

Harnessing ChatGPT: Prompts and Examples

Option One:

Objective: Provide a multiple-choice question (MCQ) to assess the ability of medical students to [diagnose X].

Question format:

Question: Describe the patient's signs, symptoms, and findings of the disease. Provide details on symptom characteristics such as severity, duration, and conditions that could improve or worsen the symptoms. Include the patient's height, weight, and vital signs (e.g., blood pressure, pulse rate, body temperature, respiratory rate). Add information about patient's past medical history, including allergies, immunizations, and medications. Mention any relevant family and social history. The question should ask for the [most likely diagnosis].

Answer Options: List five potential [diagnoses] in alphabetical order.

Correct Answer: Specify the correct [diagnosis]

Patient Description: Vary by age (infant/child, young adult, elderly) and gender. Symptoms should be acute or chronic. Describe work when applicable and social status.

Guidelines:

Question options should include possible [diagnoses].

Ensure questions and options are medically accurate and relevant.

Detractors should represent the most likely alternative. For rationale, provide reasons for incorrect and correct options.

Language: English

Temperature setting: Maintain average randomness (Temperature=1)

(Reference: Stadler M, Horrer A, Fischer MR. Crafting medical MCQs with generative AI: A how-to guide on leveraging ChatGPT. GMS J Med Educ. 2024;41(2):Doc20. Published 2024 Apr 15. doi:10.3205/zma001675)

Examples

Changes from Original Prompt	Prompt
None	Objective: Provide a multiple-choice question (MCQ) to assess the ability of medical students to diagnosis a patient with ulcerative colitis. Question format: Question: Describe the patient's signs, symptoms, and findings of the disease. Provide details on symptom characteristics such as severity, duration, and conditions that could improve or worsen the symptoms. Include the patient's height, weight, and vital signs (e.g., blood pressure, pulse rate, body temperature, respiratory rate). Add information about patient's past medical history, including allergies, immunizations, and medications. Mention any relevant family and social history. The question should ask for the for the most likely diagnosis. Answer Options: List five potential diagnoses in alphabetical order. Correct Answer: Specify the correct diagnosis. Patient Description: Vary by age (infant/child, young adult, elderly) and gender. Symptoms should be acute or chronic. Describe work when applicable and social status. Guidelines: Question options should include possible diagnoses. Ensure questions and options are medically accurate and relevant. Distractors should represent the most likely alternative. For rationale, provide reasons for incorrect and correct options. Language: English Temperature setting: Maintain average randomness (Temperature=1)
Modified to focus on pathological findings.	Objective: Provide a multiple-choice question (MCQ) to assess the ability of medical students to identify pathological findings in a patient with ulcerative colitis. Question format: Question: Describe the patient's signs, symptoms, and findings of the disease. Provide details on symptom characteristics such as severity, duration, and conditions that could improve or worsen the symptoms. Include the patient's height, weight, and vital signs (e.g., blood pressure, pulse rate, body temperature, respiratory rate).

	Add information about patient's past medical history, including allergies, immunizations, and medications. Mention any relevant family and social history. The question should ask for which of the following is most likely to be found in this patient upon biopsy. Answer Options: List five potential pathological findings in alphabetical order. Correct Answer: Specify the correct pathology. Patient Description: Vary by age (infant/child, young adult, elderly) and gender. Symptoms should be acute or chronic. Describe work when applicable and social status. Guidelines: Question options should include possible pathological findings. Ensure questions and options are medically accurate and relevant. Detractors should represent the most likely alternative. For rationale, provide reasons for incorrect and correct options. Language: English Temperature setting: Maintain average randomness (Temperature=1)
Modified to focus on selecting a diagnostic study.	Objective: Provide a multiple-choice question (MCQ) to assess the ability of medical students to select a diagnostic study confirming ulcerative colitis. Question format: Question: Describe the patient's signs, symptoms, and findings of the disease. Provide details on symptom characteristics such as severity, duration, and conditions that could improve or worsen the symptoms. Include the patient's height, weight, and vital signs (e.g., blood pressure, pulse rate, body temperature, respiratory rate). Add information about patient's past medical history, including allergies, immunizations, and medications. Mention any relevant family and social history. The question should ask for which of the following is most likely to confirm a diagnosis of ulcerative colitis in this patient. Answer Options: List five potential diagnostic studies in alphabetical order. Correct Answer: Specify the correct diagnostic study. Patient Description: Vary by age (infant/child, young adult, elderly) and gender. Symptoms should be acute or chronic. Describe work when applicable and social status.

