

Teaching OSCEs

Teaching – Airway

History: You are about to receive a patient with a tricyclic antidepressant overdose with a GCS of 3 in ten minutes.

Task: You have been asked to explain to airway equipment to a medical student.

Marking Criteria

Confirms that management of the airway is a priority in this patient

Identifies examples of reasons for airway management (inability to protect airway)

Basic airway manoeuvres (extra point for jaw thrust in trauma)

Suction catheter may help clear secretions, blood

Oral pharyngeal airway needed if patient unconscious, in cardiac arrest, no gag

Demonstrates sizing of oral pharyngeal airway

Explains how to insert guedel (extra point for tongue depressor in paed)

Nasopharyngeal airway in unconscious patient without head injury

Demonstrates sizing of Nasopharyngeal airway

Demonstrates insertion of nasopharyngeal airway

Oxygen via non rebreather mask with reservoir, purpose of reservoir, spontaneous respirations required

Oxygen should be at 15 litres /min

Mentions pulse oximetry use

If patient is spontaneously breathing, may require assisted ventilation with BVM

Equipment for intubation – laryngoscope

Checks laryngoscope is in working order

Endotracheal tubes – checks balloon

Uses 10ml syringe to inflate balloon

Introducer, indication

Bougie, indication and difference in introducers

Tape and tie

Stethoscope to check position to tube (axilla and stomach)

ETCO₂ monitor

Does above in a logical way

Global scores

Teaching – Fundoscopic examination

Task: You have been asked to teach to an third year medical student how to perform a fundoscopic examination.

Marking criteria

Brief introduction to patient

Obtains verbal consent to allow student to assess

Brief introduction to student, establishes rapport

Establishes adequate environment (layout, instrument, etc)

Setting: lists the objectives

Setting: defines structure and roles

Dialogue: mentions the four stage approach, but may modify due to time constraints

Closure: asks if there are any questions

Closure: summarises

Closure: terminates session

Shows competency in the skill being taught

Global score

Teaching - Application of CPAP (BiPAP)

Mech: Continuous positive airway pressure, splints the alveoli open, increases the functional residual capacity and compliance, improving gas exchange and reducing the work of breathing

Start at pressures of 5cm H₂O and attach to an O₂ source, CXR before application to rule out pneumothorax.

Indications: acute respiratory failure, (infection), COPD, weaning off ventilator, sleep apnea, CCF, severe asthma, ARDS, flail chest

Comp: reduce CO₂, hypotension, barotrauma, pneumothorax, inaccurate central line measurements

Patient must be able to remain awake and alert, protect own airway, self ventilate, maintain blood pressure and pulse

Teaching - Oxygen masks

Generally a increase in the L/min by one increases the concentration by 4%

Nasal canula: 1-6L/min gives 25-40%

Face mask: 8-10L/min gives 40-60%

Non rebreather: 6-10L/min gives 60%-90%

Teaching – Otoscopy (from the college website)

History: A medical student asks you how to use the auroscope

- You should demonstrate the use of the scope using the manikin provided

Task: Explain to a medical student how to use a auroscope

Marking criteria

Introduces self to student and confirms they wish to learn the skill

Explains optimal position of patient

Explains need to ensure patient is comfortable

Shows student the auroscope and explains equipment 2,1,0

Correctly holds the auroscope

Checks brightness of light and end of auroscope / new ear piece

Positions self in relation to patient (mannikin)

Inspects external ear

Checks for pain on traction of ear lobe

Comments on canal

Comments on drum

Indicates need to examine other ear

Establishes diagnosis (Perforation)

Correctly identifies the picture of the condition and talks through correctly

Encourages student to practice

Corrects faulty technique

Confirms correct examination skills

Recommends practice

Encourages questions on technique

Suggests appropriate management

Global score (*please refer to global score grid*)

Score out of 5

Global score from role player (*please refer to global score grid*)

Score out of 5

For the purpose of standard setting:

Overall subjective view Pass Fail

Teaching – management of CCF

Teaching - management of DKA

Teaching - management of severe asthma

Teaching – ECG

Task: Use the ECG provided to give a medical student a short teaching in ECG interpretation

