

WORKSTATIONS:

Management of "A&B" (15 minutes)

The instructor will use the following directed case scenarios to highlight potential problems (and their solution) in the management of 'airway and breathing' in a rural-remote trauma setting.

Case 1

You are called to attend a farmer who is the victim of flash burns following the deflagration of a paraffin lamp inside a barn. You attend 45 minutes after the incident. On examination he has superficial burns of the hands and face; there is mild blistering of his lips and his nasal hairs are singed; there is blistering of the tongue. His respirator rate is 18/minute. You estimate the time to hospital to be 2-3 hours.

How would you manage this case?

- Consider elective cricothyrotomy (surgical) under local anaesthesia. Dress hands inside clear plastic bags, for example with paraffin oil(!). If the patient needs his hands during the evacuation, then leave the burns open initially.

Case 2

A 24 year old woman has been kicked in the lower left side of the chest by a camel. She complains of severe left sided chest pain and difficulty breathing. The patient is inaccessible by road or directly by air (fixed wing), and must initially be moved 1km on foot before a short road journey to a fixed wing aircraft.

What diagnoses must be excluded?

- **Pneumothorax**
- Flail chest and associated pulmonary contusion
- Haemothorax
- Splenic injury

How would you manage this problem pre-hospital?

- If oxygen is available, give it. Remember that a "D" sized cylinder on 15L/min will last less than 25 minutes. If the patient has to walk out, you will have to carry the cylinder.
- If there is a pneumothorax clinically, then drain it (Portex chest drain bag).
- A flail chest requires oxygen and analgesia. If the patient has to walk out, then consider intercostal nerve blocks (if you have been trained), or small aliquots of parenteral analgesia. Beware of overstrapping and inhibiting ventilation of the unaffected side.

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- If there is evidence of a rib fracture (tenderness/crepitus/surgical emphysema) a chest drain should be inserted before transport by fixed wing. If there was a small pneumothorax this may tension, and if the patient is loaded with their left side against the fuselage it would be inaccessible to drain during transport.

How would you manage this problem in-hospital?

- On arrival in hospital this patient would have a full primary and secondary survey, with appropriate resuscitation.
- A flail chest is managed conservatively with oxygen and analgesia (parenteral; intercostal nerve blocks; thoracic epidural), but may require elective ventilation.
- It would be wise to exclude intra-abdominal pathology, and particularly a ruptured spleen. In the stable patient the investigation of choice is DPL. If there are clear signs of intra-abdominal bleeding proceed immediately to laparotomy.

Case 3

You attend the scene of a motor vehicle accident where the driver of a 'ute" has driven into a tree. He was unrestrained and has hit his face on the steering wheel. He is found slumped forward over the steering wheel, breathing spontaneously and responsive to pain. His face is swollen and he is bleeding from his mouth.

The patient is removed from the car and laid on his back on a stretcher. At this point his airway sounds obstructed and there is an increased effort to breathe.

Why might his airway be obstructed?

- Blood, vomit, or broken tooth.
- Unstable mid-face fractures (Le Fort fractures).
- Fractured jaw.

What can be done immediately to relieve the airway obstruction?

- Oropharyngeal suction.
- Roll onto side (with C-spine control if possible).
- Le Fort fracture: pull mid-face forward by traction on patient's upper incisors.
- Fractured jaw: pull tongue forward, eg with transverse tongue suture.

How are you going to transport the patient to avoid further airway compromise?

- On back with C-spine immobilised, **IF** airway protected by ET tube.
- On side.
- On front, with face dependent and forehead supported on transverse strapping between the stretcher handles.

Summary:

At the end of this session the instructor will finish with a summary of key points and an opportunity for candidates to ask any questions.