



THE JOURNAL *of the* AMERICAN OSTEOPATHIC ASSOCIATION

The purpose of this quiz is to provide a convenient means for osteopathic physicians to assess their understanding of the scientific content in the March 2014 issue of *The Journal of the American Osteopathic Association (JAOA)*.

To apply for 2 Category 1-B continuing medical education (CME) credits, AOA members may take this quiz online at <http://www.osteopathic.org/docmeonline>, 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 September 30, 2015:

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. Osteopathic physicians who are not members of the AOA and who forward hard copies of completed JAOA quizzes to the Division of CME will be charged a fee of \$25 per quiz for staff time to grade the quiz, record the credits, and provide a letter to the osteopathic physician as documentation.

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 April 2014 issue of the JAOA.

Preliminary Findings on the Use of Osteopathic Manipulative Treatment: Outcomes During the Formation of the Practice-Based Research Network, DO-Touch.NET

Brian F. Degenhardt, DO; Jane C. Johnson, MA; Shanin R. Gross, DO; Celia Hagan, BSN; Gregg Lund, DO; and William J. Curry, MD, MS

1. Current evidence indicates that osteopathic manipulative treatment is primarily used for which of the following disorders:

- (a) psychiatric
- (b) gastrointestinal
- (c) musculoskeletal
- (d) cardiovascular
- (e) lymphatic

2. With regard to human clinical research studies, randomized controlled trials...

- (a) generally fail to improve knowledge and advance medicine.
- (b) often produce recommendations that are too complex to integrate into existing practices.
- (c) provide a structure that makes it easy and inexpensive to recruit and retain patients.
- (d) are designed to assure society that outcomes are clear and important.

3. In the prospective portion of the study, patients reported which of the following effects after osteopathic manipulative treatment:

- (a) immediate improvement in approximately 60% of office visits
- (b) no significant improvement

- (c) decreased symptoms over a 4- to 5-day period
- (d) symptoms usually increased in the first 24 hours

Vestibular Dysfunction in Patients With Chronic Pain or Underlying Neurologic Disorders

John W. Gilbert, MD; Manuel Vogt, DO; Robert E. Windsor, MD; Gregory E. Mick, DO; Gay B. Richardson, MD; Benjamin B. Storey, MD; Stephanie L. Herder, MD; Susan Ledford, AA; Dee A. Abrams, PA-C; Mary Katherine Theobald, RN; Dana Cunningham, CMA; Louise Kelly, PA-C; Kimberly V. Herring, RN, ADN, BSN; and Michael L. Maddox, BA

4. Which of the following consequences has been linked to vestibular deficits:

- (a) falls
- (b) increased health care costs
- (c) morbidity
- (d) diminished autonomy
- (e) all of the above

5. Which of the following tests is used to determine whether vertigo is triggered by head movement:

- (a) Dix-Hallpike
- (b) caloric vestibular
- (c) spontaneous nystagmus
- (d) none of the above

6. A World Health Organization study found that what percentage of the US adult population has chronic pain?

- (a) 35%
- (b) 40%
- (c) 43%
- (d) 53%

(continued)

Qualitative Evaluation of Osteopathic Manipulative Therapy in a Patient With Gastroesophageal Reflux

Disease: A Brief Report

Leonardo Rios Diniz, DO (Brazil); Jacson Nesi, DO (Brazil); Ana Christina Curi, DO (Brazil); and Wagner Martins, OMS V (Brazil), PhD

7. Which of the following qualities is the independent predictor of gastroesophageal reflux disease:
- (a) inspiratory augmentation of gastroesophageal junction pressure
 - (b) distensibility of the hiatal canal
 - (c) force of diaphragmatic contraction
 - (d) crural diaphragm function
 - (e) intraabdominal position of the gastroesophageal junction

Management of Ionizing Radiation Injuries and Illnesses, Part 1: Physics, Radiation Protection, and Radiation Instrumentation

Doran M. Christensen, DO; Mark S. Jenkins, MS, PhD; Stephen L. Sugarman, MS; and Erik S. Glassman, EMT-P, MS

8. The difference between irradiation and contamination is best described by which of the following statements:
- (a) Irradiation is planned exposure to radiation and contamination is accidental.

- (b) Irradiation is done in a special facility, whereas contamination can occur anywhere.
- (c) Contamination is more harmful than irradiation.
- (d) Irradiation is the absorption of radiation energy; contamination is the presence of radioactive material in an undesirable location.

