



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 September 2015 issue of *The Journal of the American Osteopathic Association (JAOA)*.

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Alternatively, osteopathic physicians can complete the quiz below and mail it to the following address by March 31, 2017:

American Osteopathic Association
Division of CME
142 E Ontario St
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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 October 2015 issue of the JAOA.

Food Insecurity and Its Association With Central Obesity and Other Markers of Metabolic Syndrome Among Persons Aged 12 to 18 Years in the United States

David H. Holben, PhD, RDN, LD, and
Christopher A. Taylor, PhD, RDN, LD

1. Food insecurity can have serious effects on health and nutrition outcomes. Which of the following is a potential outcome:

- (a) physical impairments related to insufficient food
- (b) psychological issues caused by lack of access to food
- (c) sociofamilial disturbances
- (d) all of the above

2. Which of the following indicators of metabolic syndrome was positively related to household food insecurity among the participants:

- (a) waist circumference greater than the 90th age- and sex-specific percentile
- (b) low high-density lipoprotein (<40 mg/dL)
- (c) elevated blood pressure ($\geq 130/85$ mm Hg)
- (d) elevated blood glucose (≥ 100 mg/dL)
- (e) elevated triglycerides (≥ 150 mg/dL)

Cystic Fibrosis: A Novel Pharmacologic Approach to Cystic Fibrosis Transmembrane Regulator Modulation Therapy

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Michelle Powers, OMS III;

Joseph Carlier, OMS III;

James McCarty, OMS III; Tyler Kupchick,

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3. Which of the following is the most common genetic defect of cystic fibrosis transmembrane regulator that is known:

- (a) premature degradation
- (b) dysregulation
- (c) abnormal conductance
- (d) decreased production
- (e) membrane instability

4. Which of the following aminoglycoside antibiotic has effects to induce read-through of stop codons that can assist in restoring function of cystic fibrosis transmembrane regulator protein:

- (a) tobramycin
- (b) gentamicin
- (c) amikacin
- (d) streptomycin
- (e) neomycin

5. Which of the following agents is most beneficial for treating type I, type II, and type III mutations, respectively:

- (a) VX-661, ivacaftor, ataluren
- (b) ivacaftor, VX-661, lumacaftor
- (c) ataluren, ivacaftor, lumacaftor
- (d) ataluren, lumacaftor, ivacaftor

Effect of Table Trainer-to-Student Ratios on Outcome in Student Assessments of Cervical Muscle Energy Techniques

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6. Cervical muscle energy osteopathic manipulative treatment techniques were taught to first-year osteopathic medical

students using different table trainer-to-student ratios (TTRs)—1:4, 1:8, or 1:16. What was the effect of the TTR on students' written assessment scores obtained immediately after the workshop?

- (a) The TTR had no effect on students' scores.
 - (b) Students in the 1:4 TTR group had the highest scores.
 - (c) Students in the 1:8 TTR group had the highest scores.
 - (d) Students in the 1:16 TTR group had the highest scores.
7. When students demonstrate cervical muscle energy techniques on each other in pairs during a practical assessment, which students consistently scored significantly higher in those assessments?
- (a) students who demonstrated the techniques first
 - (b) students who demonstrated the techniques second
 - (c) students who scored higher on the written assessments for those techniques
 - (d) students who had been trained with a TTR of 1:16
 - (e) students who had been trained with a TTR of 1:8

Female Adolescent With Quadricuspid Aortic Valve

Cam Long Choji, DO; Nemalan Selvaraj, DO; and John Prather, MD, PhD

8. In patients with quadricuspid aortic valve, the most common indication for surgical valve replacement is:
- (a) dilatation of ascending aorta to greater than 4.0 cm
 - (b) dilatation of ascending aorta to greater than 4.5 cm
 - (c) progressive development of aortic valve stenosis with left ventricular dysfunction and symptoms
 - (d) progressive development of aortic valve regurgitation with left ventricular dysfunction and symptoms
 - (e) endocarditis involving the valve

Immature Teratoma Associated With Anti-N-Methyl-D-Aspartate Receptor Encephalitis

Yuliya Malayev, DO, MPH; Jared Alberts, MD; Mary Ann Verardi, MD; Anissa R. Mattison, DO; and Sherwin Imlay, MD

