



ATP
GLOBAL

INNOVATIONS
IN TESTING 2023

Integrating Cultural Humility and Mindfulness in Test Item Writing

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BETTER TOGETHER

Assessments. Learning. Outcomes.

Objectives

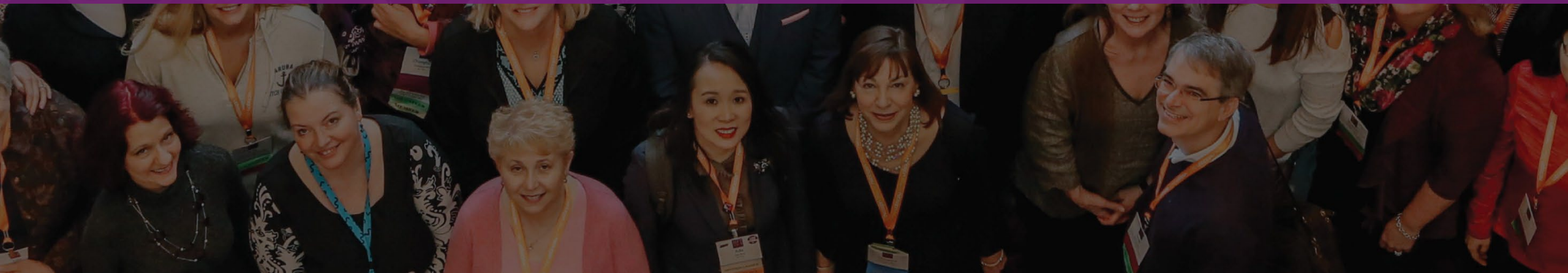
- **Explain how unconscious bias is manifested in test item writing**
- **Bring awareness to the difference between culturally appropriate and inappropriate content when writing test items**
- **Discuss methods to statistically identify bias in items**
- **Practice the process of peer review of test items**
- **Re-write test items to mitigate bias**

Code of Ethics

- **A safe & brave space**
- **A time for professional development**
- **We are not recording**
- **Please be respectful & collegial**



NURSE

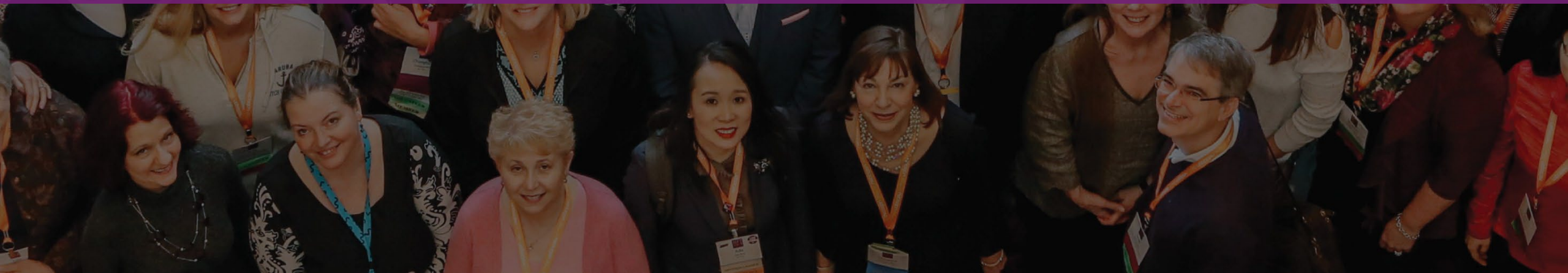


What Comes to Mind?

- **Helper**
- **Professional**
- **Man**
- **Women**
- **White coat**
- **Stethoscope**
- **Scrubs**



Firefighter

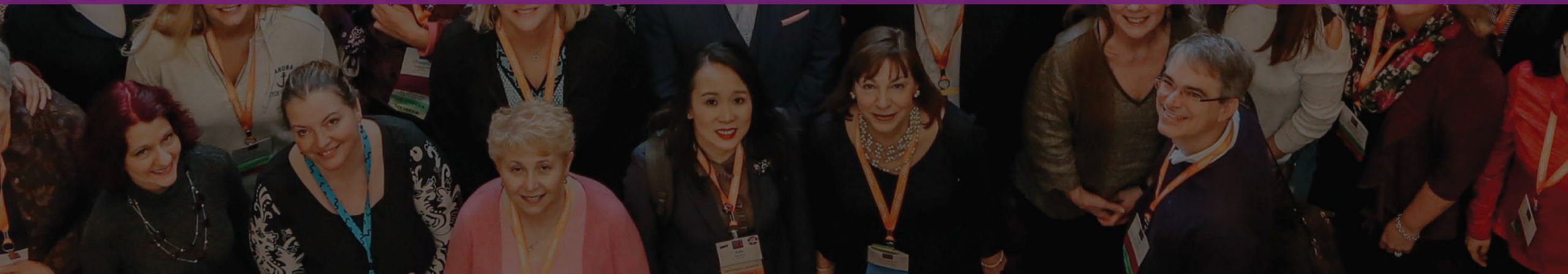


What Comes to Mind?