	Guidelines: Question options should include possible diagnostic studies. Ensure questions and options are medically accurate and relevant. Detractors should represent the most likely alternative. For rationale, provide reasons for incorrect and correct options. Language: English Temperature setting: Maintain average randomness (Temperature=1)
Modified to focus on identifying mechanism of action for a drug.	Objective: Provide a multiple-choice question (MCQ) to assess the ability of medical students to identify mechanism of action for drugs used to treat ulcerative colitis. Question format: Question: Describe the patient's signs, symptoms, and findings of the disease. Provide details on symptom characteristics such as severity, duration, and conditions that could improve or worsen the symptoms. Include the patient's height, weight, and vital signs (e.g., blood pressure, pulse rate, body temperature, respiratory rate). Add information about patient's past medical history, including allergies, immunizations, and medications. Mention any relevant family and social history. The question should ask the most appropriate medication for this patient will have which of the following mechanisms of action? Answer Options: List five potential mechanisms of actions for drugs alphabetical order. Correct Answer: Specify the correct mechanism of action. Patient Description: Vary by age (infant/child, young adult, elderly) and gender. Symptoms should be acute or chronic. Describe work when applicable and social status. Guidelines: Question options should include possible mechanisms of action for treatment. Ensure questions and options are medically accurate and relevant. Detractors should represent the most likely alternative. For rationale, provide reasons for incorrect and correct options. Language: English Temperature setting: Maintain average randomness (Temperature=1)

Modified to focus on selecting management.	Objective: Provide a multiple-choice question (MCQ) to assess the ability of medical students to recommend management for a patient with ulcerative colitis. Question format: Question: Describe the patient’s signs, symptoms, and findings of the disease. Provide details on symptom characteristics such as severity, duration, and conditions that could improve or worsen the symptoms. Include the patient’s height, weight, and vital signs (e.g., blood pressure, pulse rate, body temperature, respiratory rate). Add information about patient’s past medical history, including allergies, immunizations, and medications. Mention any relevant family and social history. The question should ask what is the most appropriate initial or next step in patient care. Answer Options: List five potential steps in alphabetical order. Correct Answer: Specify the correct next step. Patient Description: Vary by age (infant/child, young adult, elderly) and gender. Symptoms should be acute or chronic. Describe work when applicable and social status. Guidelines: Question options should include steps in management. Ensure questions and options are medically accurate and relevant. Distractors should represent the most likely alternative. For rationale, provide reasons for incorrect and correct options. Language: English Temperature setting: Maintain average randomness (Temperature=1)
Modified to focus on identifying upper limb injuries	Objective: Provide a multiple-choice question (MCQ) to assess the ability of medical students to identify upper limb nerve injuries. Question format: Question: Describe the patient’s signs, symptoms, and findings of the disease. Provide details on symptom characteristics such as severity, duration, and conditions that could improve or worsen the symptoms. Include the patient’s height, weight, and vital signs (e.g., blood pressure, pulse rate, body temperature, respiratory rate). Add information about patient’s past medical history, including allergies, immunizations, and medications. Mention any relevant family and social history. The question should ask for which of the following structures is most likely damaged?

	Answer Options: List five potential anatomical structures in alphabetical order. Correct Answer: Specify the correct structure Patient Description: Vary by age (infant/child, young adult, elderly) and gender. Symptoms should be acute or chronic. Describe work when applicable and social status. Guidelines: Question options should include possible anatomical structures. Ensure questions and options are medically accurate and relevant. Distractors should represent the most likely alternative. For rationale, provide reasons for incorrect and correct options. Language: English Temperature setting: Maintain average randomness (Temperature=1)
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Option Two:

You are developing a question bank for medical exams focusing on the topic of **[PLEASE INSERT A TOPIC]**.

Please generate a high-quality single best answer multiple-choice question. Follow the principles of constructing multiple-choice items in medical education. Generate the questions using the following framework:

Case (write as a single narrative paragraph without providing each part separately):

Patient details (gender/age)

Presenting complaint

Relevant clinical history

Physical examination findings

Diagnostic test results (optional)

Question stem: [Insert relevant information from the above sections without compromising the answer]

Acceptable question style: Ask for the BEST answer, NOT one that is TRUE/FALSE.

Answer options:

[Insert plausible answer option]

[Insert plausible answer option]

[Insert plausible answer option]

[Insert plausible answer option]

[Insert plausible answer option]

Explanation:

Identify and explain the correct answer

- Explain why this is the most appropriate answer based on evidence-based guidelines or expert consensus
- Briefly explain why the other answer options are less correct or incorrect.

