



Round : Emergency

Group no : A4

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Primary Survey → Safety first

1. Airway

- Goal is to secure the airway, how to secure it?



Jaw thrust » safest especially if cervical spine injury is suspected



Head tilt chin lift » contraindicated if you suspect cervical spine injury

- If cervical spine injury is suspected » immobilize the neck using neck collar
- If there's a foreign body and you can see it try to remove it with your hands, if you can't see it don't touch it » it can slide down further
- If there's any fluids, vomit, blood in the airway » suction to clear it and prevent aspiration
- You can insert ETT (through nose or mouth), indications » glasgow coma scale more than 8, inadequate oxygenation, shock, CHF, trauma (facial fracture), hypercapnia (COPD)
- All ATLS patients should be put on a bag and high flow oxygen, if not available use BVM bag it can be held in 2 ways to prevent leak: C-C, C-E
- Surgical airway » when ETT tube can't be inserted » cricothyrotomy

2. Breathing

- Inspect chest » symmetry, deformities, fractures, open wounds, chest rise, flail chest
- Flail chest » when three or more ribs located next to each other are fractured in 2 or more places, which causes the flail segment to move paradoxically
- Palpation » subcutaneous emphysema, tracheal deviation .. Percussion » dullness / hyperresonance .. Auscultation » wheezing, crackles, absent
- Tension pneumothorax » hypotension, JVD, decreased or absent breath sounds .. Cardiac tamponade » hypotension, JVD, muffled heart sound

3. Circulation

- Vital organs » brain, heart, kidney .. vital signs are very important (HR, BP, temperature, O₂)
- First thing to check » pulse » radial, why? Easy to access, if the patient has palpable radial pulse then his systolic blood pressure is above 90
- If radial not palpable » palpate the femoral if palpable then systolic blood pressure is above 70 .. if not check carotid pulse with 3 fingers from the same side of the patient on the groove behind the angle of mandible
- If carotid pulse not palpable » start compression
- Shock » inadequate cell perfusion, leads to ischemic, necrosis and lactic acidosis (normally less than 2, if it's between 2-4 mortality rate > 35%, if more than 4 mortality rate > 80% .. lactic acid clearance important for evaluation) .. how to identify clinically? Systolic blood pressure below 90
- For external bleeding » apply direct pressure, if wound is deep » pack the gauze in the wound then apply pressure .. You can elevate limb .. In catastrophic bleeding (femoral) you can use tourniquet (4-6 h reversible time for ischemia)
- In large blood loss » 2 large IV lines, give 3 times lost amount, give crystalloid solution (it contains potassium) .. O- » universal donor but only give it for women who are child bearing, give O+ instead
- Hypovolemic shock » class 1 (<750ml), class 2 (750 - 1500 mL), class 3 (1500 - 2000 ml), class 4 (> 2000 mL) .. In stage 4 heart rate > 140 .. characterized by narrow blood pressure (stage 2,3)
- In hemorrhage you first give fluids, if it didn't work give blood .. in massive hemorrhage apply rule of 1:1:1 » fresh frozen plasma, platelets, packed red blood cells
- If that didn't work » use vasopressors (noradrenaline, adrenaline, dopamine, dobutamine), most commonly used is noradrenaline » if it didn't work, increase dose until max dose reached
- Areas of FAST » pericardium (first one), perihepatic, perisplenic, suprapubic, chest
- Check the pelvis » symmetry, bruising, palpate the pelvis by putting your hands on iliac crests and shaking it gently to evaluate stability (if there's internal bleeding pelvis could contain 3-4 liters of blood)
- It could happen in case of fracture » open book fracture, what to do? Pelvic binders to improve circulation if not available use bed sheet .. don't forget PR exam check for bleeding, anal sphincter tone
- Take a sample of blood » cross match, ABG, toxins, alcohol, pregnancy, CBC

4. Disability

AVPU scale

A = Alert	• Alert and Conscious
V = Verbal	• Responds to Verbal stimulus
P = Pain	• Responds to Painful stimulus
U = Unresponsive	• Unresponsive to any form of stimulus

Mostly used with children

- Glasgow coma scale » 13-15 (mild injury), 9-12 (moderate injury), 8 or less (severe injury)

Behaviour	Response
Eye Opening Response	4. Spontaneously 3. To speech 2. To pain 1. No response
Verbal Response	5. Oriented to time, person and place 4. Confused 3. Inappropriate words 2. Incomprehensible sounds 1. No response
Motor Response	6. Obeys command 5. Moves to localised pain 4. Flex to withdraw from pain 3. Abnormal flexion 2. Abnormal extension 1. No response

8 or less » indication of intubation

- Don't forget to check pupils first in all patients to exclude internal bleeding, brain injury
- Inspect back » perform log roll to examine .. you can do glucose check

Secondary Survey

- Take brief history and perform examination
- Examine head » scalp, orbit, eyes .. cushing triad (intracranial hemorrhage) » bradycardia, hypertension, irregular respiration
- Check battel's sign » behind mastoid process .. check for CSF from nose
- Stab injury » assess for liver damage, blunt injury » assess for spleen damage
- Consider for transverse

