

The purpose of this quiz is to provide a convenient means for osteopathic physicians to assess their understanding of the scientific content in the October 2012 issue of *JAOA—The Journal of the American Osteopathic Association*.

To apply for 2 Category 1-B continuing medical education (CME) credits, AOA members may take this quiz online at <http://www.osteopathic.org/quiz>, where this and other *JAOA* quizzes can be accessed. Quizzes that are completed online will be graded and credited to members' CME activity reports.

Alternatively, osteopathic physicians can complete the quiz below and mail it to the following address by April 30, 2014:

American Osteopathic Association
Division of CME
142 E Ontario St
Chicago, IL 60611-2864
Fax: (312) 202-8202

AOA No. _____

Full Name _____

If you mail or fax this form to the Division of CME, the AOA will record the fact that you have submitted this form for Category 1-B CME credit.

For each of the questions below, place a checkmark in the box provided next to your answer so that you can easily verify your answers against the correct answers, which will be published in the November 2012 issue of the *JAOA*.

C-Reactive Protein as a Predictor of Chorioamnionitis by Erik J. Smith, DO; Corinna L. Muller, DO; Jennifer A. Sartorius, MS; David R. White, DO; and Arthur S. Maslow, MS, DO

1. Studies evaluating the long-term outcomes in neonates born with intra-amniotic infection have shown a relative risk of which of the following:

- (a) cerebral palsy
- (b) cystic periventricular leukomalacia
- (c) both a and b
- (d) neither a nor b

2. Although a rise in serial C-reactive protein (CRP) values was observed before delivery, which of the following factors would be needed to demonstrate whether such a rise could be used as a predictor of chorioamnionitis:

- (a) daily CRP levels prior to delivery

- (b) a minimum of 3 weeks of CRP values prior to delivery
- (c) a larger study population size
- (d) a more diverse population

Research Funding at Colleges of Osteopathic Medicine in the United States by Richard R. Suminski, PhD, MPH; Linda E. May, PhD; and V. James Guillory, DO, MPH

3. Colleges of osteopathic medicine (COMs) would be in a better position to obtain extramural funding for research if they took which of the following steps:

- (a) Reduce the number of faculty. This reduction would allow the COM to give each member of the remaining faculty more dollars to support their research programs.
- (b) Increase the total number of students enrolled at the college, which would result in increased revenue for research.

- (c) Spend more dollars on research.
- (d) There is not much they can do.

4. Which of the following statements is true regarding osteopathic manipulative medicine (OMM):

- (a) Research on OMM continues to receive a large amount of extramural funding. In 2009, extramural funding for OMM constituted over 50% of the total research funds currently held at COMs.
- (b) Efforts by the American Osteopathic Association to promote OMM research are not making an impact at COMs or at other research facilities such as The Osteopathic Research Center in Texas.
- (c) Research on OMM is not a priority because osteopathic physicians have an obligation to treat patients and not generate scientific evidence as to the safety, efficacy, and effectiveness of alternative treatments for musculoskeletal conditions.
- (d) Building infrastructure at COMs that supports research will be necessary to enhance the procurement of extramural funding for OMM and to address the growing utilization of complementary and alternative therapies.

The Role of Social Networking Web Sites in Influencing Residency Decisions by Justin Schweitzer, DO; Alexander Hannan, OMS III; and Joshua Coren, DO, MBA

5. What percentage of survey respondents believed their ultimate choice of graduate medical education (GME) program was influenced by the social networking Web site presence of the programs to which they applied?

- (a) 1%
- (b) 5%
- (c) 10%
- (d) 20%

6. Which of the following factors complicates the use of social networking Web sites by GME programs for recruitment:

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- (a) the differing structures and priorities of the most popular social networking Web sites currently used
- (b) differences in popularity among existing social networking Web sites
- (c) difficulties in making applicants aware of the social networking Web site presence of GME programs
- (d) all of the above

7. Which of the following elements is a good strategy for GME programs to use to recruit students most successfully by means of social networking Web sites?

- (a) create a presence on multiple social networking Web sites
- (b) make a program's social networking Web site presence known to applicants
- (c) use one social networking Web site to advertise a program's presence on another one
- (d) all of the above

Combined Manual Therapy Techniques for the Treatment of Women With Infertility: A Case Series by Mary Ellen Kramp, DPT, CLT-LANA

8. Worldwide, what percentage of couples are infertile?

- (a) 5%
- (b) 22%
- (c) 15%
- (d) 33%

9. What percentage of fertile couples will conceive within a 3-month period?

- (a) 33%
- (b) 57%
- (c) 72%
- (d) 20%

Carbon Monoxide Poisoning Secondary to Hookah Smoking by John V. Ashurst, DO; Megan Urquhart, DO; and Matthew D. Cook, DO

10. A college student presents to the emergency department with syncope following

hookah smoking. During examination, he responds only to painful stimuli. The patient's carboxyhemoglobin level is 35%. What is the definitive treatment for this patient?

