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Answers to March 2014 JAOA CME Quiz

Discussion answers to *The Journal of the American Osteopathic Association* 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.

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

- (c) Consistent with current evidence in the literature, osteopathic manipulative treatment is primarily used for musculoskeletal disorders.
- (b) A randomized controlled trial (RCT) research design is often considered the gold standard in biomedical research, but it has several limitations when applied to human clinical research studies. Although RCTs often improve knowledge and advance medicine, they are not easily performed. Recruiting patients and maintaining their participation throughout a study is often difficult and costly. Reproducing the interventions within everyday practice is also often difficult and cost prohibitive. Because patients meet very explicit inclusion and exclusion criteria in RCTs, the outcomes are not always clear or easily generalized. Further, because the RCT design has stringent controls on the participants selected and the methodologies performed,

interventions are often found to be less efficacious in everyday practice than predicted in the study.

- (c) In the prospective portion of the study, more than 90% of patients who received osteopathic manipulative treatment reported an immediate decrease in symptoms after their treatments. Average and worst symptoms steadily decreased over a 4- and 5-day period, respectively, although the greatest reduction occurred in the first 24 hours after treatment.

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

- (e) Vestibular deficits are linked to falls, increased health care costs, morbidity, and diminished autonomy, especially among elderly patients who are at increased risk for gait disturbances, balance disorders, and bone fracture.
- (a) The Dix-Hallpike test for vertigo is administered to determine whether vertigo is triggered by head movement.
- (c) A World Health Organization study published in 2008 found that 43% of the adult US population suffers from chronic pain (*J Pain*. 2008;9[10]:883-891). Prevalence rates for chronic pain are expected to increase with the aging of the population, the rising prevalence of obesity, and the growing number of people who are able to survive catastrophic injuries because of modern medicine.

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

- (d) The independent predictor of gastroesophageal reflux disease is crural diaphragm function. Compromised function of the crural diaphragm affects the inspiratory augmentation of the esophagogastric pressure, predisposing it to reflux.

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

- (d) The difference between irradiation and contamination is best described by the following statement: Irradiation is the absorption of radiation energy; contamination is the presence of radioactive material in an undesirable location. Irradiation is merely exposure to ionizing radiation that may result in the energy being absorbed by an exposed cell or tissue without a transfer of radioactive materials. Contamination is the presence of radioactive materials in an undesirable location, that is, the radioactive materials that have been transferred from 1 location to another. Exposures or contaminations can be accidental or purposeful and can occur anywhere, including special facilities. There can be no comparison about harm resulting from contamination vs irradiation unless the magnitude of each is known.

(continued)

9. (c) The biologic effect of radiation exposure in humans is measured in rem/sievert units. Curies and becquerels are measures of radioactivity or simply activity. The rad or gray are measurements of absorbed dose.
10. (b) The pancake probe is the instrument best suited for general radiologic contamination surveys.

Digoxin as a Treatment for Patients With Idiopathic Intracranial Hypertension

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

11. (c) Idiopathic intracranial hypertension is associated with obesity.
12. (a) Optic nerve sheath fenestration is a possible treatment for patients with idiopathic intracranial hypertension.

Answers to the March 2014 Supplement to the JAOA CME Quiz Recommended Vaccines for Adolescent Patients

Gregory H. Bennett, DO, and Kelly Leite, DO

1. (b) The meningococcal conjugate vaccine does not currently protect against meningococcal serogroup B.
2. (d) The rotavirus vaccine is not currently recommended for the adolescent population.
3. (c) Approximately 4000 deaths in women were attributable to cervical cancer in 2010.

Adverse Effects of Adolescent Immunizations

Natalia Vernon, MD, and Pooja Jhaveri, MD

4. (b) The most common reported adverse reaction with the administration of the quadrivalent human papillomavirus vaccine is headache.
5. (c) A 12-year-old boy is brought to the primary care office for his annual physical examination. He has a history of hives after egg ingestion at age 1 year. His parents would like him to receive the influenza vaccine. The primary care physician should recommend that the patient receive the inactivated influenza vaccine in the primary care office and be observed for 30 minutes.

Food Allergies Are Rarely a Concern When Considering Vaccines for Adolescents

Larisa V. Buyantseva, MD, MS, and Alexandra Horwitz, MD

6. (b) A 12-year-old boy has a history of moderate persistent asthma, allergic rhinitis, atopic dermatitis, and food allergy to milk and egg. He had a recent accidental ingestion of some scrambled eggs and within 10 minutes developed mouth itching and hives. His mother heard that he may be able to receive the influenza vaccine despite his egg allergy. The primary care physician should recommend that the patient proceed with influenza vaccination at the primary care physician's office.
7. (c) An 11-year-old girl with celiac disease is in the primary care office for a wellness checkup. Her mother says her daughter had some blood tests that revealed a positive IgE to yeast. As the primary care physician, you recommend the human papillomavirus (HPV) vaccine. The mother has read that this vaccine has yeast in it and wonders if it is safe for her daughter to get. The girl has never had an allergic reaction to yeast-containing foods. The primary care physician should recommend that the patient receive the HPV vaccine in the usual manner without special precautions.

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