* **Trauma to the Torso**

**The initial management of the traumatised patient must first consist of a rapid primary evaluation and resuscitation of vital functions as soon as abnormalities are detected.**

**Only when the patient has been stabilised and the team are content with the primary survey is a more detailed secondary assessment carried out.**

**The primary survey comprises the fundamental principles of the ATLS system, the ‘ABCDE’ of trauma care**

**ABCDE of trauma care**

**A**, Airway with cervical spine protection

**B**, Breathing and ventilation

**C**, Circulation with haemorrhage control

**D**, Disability: neurological status

**E**, Exposure: completely undress the patient and assess for

other injuries

**Airway with cervical spine protection**

In every trauma situation, the patient’s airway is of paramount importance, and hence this is assessed first. If there is a vocal response from the patient, then the airway cannot be immediately compromised.

Ensuring a patent airway may require simple measures, such as clearing the mouth and suction, or manoeuvres such as a jaw thrust or chin lift. If the airway is compromised again as soon as the chin lift or jaw thrust are relaxed, then a nasopharyngeal or Guedel airway should be used, provided that the patient will tolerate it.

**In the case of severe head trauma, where the patient is unconscious (a Glasgow Coma Score (GCS) of 8 or less), then a definitive airway (such as endotracheal intubation) may be required.**

**It is important to suspect that every patient who has had significant trauma (especially to the head) has a cervical spine injury until proven otherwise.**

**Therefore, throughout the initial assessment, the cervical spine must be immobilized providing that this is not impairing their safety or their airway.**

**This is either performed manually, with in-line immobilization techniques, or with the traditional collar, sandbags and tape.**

**Any efforts to maintain airway patency must also bear in mind the safety of the potentially unstable cervical spine.**

**Breathing and ventilation**

**Oxygen should be administered to all trauma patients, using a high concentration mask with a reservoir.**

**Ventilation requires an adequately functioning chest wall, lungs and diaphragm, and each must be systematically evaluated.**

**A check should be made for signs of surgical emphysema, dilatation of the neck veins, asymmetry of the chest wall, excessive respiratory effort and abnormal rate.**

**Tension pneumothorax, a flail chest with contusion, a massive haemothorax and an open pneumothorax are examples of life-threatening injuries that must be identified and treated in the primary survey.**

**Critical findings include the tracheal deviation, absence of or asymmetry of breath sounds, hyper-resonance (consistent with tension pneumothorax) or dullness to percussion (haemothorax).**

**Breathing**

* Give 100 per cent oxygen at high flow
* Inspect/percuss and auscultate chest
* Check for tension pneumothorax and immediately decompress if suspected
* Insert chest drain for haemothorax/pneumothorax
* Major vessel bleeding within the chest needs to be controlled

**Circulation and control of bleeding**

**Assessment here centres on three critical clinical observations:**

**1 Conscious level. If this is impaired or altered, in the absence**

**of obvious head injury, one must assume that the patient has**

**lost a significant amount of blood and that cerebral perfusion**

**has become compromised.**

**2 Skin colour. A patient with pink skin and warm peripheries**

**is rarely critically hypovolaemic, and the converse is true**

**for a pale, ashen, grey-looking patient with ominous signs of**

**hypovolaemia.**

**3 Pulse. A full, slow, regular peripheral pulse is usually the sign**

**of relative normovolaemia, whereas a rapid, thready pulse or,**

**worse still, one that is not peripherally palpable is a grave sign**

**of hypovolaemic shock, and blood volume must be rapidly**

**restored.**

**While the primary survey is being carried out, other team members should be securing two large-bore cannulae for intravenous access.**

**Fluid resuscitation should be titrated against the patient’s response to the initial fluid challenge and their vital signs .**

**Potential sites for major blood loss include the chest cavity, the abdomen, the pelvis and long bone fractures.**

**Each of these must be examined in turn.**

**Surgical intervention may ultimately be required to control hemorrhage.**

**Disability**

**The neurological status of the patient should be rapidly assessed.**

**The pupils are monitored for size and reactivity, and a GCS measured.**

**This should be repeated regularly as the test is quick**

**to perform and once again it is change in the score which is more important in determining how treatment is going than one isolated measurement.**

**Other than severe head injury, other reversible causes of an altered level of consciousness include hypovolaemia, hypoglycaemia, alcohol and drug abuse.**

**These must all be excluded or treated during the initial assessment.**

**Exposure**

**The patient must be fully exposed and examined front and back using a carefully controlled log roll. Spinal alignment must be maintained during this procedure with in-line traction.**

**Hypothermia can be rapid following trauma, and warming air blankets are vitally important in the resuscitative phase.**

* **Adjuncts to the primary survey**
* Blood tests – full blood count, urea and electrolytes, clotting screen, glucose, toxicology, cross-match.
* ECG, pulse oximetry, arterial blood gas (ABG)
* Two wide-bore cannulae for intravenous fluids
* Urinary and gastric catheters
* Radiographs of the cervical spine, chest and pelvis

**SECONDARY SURVEY**

The secondary survey does not begin until after the primary survey has been completed, and all injuries have been dealt with.

In the case of a severely injuredpatient, for example, the secondary survey may not commence until the patient has returned from the operating theatre, having had life-saving surgery for primary survey ‘ABCDE’ problems.

The purpose of the secondary survey is to identify all other injuries and perform a more thorough ‘head to toe’ examination.

If possible, it is here that the patient’s history is reviewed.

The ‘AMPLE’ mnemonic from the ATLS group is helpful herepotentially life-threatening

* **Review of patient’s history (AMPLE)**
* **A**llergy
* **M**edication, including tetanus status
* **P**ast medical history
* **L**ast meal
* **E**vents of the incident