



Penetrating neck trauma

Quick reference management*

Basics and initial assessment

- Focus on immediate life-threats: exsanguination and asphyxiation from airway obstruction
- Wherever, possible the Duty Anaesthetist should be in attendance in the emergency department to assist with airway management
- For complex tracheal injuries notify the ENT early to ensure they can assist
- Wherever possible, try to minimise patient movement and avoid transfer from the ambulance stretcher to the Emergency Department trolley
- Any patient with hard signs of injury should be moved expeditiously to the operating room for further management.
 - Delays should only occur for securing the unstable airway
 - Can apply direct pressure to bleeding wounds enroute
 - Do not take these patients to CT scan
- Careful/gentle placement of the ETT is necessary when the patient has a partial transection of the trachea. Consider a smaller tube size to minimize secondary injury
- Passage of the ETT past the glottic opening (vocal cords) should never be blind if there is any suspicion of tracheal transection or injury.
- Once ETT passes the vocal cords then further advancement should occur guided by a fibrescope (acknowledging that blood might obscure vision).
- Cervical spine immobilisation is unnecessary unless the trajectory suggests direct spinal cord injury, and may be harmful:
 - Can obscure neck injuries
 - Preclude an adequate assessment
 - Make airway visualisation more difficult
 - Delay definitive airway stabilisation

Airway

- Early airway control should be considered in patients with hard signs
 - Expanding hematomas can cause dynamic airway compromise
 - Haematemesis and haemoptysis can make visualisation of the airway structures challenging
- Consider positioning the patient sitting upright and leaning forward to minimise blood tracking into the airway
- Induction agents and intubation technique depend on individual patient assessment, their injuries and potential complications. Careful consultation and preparation between the ED Team Leader, Anaesthetist and Trauma Surgeon is required. The optimal setting for intubation may be in the emergency department or the operating theatre, depending on the risk assessment
- Time permitting, intubation should ideally occur in the operating theatre (easy access to airway adjuncts / fibreoptic stacks / ambuscopes / surgical equipment and trolleys / skilled anaesthetic technicians)
- Have the neck prepared for front of neck access for surgical airway, if laryngoscopy or endotracheal tube placement fails. Consider intubation through the open wound

Breathing

- Zone 1 injuries can result in pneumothorax (PTX)
- Injuries that traverse zones can also cause PTX
- Bag valve mask (BVM) ventilation should be minimised as it can cause dissection of air into the neck and worsen airway distortion

Circulation

- DO NOT PROBE wounds with active bleeding as may dislodge clot
- If patient's condition allows, elevate head of the bed to reduce venous bleeding
- Application of direct local pressure is often successful in controlling bleeding - minimal amount of pressure should be applied to any wound to avoid any necessary compression of ipsilateral carotid artery
- If possible, start IV access on the contralateral side to the injury
- If direct pressure cannot control bleeding, placement of a Foley catheter and balloon inflation may be successful in tamponade of bleeding as a temporising measure
- Consider permissive hypotensive resuscitation

*Refer to full clinical guideline: Contact State Trauma Office via email:
StateTraumaOffice@health.wa.gov.au