

# Kaplan USMLE Step 3 prep: Teen with a newly enlarged heart

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If you're preparing for the United States Medical Licensing Examination<sup>®</sup> (USMLE<sup>®</sup>) Step 3 exam, you might want to know which questions are most often missed by test-prep takers. Check out this example from Kaplan Medical, and read an expert explanation of the answer. Also check out all posts in this series.

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## This month's stumper

A 17-year-old boy who is hospitalized for depression on the general psychiatric unit complains of severe chest pain. The pain is worse on inspiration and has been present for about two weeks. His past medical history is significant for depression with multiple suicide gestures for the past five years and seasonal allergies. His only medication is fluoxetine. He tells you that he is not sexually active and denies illicit drug use. Review of systems is significant for a recent bronchitis.

Vital signs are: temperature 37.2 °C (99 °F), blood pressure 120/70 mm Hg, pulse 92 beats per minute, and respirations 10 breaths per minute. The patient is disheveled, but well developed. Cardiac examination reveals a leathery sound on systole and diastole. There is a normal rate and rhythm, but no third or fourth heart sounds. The lungs are clear. The lower extremities are normal. An electrocardiogram reveals normal sinus rhythm at a rate of 95 beats per minute. Chest X-ray reveals moderate cardiomegaly. A prior report from a chest X-ray taken eight months ago states that the heart size was normal.

The next step in managing this patient would be to:

**A.** Begin therapy with ibuprofen.

- B. Begin therapy with prednisone.
- C. Obtain permission for an HIV test.
- D. Order a cardiac perfusion scan.
- E. Send cardiac enzymes to rule out a myocardial infarction.

The correct answer is A.

## Kaplan Medical explains why

This patient is presenting with inspiratory chest pain, a leathery rub on systole and diastole, and a newly enlarged heart. This is consistent with post-viral pericarditis, the most common form of pericarditis. Treatment includes nonsteroidal anti-inflammatory medication and in refractory cases,

steroids.

Other causes of pericarditis not apropos to this case include myocardial infarction, connective tissue disease such as rheumatoid arthritis and lupus, drugs such as procainamide, hydralazine and isoniazid, metastatic cancer such as lung and breast cancer, and renal failure.

## Why the other answers are wrong

**Choice B:** Steroid treatment such as prednisone is prescribed only after an aggressive course of anti-inflammatory treatment has failed given the many side effects of steroid medication.

**Choice C:** An HIV test is unnecessary given the low-risk social history of this patient. Evaluation and treatment for pericarditis is the most appropriate next step.

**Choice D:** A cardiac perfusion scan would only be appropriate for a post-myocardial infarction. Evaluation and treatment for pericarditis is the most appropriate next step.

**Choice E:** Cardiac enzymes are unnecessary given the patient's age and lack of electrocardiographic findings to suggest a myocardial infarction. This patient is presenting with inspiratory chest pain, a leathery rub on systole and diastole and a newly enlarged heart. This is consistent with post-viral pericarditis, the most common cause of pericarditis.

For more prep questions on USMLE Steps 1, 2 and 3, view other posts in this series.