9. A 25-year-old nulligravid patient with no medical problems presents to the emergency department with acute psychosis and aggression. After performing a comprehensive history and physical examination and stabilizing the patient, a computed tomographic scan of her head is performed, which rules out organic brain lesions. She has no history of mental disorder, and her family denies substance use. Results of her physical examination are normal, without any masses appreciated on pelvic evaluation. What is the next best step in diagnostic investigation?
- (a) lumbar puncture
 - (b) toxicology profile
 - (c) laparotomy
 - (d) a and b

10. An 18-year-old gravida 1, para 1 patient was admitted to the hospital with acute psychosis. During the evaluation and management of her symptoms, she was discovered to have an ovarian mass. A presumed diagnosis of anti-N-methyl-D-aspartate receptor encephalitis was made. While all antibody studies were pending, she underwent a right salpingo-oophorectomy to remove the mass, which was a mature teratoma. She improved after the operation and first-line treatment with steroids and plasmapheresis, and was discharged from the hospital 1 month after clinical improvement was noted. She returned 6 months later with similar symptoms of psychosis. What is the next best step in management?
- (a) history and physical examination
 - (b) lumbar puncture and toxicology profile
 - (c) pelvic imaging
 - (d) all of the above
 - (e) a and b only

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Answers to the August 2015 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.

Accuracy of Anterior Superior Iliac Spine Symmetry Assessment by Routine Structural Examination

Albert S. Lee, PharmD, OMS IV;
Casey W. Pyle, DO; and David Redding, DO

1. (b) Based on the results of the current study, anterior superior iliac spine (ASIS) evaluation should be used as a screening tool for ASIS asymmetry because of its high sensitivity and low specificity. The ASIS evaluations had an overall sensitivity of 82.8% (5-mm discrepancy) and 91.7% (10-mm discrepancy) and a specificity of 31.0%.
2. (a) Level of training showed a statistically significant difference in the evaluation of ASIS levels. Although eye dominance had an impact on the percentage of correct ASIS level assessments, only level of training demonstrated a statistically significant difference ($P=.02$).

Modeled Osteopathic Manipulative Treatments: A Review of Their in Vitro Effects on Fibroblast Tissue Preparations

Manal Zein-Hammoud, PhD,
and Paul R. Standley, PhD

3. (d) Human fibroblasts respond to various types of strains in vitro by changing cell morphology, proliferation, and cytokine and nitric oxide secretions.
4. (a) Repetitive motion strain, when used alone, causes reduced wound closure rates in vitro.

5. (c) The effects of repetitive motion strain have on inflammatory response and cellular proliferation in vitro are delayed inflammatory response and reduction in cellular proliferation.

Using Simulation-Based Medical Education to Meet the Competency Requirements for the Single Accreditation System

Bernadette Riley, DO

6. (d) According to Accreditation Council for Graduate Medical Education guidelines, general surgery requires simulation-based medical education.
7. (a) Systems-based practices include cost awareness.

Role Modeling in the First 2 Years of Medical School

Sharon J. Obadia, DO

8. (d) The osteopathic physician teacher is modeling commitment to excellence by performing a thorough physical examination with proper technique on each patient.

Bilateral Shoulder Dislocation Presenting as a Unilateral Shoulder Dislocation: Case Report

Brett Auerbach, DO; Adam Bitterman, DO;
Cristin Mathew, DO; and William Healy III, MD

9. (d) Shoulder dislocation may be caused by trauma to the shoulder, fall on an outstretched arm, or electrocution.
10. (b) Anterior-inferior shoulder dislocations are the most common shoulder dislocations.

11. (a) Risk of neurologic injury can be decreased after shoulder dislocation by prompt closed reduction.

Iliac Crest Herniation Secondary to Autogenous Bone Grafting Found on Osteopathic Examination

Christine J. Ou, DO; William C. Sternfeld, MD;
and Julie M. Stausmire, MSN, ACNS-BC

12. (c) Autogenous bone grafting is a common procedure for orthopedic surgeons. One common complication seen in iliac crest graft sites is hernias containing retroperitoneal fat, kidneys, spleen, liver, and bowel. Radiography or computed tomography can help determine the hernia contents.