- (a) normobaric oxygenation through a nonbreathing mask
- (b) hyperbaric oxygen therapy
- (c) narcan
- (d) normobaric oxygenation through a nasal cannula

11. Which of the following diagnoses is the most likely for a 26-year-old man who presents to the emergency department with dizziness, headache, and shortness of breath after a hookah smoking session?

- (a) carbon monoxide poisoning
- (b) dehydration
- (c) acute myocardial infarction
- (d) nonspecific migraine

Answers to September 2012 JAOA CME Quiz

Discussion answers to JAOA continuing medical education quizzes appear only when authors have included discussions with the quiz questions and answers they must provide to meet the requirement for submission to and publication in the JAOA.

Associations of Cytokine Concentrations With Key Osteopathic Lesions and Clinical Outcomes in Patients With Nonspecific Chronic Low Back Pain: Results From the OSTEOPATHIC Trial by John C. Licciardone, DO, MS, MBA; Cathleen M. Kearns, BA; Lisa M. Hodge, PhD; and Michael V. W. Bergamini, PhD

1. (a) The greatest correlation among cytokine concentrations and, correspondingly, the most significant *P* value at baseline among patients in the OSTEOPATHIC Trial was found with interleukin-1 β and interleukin-6 ($\rho=0.38$; $P=.001$).

2. (a) Interleukin-1 β concentration was most strongly correlated with the number of key osteopathic lesions at baseline among patients in the OSTEOPATHIC Trial ($\rho=0.33$; $P=.005$).

3. (b) Interleukin-6 concentration was most strongly correlated with low back pain severity among patients in the OSTEOPATHIC Trial ($\rho=0.28$). It was the only cytokine concentration significantly associated with low back pain severity ($P=.02$).

4. (e) In the OSTEOPATHIC Trial, patients in the osteopathic manual treatment and sham treatment groups differed significantly only with regard to tumor necrosis factor- α concentration changes after 12 weeks ($P=.03$).

Precompetition Osteopathic Manipulative Treatment and Performance Among Virginia Tech Athletes During 2 Consecutive Football Seasons: A Preliminary, Retrospective Report by Per Gunnar Brolinson, DO; Michael Smolka, DO; Mark Rogers, DO, MA; Suporn Sukpraprut, PhD, MA, MSc; Michael W. Goforth, MS, ATC; Greg Tilley, DC; and Keith P. Doolan, MS, ATC

5. (c) Athletes may seek precompetition manipulative treatment for pain control.

6. (b) Precompetition manipulation may enhance musculoskeletal function by warming up the soft tissue and optimizing joint function.

The Biology of Manual Therapies by Brian C. Clark, PhD; James S. Thomas, PT, PhD; Stevan A. Walkowski, DO; and John N. Howell, PhD

7. (e) Muscle spindles relay sensory information on the length of a muscle and the change in length of a muscle.

8. (b) Excitation in γ -efferent fibers increases the sensitivity of the muscle spindle to stretch.

Answers to September 2012 Supplement to the JAOA CME Quiz: Optimizing Outcomes for Atrial Fibrillation

1. (e) Adverse outcomes associated with atrial fibrillation (AF) include stroke, impaired quality of life, decreased work productivity, and increased hospitalization rates.

2. (b) Atrial fibrillation accounts for 15% to 20% of all cerebrovascular events.

3. **(c)** According to the CHADS₂ scoring system—a system that allocates points to patients on the basis of their past and current medical conditions as criteria for future risk of stroke—patients with AF and a CHADS₂ score of 3 or greater are at high risk of stroke.
4. **(b)** Regarding the quality of warfarin control, patients with AF receive better anticoagulant care in the anticoagulation-clinic setting.
5. **(e)** Rivaroxaban is an oral, reversible, direct factor Xa inhibitor with a rapid onset of action and high oral bioavailability, a half-life of 5 to 9 hours in patients aged 20 to 45 years (11 to 13 hours in patients aged ≥ 75 years), and pharmacokinetics that are dose-proportional and generally unaffected by sex or body weight.
6. **(b)** Apixaban has an onset of action of within 3 hours, not 8 hours.
7. **(e)** As the first alternative to warfarin approved by the US Food and Drug Administration, dabigatran inhibits thrombin-mediated activation of factors V, VIII, XI, and XIII; inhibits thrombin-induced platelet-aggregation; and is 80% renally cleared.
8. **(d)** Clinical steady state is achieved within 2.5 days of initiation of therapy with dabigatran, not 5 days.
9. **(e)** The RE-LY, ROCKET-AF, and ARISTOTLE trials demonstrated that oral anticoagulants dabigatran, rivaroxaban, and apixaban, respectively, were either superior or noninferior to warfarin for the reduction of stroke or systemic embolism.
10. **(a)** Unknown pharmacokinetic profiles are not considered a potential limitation of new oral anticoagulants.
11. **(e)** An integrated approach to health care by osteopathic physicians has the potential to improve anticoagulation therapy by improving patient adherence to recommended treatment; avoiding unnecessary hospitalizations, office visits, tests, and procedures; minimizing the use of expensive technology or treatments when less expensive options are equally effective; and enhancing patient safety. ♦
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