

CME POSTTEST

Long-Term Safety of Methylphenidate in the Treatment of ADHD:
Dispelling the Myths and Misconceptions About Stimulant Therapy Abuse

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Participants may receive up to 3 Category 1 credits toward the American Medical Association Physician's Recognition Award by reading the material in this Supplement and correctly answering at least 70% of the questions in the Posttest that follows.

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Or

1. Read each question carefully and circle the answer on the Registration Form.
2. Type or print the registration information in the spaces provided and complete the evaluation.
3. Send the Registration Form to the address or fax number listed on the Registration Form.

All replies and results are confidential. Answer sheets, once graded, will not be returned. Unanswered questions will be considered incorrect and so scored. The Physicians Postgraduate Press, Inc. Office of Continuing Medical Education will keep only a record of participation, which indicates the completion of the activity and the designated number of Category 1 credits that have been awarded. Correct answers to the Posttest will be made available to the participants of this activity upon request after the submission deadline.

Accreditation Statement

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- 1. Biederman reported that subjects with attention-deficit/hyperactivity disorder (ADHD):**
 - a. Have lower rates of substance use disorders than non-ADHD probands
 - b. Start abusing substances later than non-ADHD probands
 - c. Have such heterogeneous presentation that the disorder may well prove to be a group of disorders rather than a single entity
 - d. Who had childhood onset of the disorder and persistence into adulthood have an equal risk for substance use disorders compared with controls
- 2. Biederman and his colleagues conducted a study that found evidence supporting the popular belief that stimulant therapy for ADHD leads these patients to seek out and use illicit stimulants such as cocaine.**
 - a. True
 - b. False
- 3. According to data presented by Biederman, _____ of subjects with ADHD but without any psychiatric comorbidity acknowledged substance abuse, while _____ of those with ADHD and a comorbid psychiatric disorder reported substance use.**
 - a. Virtually none; 20%
 - b. 20%; 20%
 - c. 50%; virtually none
 - d. 75%; 35%
- 4. According to data presented by Biederman, when the subjects with ADHD who were ≥ 15 years old were compared for the rate of substance use disorders at follow-up, it was found that those who had *not* taken medication had a rate of _____ while those who had taken medication had a rate of _____, compared with _____ for controls.**
 - a. 90%; 95%; 10%
 - b. 75%; 25%; 20%
 - c. 10%; 70%; 30%
 - d. 55%; 40%; 65%
- 5. Faraone and Wilens reported that, among the more than 200 randomized clinical trials that have documented the efficacy of stimulants in subjects with ADHD, only 3 published cases of adolescent stimulant abuse have appeared.**
 - a. True
 - b. False
- 6. In a meta-analysis of studies measuring the extent to which childhood exposure to stimulant treatment is associated with later substance use disorders, Faraone and Wilens found that medicated subjects were _____ as likely as unmedicated subjects to *not* develop substance use disorders.**
 - a. Half
 - b. Twice
 - c. Ten times
 - d. There was no difference between subjects

