
 - d. amphetamine.

FOCUS: PSYCHOSTIMULANTS

8. Crack is composed of:
 - a. cocaine hydrochloride.
 - b. methamphetamine free base.
 - c. methamphetamine hydrochloride.
 - d. cocaine free base.
9. The routes of self administration of cocaine include all of the following **EXCEPT**:
 - a. smoked.
 - b. oral.
 - c. intranasal.
 - d. intravenous.
10. Analysis of a blood sample following cocaine administration will include all of the following metabolites **EXCEPT**:
 - a. benzoyl methyl ester.
 - b. ecgonine methyl ester.
 - c. benzoylecgonine.
 - d. ecgonine.
11. At toxic levels, both cocaine and MDMA cause:
 - a. fatigue.
 - b. nausea.
 - c. hyperthermia.
 - d. hypothermia.
12. The group of hallucinogenic psychostimulants that are often found at 'raves' includes all of following drugs **EXCEPT**:
 - a. MDMA.
 - b. MDEA.
 - c. MDA.
 - d. MDME.
13. The adverse effects associated with chronic use of 'rave' drugs include all of the following **EXCEPT**:
 - a. renal failure.
 - b. pancreatitis.
 - c. malignant hyperthermia.
 - d. rhabdomyolysis.
14. Several techniques have been developed for onsite screening of 'rave' drugs. The onsite screens require collection of:
 - a. urine.
 - b. hair.
 - c. blood.
 - d. saliva.
15. The analytical technique most commonly used for determination of MDMA levels in hair is:
 - a. GC/MS.
 - b. HPLC.
 - c. LC/MS.
 - d. TLC.
16. The chemical structures of most common psychostimulants share the features of:
 - a. phenyl ring, alkyl side chain, amine.
 - b. phenol ring, unconjugated side chain, amine.
 - c. phenyl ring, alkyl side chain, carboxylic acid.
 - d. phenol ring, alkyl side chain, ketone.
17. An individual is taken to the emergency room where a blood sample is collected and tested for possible cocaine abuse. The toxicology screen shows the presence of benzoylecgonine and cocaethylene. The conclusion is the:
 - a. sample is a false positive.
 - b. chronic use of cocaine.
 - c. use of cocaine and ethanol.
 - d. use of cocaine and amphetamine.
18. In recent years, the percentage of emergency room visits associated with abuse of multiple drugs is approximately:
 - a. one third.
 - b. two thirds.
 - c. three quarters.
 - d. one half.
19. The best estimate of a blood concentration of a psychostimulant at the time of death is provided by analysis of a postmortem sample of:
 - a. hair.
 - b. central blood.
 - c. peripheral blood.
 - d. urine.
20. An individual is taken into custody at a rave. After 36 hours, a drug screen is ordered. Which specimen would give the best indication of abuse of MDMA at the rave?
 - a. Plasma
 - b. Saliva
 - c. Sweat
 - d. Urine

Continuing Education Registration Form

To earn continuing education (P.A.C.E.®) credit, (1) complete the form below, (2) record your answers, and (3) tear out and mail this form with a check or money order (\$18 for ASCLS members, \$28 for non-members for all articles) to:

American Society for Clinical Laboratory Science
P.O. Box 79154, Baltimore MD 21279-0154

A certificate and credit will be awarded to participants who achieve a passing grade of 70% or better. Participants should allow eight weeks for notification of scores and receipt of certificates.

Focus: Psychostimulants carries 3.0 hours of basic level P.A.C.E.® credit. This form can be submitted for credit for up to one year from the date of issue.

Print or type carefully.

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Check all that apply

- I am an ASCLS member
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- I would like to receive ASCLS membership information
- I have previously participated in Focus
- I would like information on other continuing education sources

2. Specialty: (a) biochemistry/urinalysis (b) microbiology
(c) lab administration (d) hematology/hemostasis (e) education
(f) immunology (g) immunohematology

3. Workplace: (a) hospital over 500 beds (b) hospital 200–499
beds (c) hospital 100–199 beds (d) hospital under 100 beds
(e) private lab (f) community blood bank (g) group practice
(h) private physician (i) clinic (j) other

Answers

Circle correct answer (questions are on previous two pages).

- | | | | |
|--------------|---------------|---------------|---------------|
| 1. a b c d e | 8. a b c d e | 15. a b c d e | 22. a b c d e |
| 2. a b c d e | 9. a b c d e | 16. a b c d e | 23. a b c d e |
| 3. a b c d e | 10. a b c d e | 17. a b c d e | 24. a b c d e |
| 4. a b c d e | 11. a b c d e | 18. a b c d e | 25. a b c d e |
| 5. a b c d e | 12. a b c d e | 19. a b c d e | 26. a b c d e |
| 6. a b c d e | 13. a b c d e | 20. a b c d e | 27. a b c d e |
| 7. a b c d e | 14. a b c d e | 21. a b c d e | 28. a b c d e |

4. Salary range: (a) under \$10,000 (b) \$10,000 to \$20,000
(c) \$20,000 to \$30,000 (d) \$30,000 to \$40,000
(e) over \$40,000

5. Did these articles achieve their stated objectives?
(a) yes (b) no

6. How much of these articles can you apply in practice?
(a) all (b) some (c) very little (d) none

Participant Information

Please circle the most appropriate answers.

1. Is this program used to meet your CE requirements for:
(a) state license (b) NCA (c) employment (d) other

7. Employment status: (a) full time (b) part time (c) student
(d) not employed (e) retired

8. How long did it take you to complete both the reading
and the quiz? _____ minutes

9. What subjects would you like to see addressed in future
Focus articles?

SCIENCE GONE WILD



ASCLS 73rd Annual Meeting, July 26-30, 2005
AACC/ASCLS Clinical Lab Expo, July 26-28, 2005
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