- **Fire**
- **Woman**
- **Man**
- **Dog**
- **Red hat**
- **Muscles**



CEO

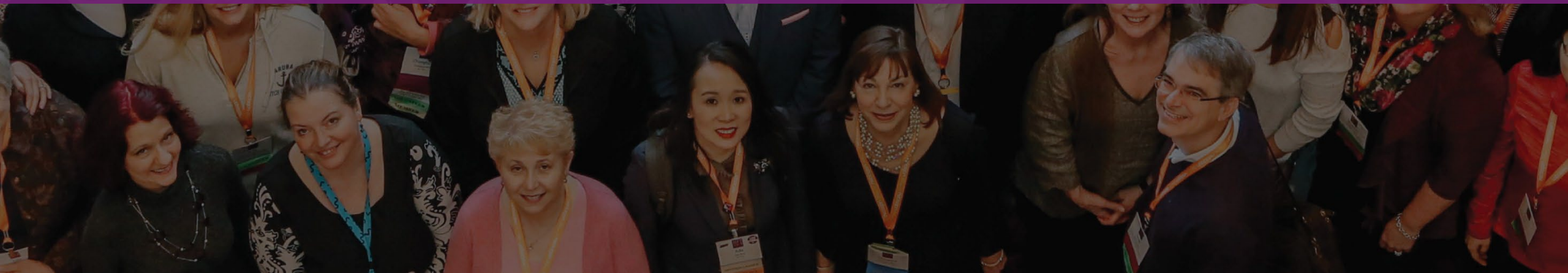


What Comes to Mind?

- **Power**
- **Suit**
- **Well put together**
- **Money**
- **Wall street**
- **Man**
- **Women**

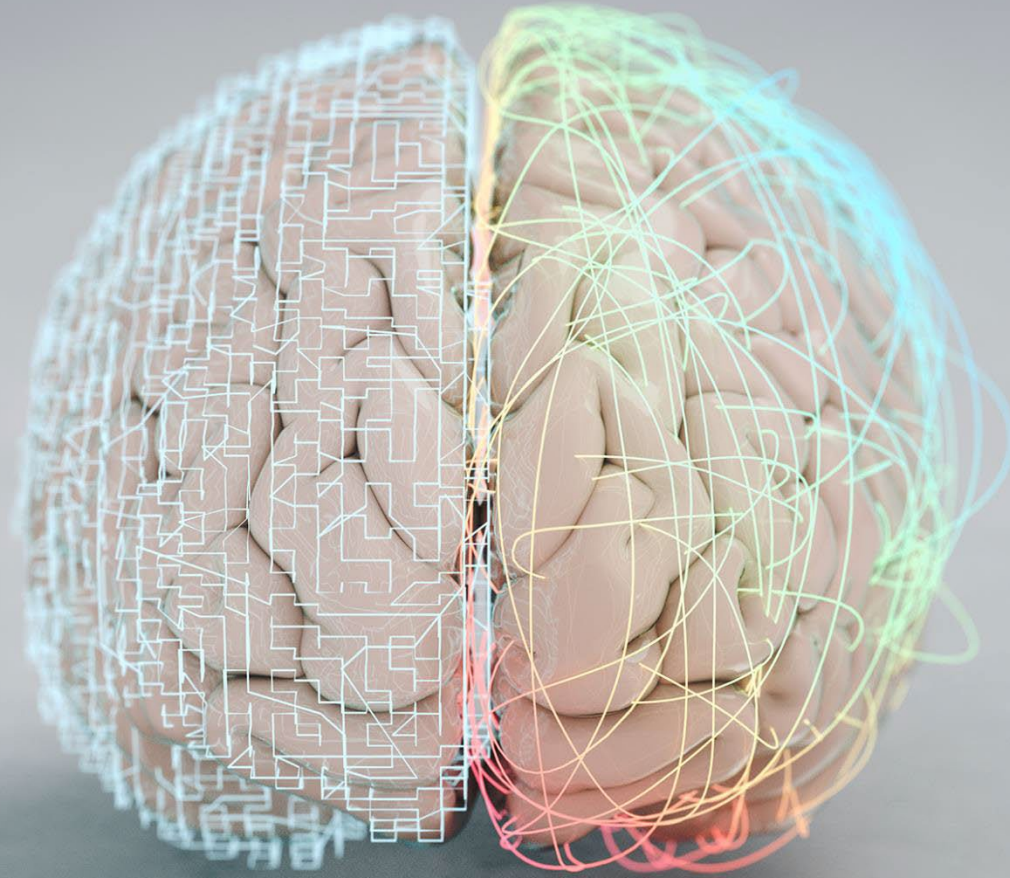


Mailman



What Comes to Mind?

