

Case 1: Pharyngitis

a. Are antibiotics in order?

Antibiotics are not in order.

b. See article on strep throat and the MedCalc3000 Mclsaac rule and advise on the next steps applying the concepts illustrated in class.

Pharyngitis is a sore throat caused by inflammation of the back of the throat. Most sore throats are caused by viruses, although a few are due to bacterial infections [Humair et al., 2006]. Unless a bacterial infection like strep throat exists, taking antibiotics doesn't help a sore throat. The MedCalc3000 Mclsaac rule further confirms the recommendation not to prescribe antibiotics for the patient.

The next steps are to present the information to the patient and inform him about the diagnosis, treatment and prognosis of his conditions. Additionally ask him to revisit the care provider if his conditions are worsen.

c. Then, please comment on how this entire process might be facilitated smoothly for clinicians by healthcare IT.

Healthcare IT might facilitate this process by integrating the MedCalc3000 functionality within the EHR system as a prompt which can be automatically populated using information gathered during the H&P and a preliminary interpretation could be presented to the physician as part of the diagnosis evaluation process.

2.d. Estimate the patient's clinical probability of having pulmonary embolism using the Geneva Score.

>65(1 point)

Previous deep venous thrombosis or pulmonary embolism (unknown)

Surgery or fracture within 1 month(unknown)

Active malignant condition(N/A)

Unilateral lower limb pain(unknown)

Hemoptysis(unknown)

Heart rate of 75-94 beats/min(N/A)

Heart beat greater than 95 beats/min(5 points)

## Applied Decision Making

Pain on lower limb deep venous palpation and unilateral edema(N/A)

Total(6 points)

The prevalence of pulmonary embolism is 28%, or according to the article as being classified in the intermediate probability category (4 to 10 points).

Previous DVT pain or pulmonary embolism not discussed and not valued. Although patient currently presents with pulmonary embolism characteristics there is no previous history. Patient has unilateral lower limb swelling but pain was not mentioned in the example and was discarded. Hemoptysis not mentioned in the example and not valued. Lower limb venous palpation and unilateral edema exists but no pain mentioned thus was not an input.

- How might the process of similar patients' management be facilitated by health care IT?

An automated feature can be integrated within the EHR that populates the Geneva and Wells scoring calculators and provides a preliminary score based upon information entered into the system during the H&P, initial interview and screening. All of this information would work to build up a score that might be used in the decision making stage.

Reference:

Humair, J. P., Revaz, S. A., Bovier, P., & Stalder, H. (2006). Management of acute pharyngitis in adults reliability of rapid streptococcal tests and clinical findings. *Archives of Internal Medicine*, 166, 640–644.