

ATLS:

- ATLS® originates from 1976, when James Styner, an orthopaedic surgeon, crashed his light aircraft in rural Nebraska with his wife and four children on board. His wife was killed instantly and three of his four children sustained critical injuries. Having arrived at the nearest hospital, Styner found that the care delivered to his family was inadequate and inappropriate, and this stimulated him to initiate a trauma care training programme that became ATLS®.



- **Type of triage:**

- **Triage sieve:** A quick and uncomplicated system based on simple clinical observation of a casualty's
 - - Ability to walk
 - - Breathe and
 - - Maintain peripheral perfusion.
- It can be performed by trained, but non-clinical, personnel.
- The nonmedical triage personnel can institute basic medical interventions during the triage; these are limited to
 - - application of tourniquets homeostatic dressings for catastrophic haemorrhage
 - - opening the airway
 - - Placing unconscious, but breathing, casualties into the recovery position.
- **Triage sort:** requires a degree of clinical training and uses physiological measurements to score casualties and place them into priority groups.
- Both triage systems place casualties into four color-coded priority categories.

The system is based on a three-stage approach:

- ▪ Primary survey and simultaneous resuscitation – a rapid assessment and treatment of life-threatening injuries.
- ▪ Secondary survey – a detailed, head-to-toe evaluation to identify all other injuries.
- ▪ Definitive care – specialist treatment of identified injuries.

The underlying principle of ATLS is to identify the most immediately life-threatening injuries first and start resuscitation. The sequence is:

- A Airway with cervical spine protection
- B Breathing
- C Circulation with haemorrhage control
- D Disability or neurological status
- E Exposure and Environment – remove clothing
- Catastrophic haemorrhage may be controlled by the C-ABC sequence

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- A Airway with cervical spine protection
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- C Circulation with haemorrhage control
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- E Exposure and Environment – remove clothing, keep warm.
- Catastrophic haemorrhage may be controlled before the airway, designated by the C-ABC sequence

A. Airway maintenance and cervical spine protection

- Assessment of-
 - - Patency of airway
 - - Any airway obstruction
 - - Check for trachea, larynx, and faciomaxillary injury.
- Management:
 - - Patency of the airway established by "Chin lift" or "Jaw thrust" maneuver.
 - - Clean the airway (FB, Vomitus, secretion if) by suction.
 - - Endotracheal intubation or tracheostomy (if needed)
 - - Stabilize the cervical spine é neck brace, sand bag, etc. (in a neutral position).

B. Breathing and ventilation

- Assessment of the patient:
 - - Cyanosis
 - - Rate and depth of respiration
 - - Any abnormality in the chest wall movement
 - - Position of the trachea
 - - Chest percussion and auscultation
 - - Check for pneumothorax, Haemothorax, # rib, etc.
- Management: Management according to the cause, i.e.-
 - - If tension pneumothorax: Needle decompression followed by thoracostomy
 - - Cardiac tamponade: Needle or open pericardiocentesis.
 - - Open sucking chest: Temporary sealing or open sucking by occlusive dressing.

C. Circulation and control of haemorrhage:

- Assessment:
 - - Identify the site of bleeding
 - - Vital signs: Pulse, BP, Temperature.
- Management:
 - - Control of external bleeding by direct pressure, pack, etc.
 - - Open two intravenous channels with short wide bore I/V cannula (16 G)
 - - Send blood for grouping and cross matching.
 - - "Start intravenous fluid: Primary volume replacement by Hartmann's solution/Ringer's lactate solutio or normal saline (never DA).
 - - Urinary catheterization.

D. Disability (Neurological status):

- Rapid assessment of the patient's level of consciousness by GCS" or by
- ☐ A-Alert
- ☐ V-Response to verbal stimuli
- ☐ P- Response to painful stimuli
- ☐ U-Unresponsive to all stimuli.
- Assessment of pupillary size and reaction

Extended Glasgow Coma Scale (EGCS)

Response	Score
Eye opening	
Spontaneous	4
To command	3
To pain	2
Nil	1
Best motor response	
Obeys	6
Localizes pain	5
Withdraws from	4
Abnormal flexion	3
Flexion	2
Nil	1
Verbal responses	
Oriented	5
Confused	4
Nil	1

Secondary survey:

- A. Components:
- Detail history taking (AMPLE) - History-
 - o A-Allergy
 - o M-Medication (especially antibiotics)
 - o P- Past medical history
 - o E-Event of incidence.
- "Head to toe" examination.
- Imaging and laboratory studies.
- B. Seek for any associated injuries.