- **Carrier**
- **Brimmed hat**
- **Shorts**
- **Line of mailboxes**
- **Cart**
- **Woman**
- **Man**
- **Hard worker**



If you have a brain – you have bias

How Unconscious Bias Works





Hubble / Optical



Webb / Infrared

Purpose of the Workshop

Overall thoughts on why this work is important and why we are doing the workshop

Are State Li **NCARB and NOMA Report Reveals**

A social work licensing exam that people of color fail more often is under scrutiny in Kansas

Color,

KCUR | By **Blaise Mesa**

Published November 8, 2022 at 3:00 AM CST





Research

Cultural Humility in Assessment

Ripp and Braun analyzed the use of race/ethnicity in all 2,211 questions in a question bank for USMLE Step 1 for the following:

- Frequency or mentions of racial/ethnic groups
- Whether the use of race/ethnicity was merely descriptive or central to any part of the question
- Whether the question associated race/ethnicity with genetic difference

Out of the 455 Coded Items

Frequency of mentions of racial/ethnicity was disproportionate to the U.S. population

- 85.8% White/Caucasians
- 9.7% Black/African Americans
- 3.16% Asian
- 0.633% Hispanics
- 0.633% Native Americans
- No Native Hawaiians/Pacific Islanders

The routinized use of race/ethnicity with no specific goal in preparation materials, such as question banks, risks contributing to racial bias

Focusing on
cultural
humility in
pharmacy
assessment
tools

- **Clinical Pharmacy Test Bank**
- **2 Independent Reviewers**
- **Total questions reviewed: 3,621**

Rizzolo D, Kalabalik-Hoganson J, Sandifer C, Lowy N. Focusing on cultural humility in pharmacy assessment tools. *Curr Pharm Teach Learn.* 2022;14(6):747-750. doi:10.1016/j.cptl.2022.06.005

Results

Race mentioned—40

Race breakdown

- Caucasian—10/40, 25%
- African American—14/40, 35%
- Asian—6 /40, 15%
- Hispanic—8/40, 20%
- Pakistani—2/40, .5%

Race Central to question –2/40 and used in the first sentence on every question

Results

Age was mentioned in 381 of the questions

- Pediatrics (0—17) 7.3%
- young adulthood (18 to 35 years) 28.3%
- middle age (36 to 55 years) 22.6%
- older adulthood (56 years to 65) 22%
- elderly (greater than 65) 18.9%.

Age was central in 46 of the 381 questions (12%)

Interestingly, in pediatric questions, the caregiver was always the mother

**When race was
linked common
diagnoses
were:**

STI = African American

TB = Hispanic

MI = Caucasian

Prevention vs Detection

Prevention

- **Training**
- **Diverse participation**
 - SME Panels
 - Staff
 - Leadership

Detection

- **Bias & Sensitivity Review**
- **Pass Rate Analyses**
- **Differential Item Functioning**

How did we
get here?



ANATOMY OF A MULTIPLE-CHOICE QUESTION

A 19-year-old woman comes to the office for evaluation of throbbing headaches of increasing frequency, from once a month to three times a month over the past year. She has associated photophobia, nausea, and vomiting. She sees floating spots prior to each headache. The patient has tried ibuprofen (Motrin) without relief. Temperature is 36.7°C (98.0°F), pulse rate is 68/min and regular, respirations are 14/min and unlabored, and blood pressure is 122/68 mmHg. Funduscopic exam reveals no papilledema. There are no focal neurologic deficits.

← ITEM STEM

Which of the following is the most appropriate for acute management of the patient's headaches?

