



# Passing is Great: Can ChatGPT Conduct USMLE Exams?

Som Biswas<sup>1</sup>

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## Introduction

Recently ChatGPT cleared the USMLE exams [1, 2]. The findings astonished the world. In this article, we research whether ChatGPT can conduct USMLE exams.

## Method and Results

Multiple prompts were used to assess the knowledge and instructional capabilities of ChatGPT.

**USER INPUT:** Tell instructions to candidates for USMLE exams.

### ChatGPT OUTPUT:

The instructions for USMLE exams may vary slightly depending on the specific exam and the location where it is being administered. However, here are some general instructions that are typically provided to candidates:

1. Bring your government-issued photo ID: Candidates must bring a valid government-issued photo ID such as a passport or driver's license to the exam center.
2. Arrive on time: Candidates must arrive at the exam center at least 30 min before the scheduled exam start time.
3. Bring permitted items: Candidates are allowed to bring certain items into the testing room, such as a sweater or jacket, eyeglasses, hearing aids, and medication. However, all items will be inspected before entry, and candi-

dates may not bring any electronic devices or personal items into the testing room.

4. Follow exam rules: Candidates must follow all exam rules and instructions provided by the test administrator. Failure to do so may result in dismissal from the testing center and cancellation of the exam.
5. Understand the exam format: Candidates should be familiar with the format of the exam they are taking, including the number of questions, time limits, and scoring system.
6. Take breaks when allowed: Depending on the exam, candidates may be allowed to take breaks during the testing period. It is important to use these breaks wisely to rest and refocus.
7. Report any issues: If candidates experience any technical issues or other problems during the exam, they should immediately report them to the test administrator.

It is important for candidates to review the specific instructions provided by the NBME or FSMB for the exam they are taking to ensure they understand all requirements and expectations.

**USER INPUT:** Provide some MCQs for USMLE step 1 exams.

### ChatGPT OUTPUT:

1. Which of the following is the most common cause of bacterial meningitis in adults?
  - (A) *Streptococcus pneumoniae*
  - (B) *Neisseria meningitidis*
  - (C) *Haemophilus influenzae*
  - (D) *Listeria monocytogenes*
  - (E) *Staphylococcus aureus*
2. Which of the following is the most common cause of community-acquired pneumonia?

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✉ Som Biswas  
ssbinmemphis@gmail.com

<sup>1</sup> Department of Pediatric Radiology, Le Bonheur Children's Hospital, The University of Tennessee Health Sciences Center, Memphis 38103, USA

- (A) *Mycoplasma pneumoniae*  
 (B) *Streptococcus pneumoniae*  
 (C) *Legionella pneumophila*  
 (D) *Haemophilus influenzae*  
 (E) *Chlamydophila pneumoniae*
3. Which of the following is the most common cause of primary hyperaldosteronism?
- (A) Adrenal adenoma  
 (B) Adrenal carcinoma  
 (C) Adrenal hyperplasia  
 (D) Pituitary adenoma  
 (E) Ectopic ACTH production
4. Which of the following medications is contraindicated in patients with a history of sulfonamide allergy?
- (A) Furosemide  
 (B) Hydrochlorothiazide  
 (C) Spironolactone  
 (D) Triamterene  
 (E) Amiloride
5. A 25-year-old woman presents with fever, chills, and pain in her right lower quadrant. On physical examination, she has rebound tenderness and guarding. Which of the following imaging studies is most appropriate for confirming the diagnosis?
- (A) Abdominal X-ray  
 (B) Abdominal ultrasound  
 (C) CT scan of the abdomen and pelvis with contrast  
 (D) MRI of the abdomen and pelvis  
 (E) HIDA scan

**USER INPUT:** Provide answers with explanations for above MCQs.

**ChatGPT OUTPUT:**

Here are the answers with explanations for the MCQs I provided:

(A) *Streptococcus pneumoniae* is the most common cause of bacterial meningitis in adults. While *Neisseria meningitidis* is the most common cause of meningitis in children and young adults, *S. pneumoniae* is more commonly responsible

for meningitis in older adults and those with underlying medical conditions.

(B) *Streptococcus pneumoniae* is the most common cause of community-acquired pneumonia. Other common causes include *Haemophilus influenzae*, *Mycoplasma pneumoniae*, and *Chlamydophila pneumoniae*, but *S. pneumoniae* is the most common overall.

(A) Adrenal adenoma is the most common cause of primary hyperaldosteronism, accounting for about 60–70% of cases. Adrenal hyperplasia is the next most common cause, followed by adrenal carcinoma and ectopic ACTH production.

(A) Furosemide is contraindicated in patients with a history of sulfonamide allergy. Furosemide is a loop diuretic, but it contains a sulfonamide moiety, which can cross-react with other sulfonamide-containing medications and cause an allergic reaction.

(C) CT scan of the abdomen and pelvis with contrast is the most appropriate imaging study for confirming the diagnosis of acute appendicitis. While abdominal ultrasound can also be used to visualize the appendix, it is less sensitive and specific than CT. Abdominal X-ray, MRI, and HIDA scan are not typically used to diagnose appendicitis.

## Conclusion

Thus we see that ChatGPT can provide assistance in USMLE exams. Also It can be used to generate practice questions banks for USMLE and many other exams of any field.

## References

1. Kung, T. H., et al. Performance of ChatGPT on USMLE: potential for AI-assisted medical education using large language models. *PLoS Digit. Health.* 2(2):e0000198, 2023.
2. Gilson, A., et al. How well does ChatGPT do when taking the medical licensing exams? The implications of large language models for medical education and knowledge assessment. *medRxiv.* 2022. <https://doi.org/10.1101/2022.12.23.22283901>.

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