Difficulty level: **[PLEASE INSERT A DIFFICULTY LEVEL (E.G. EASY, DIFFICULT)]**

Reference: Kiyak Y.S. A ChatGPT prompt for writing case-based multiple-choice questions. *Rev. esp. educ. méd.* 2023;4(3):98–103.

Examples: Overall objective was to create board style questions for neuroanatomy.

Changes to Prompt	Output	Comments
You are developing a question bank for medical exams focusing on the topic of spinal cord anatomy. Difficulty level: Easy	A 32-year-old male presents with progressive weakness in his legs and difficulty walking over the past 3 weeks. He reports occasional episodes of urinary incontinence and numbness around his lower abdomen. His medical history includes well-controlled hypertension but is otherwise unremarkable. On physical examination, there is decreased strength (3/5) in both lower extremities and loss of sensation below the umbilicus. Reflexes are hyperactive in the lower extremities with positive Babinski signs bilaterally. An MRI of the spine shows an intramedullary lesion at the T10 level. What is the most likely underlying pathology causing this patient's symptoms? A) Spinal cord infarction B) Syringomyelia C) Herniated lumbar disc D) Transverse myelitis E) Cauda equina syndrome Correct Answer: D) Transverse myelitis ● Rationale: Transverse myelitis is a condition that causes inflammation across one segment of the spinal cord, leading to motor, sensory, and autonomic dysfunction. This patient's progressive weakness, sensory loss below the umbilicus, hyperactive reflexes, and urinary incontinence are classic for a spinal cord pathology, and the MRI finding of an intramedullary lesion at T10 strongly suggests transverse myelitis. ● Option A (Spinal cord infarction): Typically presents with sudden onset rather than a progressive course, and often follows a vascular distribution in the cord, which might not align with the findings here. ● Option B (Syringomyelia): Involves a fluid-filled cyst in the spinal cord, usually causing a "cape-like" sensory loss over the shoulders and arms, not a loss below the umbilicus as seen in this case.	Generated lead-in focused on underlying pathology, not on neuroanatomy per se. Topic was not focused enough for faculty needs. Recommended change to provide better guidance specific to localizing a lesion in the spinal cord.

	• Option C (Herniated lumbar disc): Would primarily affect the lower lumbar roots, leading to radicular pain and lower extremity symptoms, often without significant sensory level or upper motor neuron findings. • Option E (Cauda equina syndrome): Presents with lower extremity weakness and incontinence but involves lower sacral nerve roots, causing saddle anesthesia rather than a sensory level at the T10 region.	
You are developing a question bank for medical exams focusing on the topic of localizing a lesion within the spinal cord. Difficulty level: Easy	A 45-year-old man presents with weakness in his right leg and a loss of pain and temperature sensation on the left side below the level of his mid-back. He also reports recent difficulty with coordination in his right leg. He has no significant past medical history. On physical examination, he has decreased strength (3/5) in his right leg, loss of pain and temperature sensation on the left side below T8, and proprioception is reduced in his right leg. Reflexes are brisk in the right leg. What is the most likely location of the spinal cord lesion? A) Left side of the spinal cord at T8 B) Right side of the spinal cord at T8 C) Bilateral anterior spinal cord at T8 D) Dorsal columns bilaterally at T8 E) Cauda equina Correct Answer: B) Right side of the spinal cord at T8 • Rationale: The patient's presentation is consistent with Brown-Séquard syndrome, which occurs due to hemisection of the spinal cord. This syndrome typically presents with ipsilateral motor weakness and proprioceptive loss (right leg in this case) and contralateral loss of pain and temperature sensation (left side). The combination of these findings at and below T8 makes the right side of the spinal cord at T8 the most likely lesion location. • Option A (Left side of the spinal cord at T8): This would result in motor and proprioceptive deficits on the left side and loss of pain and temperature on the right side, which does not match the patient's symptoms. • Option C (Bilateral anterior spinal cord at T8): This would likely cause bilateral motor and pain/temperature loss without the ipsilateral and contralateral pattern seen here.	Edited prompt, specifically topic, results in a more focused output on spinal cord anatomy and localizing lesions based on clinical picture. Peer review of output needed before use.

	● Option D (Dorsal columns bilaterally at T8): This would lead to bilateral proprioceptive loss without affecting motor function or pain/temperature sensation. ● Option E (Cauda equina): Lesions here affect the lumbar and sacral nerve roots, leading to lower motor neuron signs, asymmetric leg weakness, saddle anesthesia, and bowel/bladder symptoms, which are not seen in this case.	
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