

## Format

OSCE Section. 12 parts, 5 minutes each. If not finished when the bell goes, prepare to be physically ousted from the station.

## Questions

1. ECG showing delta wave with shortened PR interval and R wave in V1. Patient presented with BP 80 systolic and palpitations. SHO gave adenosine.
  - (a) What does the ECG show?
  - (b) Why (did the patient present so)?
  - (c) What is the dose of adenosine?
  - (d) How does it work?
  - (e) What is the next treatment according to ALS?

### Answers

- WPW (Type A)
- AV Nodal Re-entrant Tachycardia due to an accessory pathway - in this case right sided activation of the right ventricle prematurely (pre-excitation by the bundle of Kent)
- 6mg then 12mg bolus followed by flush
- Stimulates  $A_1$  receptors on myocardial cells affecting  $K^+$  channel cyclic amp production. This produces transient high grade AV block. Is rapidly broken down by rbc's to give a  $t_{1/2}$  of 2 to 6 seconds
- Synch DC cardioversion

2. Pictures:

- (i) Vescicular lesions of the face.
  - (a) What is the diagnosis?
  - (b) Explain this appearance.
  - (c) What are the complications?

### Answers

- Chicken Pox
- ?
- Bacterial infection (skin, otitis media), scarring, pneumonia, encephalitis

- (ii) Skin lesion on lower limb (extensive, ulcerated) followed by healed appearance in subsequent photograph. Patient has ulcerative colitis.
  - (a) What is the diagnosis?
  - (b) What treatment has she had?

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### Answers

- Pyoderma Gangrenosum
- Prednisolone

3. Abdominal x-ray showing distended large bowel in a young man just returned from Egypt with fever and abdominal pain.

- (a) What does the x-ray show?
- (b) What investigations are indicated?
- (c) What is the treatment?
- (d) What is the worst outcome?

### Answer

- No idea what they were after - I wrote about infective causes and would probably not have ordered an AXR

4. Two parents and their twin girls age 6 spent the day in the New Forest picking wild flowers and mushrooms. They left the car tailgate open as it was a hot day, and drove home, on arriving at home the parents found their girls unconscious in the back seat. They are brought to A&E.

- (a) Give a differential diagnosis.
- (b) What investigations are indicated?
- (c) How would you manage them?

### Answers

- Poisoning (plant / fungus, CO, drugs), Hyperthermia, Infection (cerebral / sepsis), Head Injury / NAI
- Vitals (including temp, p, BP, RR, O<sub>2</sub>Sats, Cap refill, BM), Carboxy Hb, ABG. Others dependent on findings.
- ABCDE. Support / treat cause.

5. You are planning a retrospective audit on a condition in your A&E department.

- a) When would you use sampling?
- b) How could you be sure to get all the subjects?
- c) What statistical test would you use to compare the data with another A&E department?
- d) How would you present the statistics?

### Any ideas?

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6. This boy fell off his bicycle. What injuries are shown?

- a) Elbow x-ray.

Answer

- An anterior fat pad and a probable undisplaced supracondylar fracture.

b) This boy fell over the handlebars on his BMX. CXR: List four abnormalities

Answer

- right pneumothorax, right haemothorax /effusion, subcutaneous emphysema, # ribs 3-8 on right (ATLS barn door Xray)

7. This young lady fell off her horse. Pelvis x-ray.

- a) What are the injuries?  
b) What are the complications?

Answer

- Fractured left neck of femur and acetabular fracture.
- NOF: avascular necrosis, non union, leg shortening, 2ndary OA,
- Acetabulum: Obstetric difficulties, trauma to pelvic contents, myositis ossificans

8. This man presented with chest pain and was given intravenous analgesia with an antiemetic. Shortly after he adopts a bizarre posture and is unable to let go of the blankets. ECG is given showing hyperacute anterolateral myocardial infarction.

- a) What is the problem?  
b) What treatment is indicated?  
c) What are the causes of ST elevation?

Answer

- Acute dystonic reaction 2ndary to metoclopramide
- IV anticholinergic (benztropine 1-2 mg)
- Myocardial infarction, myocardial injury, LV aneurism, normal variants (e.g. athletic heart, Edeiken pattern, high-take off), acute pericarditis

9. A child has been in the garage where there was a whole bottle of white spirit which is now empty. She comes in coughing.

- a) What does this CXR show?
- b) What is the diagnosis?
- c) List other signs of hydrocarbon exposure.
- d) List other poisons which cause respiratory signs and symptoms in children.

Answers

- Hilar flare
- Aspiration
- Aspiration (related to low viscosity). Systemic toxicity (CNS and cardiotoxicity). Phenol, toluene and camphor have high systemic toxicity. Low systemic toxicity agents include furniture polish, mineral spirits (white spirit in the UK), kerosene, lighter fuel. Turpentine has variable systemic toxicity but is rare in the UK.
- Aspirin, opiates, Benzodiazepines, nearly all psychoactive agents, many others

10. 5 pictures given:

- (i) mouth with ulceration / crusting of lip and a white exudate on tongue. What is the diagnosis? - Candida
- (ii) child with widespread erythematous maculopapular rash. Presents with this rash, fever, and occipital lymphadenopathy. What vaccination has been missed? - MMR
- (iii) Parallel linear contusions to side of child's face. What is this appearance due to? - Slap
- (iii) circular 5mm punched out burns to child's hand. List two reasons to suspect NAI in this case. - appearance (cigarette), old
- (iv) Child with eczema and secondary infection. What organism is usually responsible for deterioration in this rash? - Staph Aureus

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11. A drunk lady fell downstairs. She is managed according to ATLS with c. spine immobilisation and oxygen, and a 16G iv cannula is inserted. There is pain on springing her chest but no flail segment. With an FiO<sub>2</sub> of 85% her oxygen saturation is 85%, and she has a sinus tachycardia. Her GCS is 6.

CXR & CT Head

What are the abnormalities on this CXR?

What are the management priorities?

What 4 abnormalities are shown on the CT Head?

### Answers

- Right fractured ribs 5,6,7. Rim pneumothorax.
- ABCDE. RSI and ventilate on arrival in the ED, right large chest tube (before or after RSI depending on situation), if remains tachycardic IV fluids and hunt bleeding cause, CT brain & neurosurgical assessment to consider surgery, give mannitol.
- Cortical atrophy, midline shift, compression of lateral ventricles, subdural haematoma (?acute/?acute-on-chronic).

12. Asked to demonstrate on ALS mannekin. A young man collapses out of hospital. Please assess and manage as you would. (Patient in cardiorespiratory arrest). During BLS, examiner hands over a bag-valve-mask device. "Show me how you would use this equipment."

Appropriate for an exit exam?