9. Which of the following units measure the biological effect of radiation exposure in humans:

- (a) curie/becquerel
- (b) rad/gray
- (c) rem/sievert
- (d) rem/rad

10. What type of probe is best suited for performing radiologic contamination surveys?

- (a) scintillation
- (b) pancake
- (c) hot dog
- (d) ionization chamber

Digoxin as a Treatment for Patients With Idiopathic Intracranial Hypertension

Jen Haagensen, MS, and Carl Hoegerl, DO, MSc

11. Which of the following conditions is associated with idiopathic intracranial hypertension:

- (a) arthritis
- (b) heart disease
- (c) obesity
- (d) increased calcium
- (e) none of the above

12. Which of the following methods is considered a possible treatment for patients with idiopathic intracranial hypertension:

- (a) optic nerve sheath fenestration
- (b) antihypertensive medication
- (c) tumor removal
- (d) medication for osteoarthritis
- (e) none of the above

Earn CME Credits Online

Hundreds of credits of accredited online continuing medical education (CME) courses, including quizzes from *The Journal of the American Osteopathic Association* and its supplements, are available for physician-members of the American Osteopathic Association at <https://www.osteopathic.org/docmeonline>. Physician-members can also view their current CME activity reports through this website.

Answers to the February 2014 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.

Sleep Problems, Posttraumatic Stress, and Mood Disorders Among Active-Duty Service Members

R. Gregory Lande, DO

- (b) Short sleep duration is defined as 6 or fewer hours of sleep per night.
- (d) Individuals with posttraumatic stress disorder spend more of the night in light sleep.

OMT Associated With Reduced Analgesic Prescribing and Fewer Missed Work Days: An Observational Study

Joseph K. Prinsen, PhD; Kendi L. Hensel, DO, PhD; and Richard J. Snow, DO, MPH

- (b) The main disadvantage to the randomized controlled trial is the lack of generalizability to the larger patient population mainly because of tight participant control. This study design ignores the typical, more complex patient who is treated in the clinic.
- (d) The Patient-Centered Outcomes Research Institute report clearly promotes registry-based reporting systems, such as the American Osteopathic Association's Clinical Assessment Program, as a means to gather observational data that can validate and evaluate the implementation of randomized controlled trial study findings. Registry-based systems also generate new research questions because each study has multiple outcome measures, affirming the need for mechanistic research projects.
- (a) Patient-based research networks have a lower average cost. There is evidence that it is faster, in general, to conduct these types of studies; however, there is no absolute standard because the analysis phase is often quicker. Another advantage is their ability to examine a more

diverse set of endpoints or alternative outcome measures.

Preventing Early Cardiovascular Death in Patients With Familial Hypercholesterolemia

Thomas B. Repas, DO, and J. Ross Tanner, DO

- (e) All of the statements are correct. Familial hypercholesterolemia is the most common monogenetic disorder in the United States and Europe, with approximately 200,000 related deaths every year worldwide. It can be caused by a mutation in the gene encoding the low-density lipoprotein receptor, and it is an autosomal dominant condition, which means that 50% of first-degree relatives are at risk of inheriting the disorder.
- (c) If left untreated, 50% of people with familial hypercholesterolemia will die from premature cardiovascular events by the age of 60 years.
- (b) Children with risk factors such as family history of premature cardiovascular disease or severe hypercholesterolemia should be screened for familial hypercholesterolemia at age 2 or 3 years.
- (c) In individuals younger than 20 years who have a first-degree relative with heterozygous familial hypercholesterolemia, a low-density lipoprotein cholesterol level above 155 mg/dL predicts that they also have the disorder.

Mini-Medical School Programs Are an Effective Tool to Introduce Students to Osteopathic Medicine

Kathryn E. Kaye, OMS III; Alyssa L. Berns, OMS IV; Lyndsi R. Cress, OMS IV; and Andrea M. Nazar, DO

- (c) According to the authors, the primary reason for promoting mini-medical

school programs in rural areas is that these programs encourage students from rural locations to attend medical school and physicians from rural areas are much more likely to practice in a rural location. Mini-medical school programs increase interest in medicine, and research from Hyer et al (*Am Fam Physician*. 2007;76[2]:207) showed that physicians from rural areas are 4 times more likely to practice rural medicine. Consequently, the authors believe that increasing interest among rural high school students can help address the shortage of rural primary care providers.

Orthotic Correction of Postural Unleveling in a Patient With Ankylosing Spondylitis

James A. Lipton, DO, and Lisa J. Mitchell, DO

- (c) The current standard of care in patients with ankylosing spondylitis includes continuous use of nonsteroidal anti-inflammatory drugs as first-line therapy.

Osteopathic Manipulative Treatment in the Management of Biliary Dyskinesia

Katherine Heineman, DO

- (d) Biliary colic is thought to be caused by increased intraorgan pressure and pain as the gallbladder contracts against the gallbladder outlet or cystic duct opening in response to hormonal or neuronal stimulation. Biliary colic is measured as an increase in the sphincter of Oddi basal pressure.
- (b) Effects of enhanced or altered spinal outflow are manifested as somatic dysfunction. The aim of osteopathic manipulative treatment in addressing nociception is to remove excessive synaptic drive from the primary afferent nociceptors to restore the homeostatic condition of the system.