MH SAQ practice Respiratory CXRs

SAQ 1

A 23 year old man with known asthma is brought to ED by ambulance with an acute exacerbation.

a. What 5 features on history would concern you that his attack might be severe?

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b. What 5 features on examination would suggest he had a severe exacerbation?

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c. Clinical examination confirms he has had a severe episode. List and justify 3 investigations you would perform.

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d. List your 4 immediate treatment priorities.

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SAQ 2

A 28 year old man presents to the ED complaining of shortness of breath and pleuritic chest pain. His arterial blood gases are as follows:

On Air

pH 7.37

pO2 8.0

pCO2 2.3

BE -2.0

a. Give three investigations, other than D-Dimer, you would perform. (3 marks)

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b. At this stage give 4 risk factors as described by the BTS to exclude Pulmonary Embolism. (4 marks)

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His D-Dimer result returns at 0.2 (normal range <0.14)

c. What 2 management steps would you now make? (2 marks)

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d. The patient becomes acutely short of breath and hypotensive. What management step would you now take? (1 mark)

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SAQ 3

A 35 year old male attends your department. His partner is HIV positive and being treated for TB.

Blood gases on 60% oxygen show:

pH 7.44

pCO2 4.0 Kpa (30mmHg)

pO2 16.5 Kpa (124mmHg)

Bicarb 22 mmol/L

Base Excess -1

Chest x-ray is shown below.



a. Describe the chest x-ray. (2 marks)

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b. Excluding TB, give 2 differentials diagnoses. (2 marks)

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c. List 3 organisms that may infect the pulmonary system in HIV. (3 marks)

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d. Give 6 tests in the ED which would help in the management of this patient. (3 marks)

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SAQ 4

A 24 year old women who is 10 weeks pregnant presents with suspected pulmonary embolus.

a. List five clinical features that would increase her likelihood of having PE. (5 marks)

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b. Describe the utility of the following investigations in this patient. (5 marks)

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|  | **Investigation** | **Utility**  |
| 1 | D Dimer  |  |
| 2 | CXR  |  |
| 3 | Lower limb US  |  |
| 4 | CTPA |  |
| 5 | VQ |  |

c. The patient has been diagnosed with pulmonary embolism. What are the ECG changes below? (1 mark)



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d. What do the ECG changes suggest? (1 mark)

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e. The patient becomes hypotensive. List 4 treatment options (2 marks)

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SAQ 5

A 30 year old man presents with a left sided spontaneous pneumothorax.

a. What are 3 features to elicit on evaluation that will help determine your management? (3 marks)

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b. Give a clinical circumstances in which each of the following would be appropriate. (3 marks)

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| **Management** | **Clinical circumstances**  |
| Observation |  |
| Aspiration  |  |
| Intercostal catheter/ pneumocath/ pigtail catheter  |  |

c. List 6 complications of intercostal catheters. (3 marks)

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SAQ 6

A 35 year old woman presents to your ED with an acute asthmatic attack. She is on continuous salbutamol nebs, is highly distressed and only speaking single words.

a. Name 4 features on history that increase the risk of severe life threatening asthma. (2 marks)

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a. List at least 6 therapeutic drug classes that may be used in the treatment of a severe attack. (2 marks)

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b. Outline what your initial ventilator settings would be. (4 marks)

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c. What physiological targets are you aiming for? (2 marks)

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SAQ 7

A 45 year old man has been brought to your ED by ambulance after being stabbed once in the right

side of the chest.

On arrival, his vital signs are:

GCS 15 E4 V4 M6

Pulse 120 /min

BP 85/40 mmHg

O2 sats 94% 15L O2 via non-rebreather mask

A chest Xray has been performed.



1. Give the main abnormality on the chest Xray, with supporting evidence. (3 marks)

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2. List the steps involved in inserting an intercostal catheter in this patient. (9 marks)

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SAQ 8

A 45 year old man has presented to the ED with cough of 2 weeks duration.

His chest Xray is given below.



1. Describe the main abnormality on the chest Xray. (2 marks)

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2. List 3 relevant negatives on review of the chest Xray. (3 marks)

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3. List 3 groups of pathological causes for this abnormality. For each, give 2 aetiological agents.

(6 marks)