7. According to Faraone and Wilens, the difference between the odds of developing alcohol versus drug abuse disorders was significant among patients treated with stimulants.
- True
 - False
8. According to Faraone and Wilens, stimulant treatment for ADHD cannot completely prevent development of substance use disorders, ____.
- And it, in fact, seems to cause them
 - But it does provide a clear benefit in adults, although less so in adolescents
 - But it does provide a clear benefit in adolescents, although less so in adults
 - And it seems to have no effect for many people, whether protective or deleterious
9. Kollins noted that studies providing support for the abuse potential of methylphenidate have been conducted in healthy adults, stimulant abusers, and psychiatric inpatients, instead of patients with ADHD who are those most likely to receive the drug for clinical purposes.
- True
 - False
10. Kollins reported that analysis from a positron emission tomography study showed that ____, which may explain why intravenous methylphenidate is much less abused than intravenous cocaine.
- Methylphenidate has a faster initial uptake speed
 - Methylphenidate has a slower initial uptake speed
 - Cocaine has a faster clearance from the brain
 - Cocaine has a slower clearance from the brain
11. Kollins noted that, as with other drugs, ____ methylphenidate has the least potential for abuse.
- Intravenous
 - Inhaled
 - Oral
 - All methods of administration have equal potential for abuse
12. According to Kollins, methylphenidate:
- At therapeutic oral doses, occupies about 20% of available dopamine transporters in regions of the brain relevant for abuse
 - Has abuse potential due to its dopamine transporter occupancy, because that alone is what produces the "high"
 - Is associated with frequent anecdotal reports of a "high" by patients with ADHD
 - May actually have less potential for abuse in patients with ADHD than in individuals without ADHD, due to higher densities of dopamine transporters in their brains
13. Fischer and Barkley presented data about a longitudinal study. Which of the following statements about the study is *not* true?
- A limitation of the study is that no control group was used
 - The study followed subjects for 13 years, beginning in 1979 or 1980 with children 4 to 12 years of age
 - The study was conducted to fill a gap created by the fact that few studies have addressed the relationship between stimulant therapy and substance abuse, and the results have been conflicting
 - Most subjects were white and male
14. In the study described by Fischer and Barkley, adolescent self-reports of ever having tried 10 illicit substances showed:
- Significant difference in drug use between those who had been treated with stimulants and those who had not
 - 6% of treated subjects had tried illicit substances versus 10% of untreated subjects, a difference that was not significant
 - An increased risk for substance use by adolescence among subjects who had been treated with stimulants for more than 1 year versus those treated for less than 1 year
 - Adolescents did not report ever having used illicit substances
15. According to data presented by Fischer and Barkley, adult self-reports of ever having tried 10 illicit substances showed:
- A statistically significant correlation between the duration of stimulant treatment and 10 frequency measures of drug use
 - A significant difference between drug use frequency when treated and untreated subjects were compared
 - About 20% more subjects who were not treated with stimulants had tried cocaine than those who were treated
 - Lifetime conduct disorder symptoms were significantly associated with cocaine use
16. Fischer and Barkley stated that their longitudinal study compared frequency of substance use between subjects who had received stimulant treatment through the high school years and those who had not. Results showed:
- A significant difference when the frequency of use of each of 10 illicit substances was correlated with the duration of stimulant therapy in high school
 - No significant difference between cocaine use among subjects treated with stimulants in high school compared with untreated subjects
 - Cocaine use was predicted by conduct disorder symptoms
 - Stimulant therapy through high school was significantly associated with hallucinogen abuse disorder by adulthood

CME REGISTRATION FORM

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Circle the one correct answer for each question.

1. a b c d
2. a b
3. a b c d
4. a b c d
5. a b
6. a b c d
7. a b
8. a b c d
9. a b
10. a b c d
11. a b c d
12. a b c d
13. a b c d
14. a b c d
15. a b c d
16. a b c d

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Deadline for submission

For a credit certificate to be issued, please complete this Registration Form no later than August 31, 2005. Online submissions will receive credit certificates immediately. Faxed or mailed submissions will receive credit certificates within 6 to 8 weeks.

Payment

No payment is necessary as this activity is free.

Please evaluate the effectiveness of this CME activity by answering the following questions.

1. Was the educational content relevant to the stated educational objectives? Yes No
2. Did this activity provide information that is useful in your clinical practice? Yes No
3. Was the format of this activity appropriate for the content being presented? Yes No
4. Did the method of presentation hold your interest and make the material easy to understand? Yes No
5. Achievement of educational objectives:
 - A. Enabled me to summarize the findings of a longitudinal study of ADHD. Yes No
 - B. Enabled me to discuss the association between stimulant therapy and substance use disorders. Yes No
 - C. Enabled me to compare the abuse potential of available stimulants. Yes No
6. Did this CME activity provide a balanced, scientifically rigorous presentation of therapeutic options related to the topic, without commercial bias? Yes No
7. Does the information you received from this CME activity confirm the way you presently manage your patients? Yes No
8. Does the information you received from this CME activity change the way you will manage your patients in the future? Yes No
9. Please offer comments and/or suggested topics for future CME activities.

10. How much time did you spend completing this CME activity?

11. Do you have convenient access to the Internet? Yes No

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