Marking Criteria

Ask for any pertinent history about the patient

Mentions standard paper and standard speed

Shows how to assess rate

Shows how to assess rhythm

Shows how to assess axis

If p waves present are they normal size and 1 with each QRS

Define PR interval

Discusses significances of PR interval

Defines the QRS

Discusses the significance of abnormal QRS

Defines QRS amplitude

Defines Q waves and significance

Looks for T wave inversion

Discusses significance of T wave inversion

Looks for ST elevation/depression

Discusses the significance of ST elevation/depression

Looks for other findings - delta wave, U wave

Discusses significance of delta and U waves

Checks that the student understands what has been explained

Asks student if they have any questions

Summarises abnormalities on ECG

Global scores

Teaching – Pacing

Teaching – Cervical spine clearance

Clearing the cervical spine: patients that have a GCS of 15/15, are sober, have no focal neurological findings, are pain free and have no distracting symptomatology are safe to examine with collar removed. The neck is then palpated for mid line tenderness. If no tenderness is elicited the patient can proceed with ROM testing (as discussed in pain syndromes). If the patient has pain with palpation or ROM testing, the c-collar should be reapplied and c-spine X-rays obtained. In patients with decreased sensorium c-spine films are mandatory. It is important to consider the mechanism of injury when deciding who requires x-rays.

Signs of spinal cord compression in the unconscious: areflexia (spinal shock), diaphragmatic breathing, flexed upper limb posturing, priapism, neurogenic shock
DX: AP, AP open mouth and lateral plain films (taken first), 'swimmer's view may be indicated to view the lower cervical spine; CT (better defines bone fractures); MRI; If one fracture is present continue investigations for a second, 20% are multiple, flexion and extension views may be appropriate as above

Interpretation of neck x-rays

1. Must view all 7 cervical vertebra and the top of T1 (10% incidence of C7-T1 subluxation)
2. Check the alignment and height of the vertebral bodies (≤ 2 mm difference in height between the anterior and posterior aspects of the vertebral body)
3. Check the four parallel lines: anterior and posterior laminal lines, spinolaminar line and the posterior spinous line, the spinous process project lines that usually intersect at the same point
4. Check the predental space, should be less than 3 mm (RO torn transverse ligament)
5. Check for central location of the odontoid process (the lateral masses should align with the top of C2 on the open mouth view).
6. Check the retropharyngeal and the retrotracheal spaces (soft tissue), normal indentation at the cricopharyngeal muscle (above the larynx ≤ 7 mm and ≤ 22 mm below)

Teaching – ear

You are about to examine a 20 year old man with otalgia.

You have a medical student with you. The medical student would like you to show her how you perform Rinne's and Weber's tests, and how to use an auroscope.

- Wash hands / alcohol gel / gloves
- Introduce yourself
- Confirm identity of patient
- Introduce medical student
- Consent for exam and student presence

- **Rinne's test**
- Technique
- Interpretation of result

- **Weber's test**
- Technique
- Interpretation of result

- **Auroscopy**
- Pinna – scars, deformities
- Scars behind ears
- LNs – pre-auricular, post-auricular, infra-auricular
- Inspect ear canal and tympanic membrane

- Thank patient

Check understanding of medical student, ? any Qs

Teaching – ear

This is a patient that is in the eye room of your department. Demonstrate to a third year medical student how to use an ophthalmoscope.

- Wash hands / alcohol gel / gloves
- Introduce yourself
- Confirm identity of patient
- Consent for exam and student presence
- Ensure comfortable

- Ophthalmoscope – basic functions
- Dim lights
- Right eye to right eye
- Red reflex
- Fundoscopy – optic nerve, vessels, macula

- Thank patient

Check student understanding, any Qs?

Teaching – ECG

A medical student is in the department. He asks you to show him how to interpret this ECG.

- Wash hands / alcohol gel
- Introduce yourself
- Confirm identity of medical student – ask to see his ID badge
- Ensure patient is receiving appropriate treatment

- Open and friendly manner
- Clarifies student's prior knowledge

- Explains basic electrophysiology – P waves, QRS
- Explains sinus rhythm / SA node
- Q waves
- ST elevation
- Coronary territories – inferior, anterior, lateral MIs
- Axis

- Clarifies student's understanding

- Thank student
- Dispose of student appropriately