← LEAD-IN

DISTRACTORS →

A. Mirtazapine (Remeron)

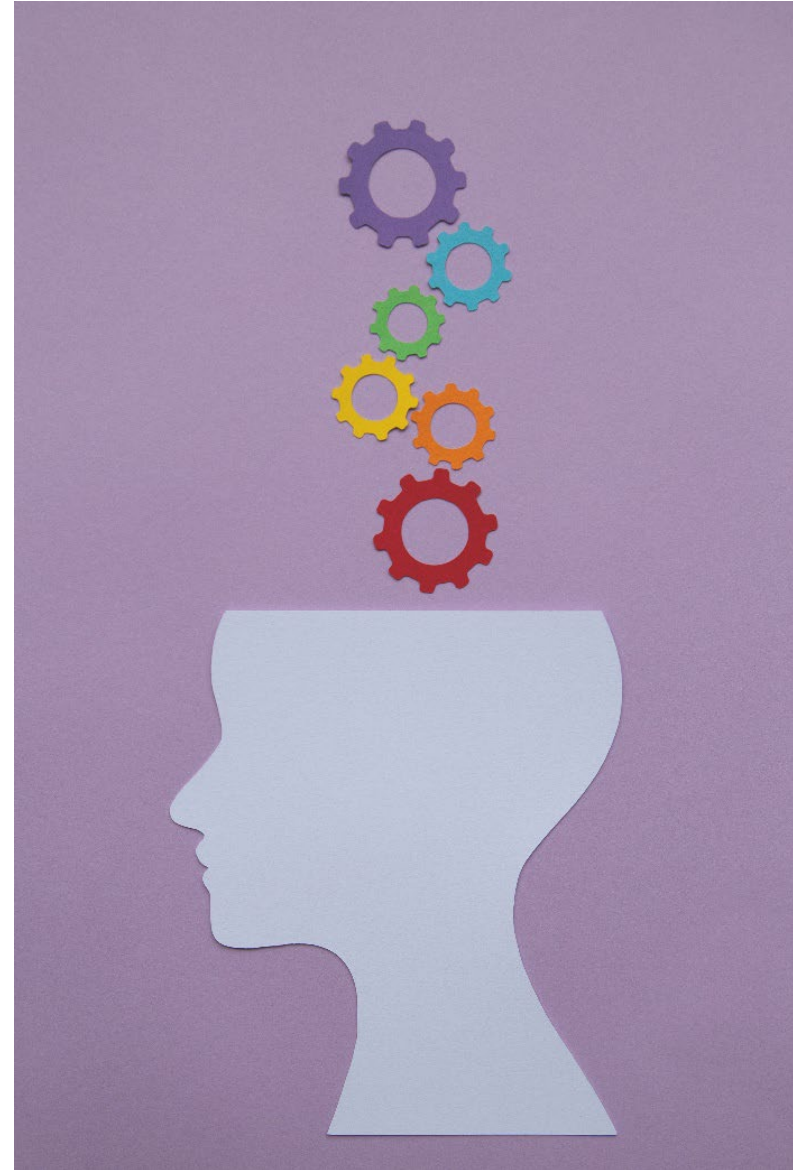
B. Propranolol (Inderal)

C. Sertraline (Zoloft)

D. Sumatriptan (Imitrex) ← KEY

E. Verapamil (Calan)

What to Consider When Writing MCQ



Please Remove
this Label





Let's Practice

EXAMPLE

A 7-year-old autistic girl is brought to the Urgent Care by her father with a three-day history of fever, dyspnea and cough productive for green sputum. Past medical history is significant for chronic otitis media. Height is 121.9 cm (48 in), weight is 22.7 kg (50 lbs), and body mass index is 15.3 kg/m². Vital signs reveal a temperature: 103.6°F (39.8 °C), pulse: 110/min, respiratory rate: 20/min, and oxygen saturation 94% on room air. Inspiratory crackles are audible in the left lower lobe. She has no history of previous antibiotic use during the previous three months.

Which of the following medications is the recommended treatment?

- (A) Amoxicillin (Amoxil)
- (B) **Azithromycin (Zithromax)**
- (C) Moxifloxacin (Avelox)
- (D) Trimethoprim-sulfamethoxazole (Bactrim)



EXAMPLE

A 7-year-old **autistic** girl is brought to the Urgent Care by her father with a three-day history of fever, dyspnea and cough productive for green sputum. Past medical history is significant for chronic otitis media. Height is 121.9 cm (48 in), weight is 22.7 kg (50 lbs), and body mass index is 15.3 kg/m². Vital signs reveal a temperature: 103.6°F (39.8 °C), pulse: 110/min, respiratory rate: 20/min, and oxygen saturation 94% on room air. Inspiratory crackles are audible in the left lower lobe. She has no history of previous antibiotic use during the previous three months.

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EXAMPLE



A 7-year-old girl is brought to the Urgent Care by her father with a three-day history of fever, dyspnea and cough productive for green sputum. **Past medical history is significant for autism spectrum disorder** and chronic otitis media. Height is 121.9 cm (48 in), weight is 22.7 kg (50 lbs), and body mass index is 15.3 kg/m². Vital signs reveal a temperature: 103.6°F (39.8 °C), pulse: 110/min, respiratory rate: 20/min, and oxygen saturation 94% on room air. Inspiratory crackles are audible in the left lower lobe. She has no history of previous antibiotic use during the previous three months.

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Small Group Activity

Please break into small groups with those close by. Once in your small groups, decide on someone who will take notes and consolidate the group's thoughts; also nominate a speaker who will initiate the group's discussion once we regroup for the larger discussion.



Considerations

Ensure you have a diverse panel when you review your questions (doesn't need to be item-writer).

Develop policy/program related ways to address bias.

The more complex the question – the easier to insert bias.

Always consider, will the information in the question influence the answer?

Use conscious, explicit thinking and processes in writing test items to identify and correct bias



Questions?



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