Resuscitation phase:
- continues throughout primary and secondary survey and until treatments are complete
- fluids are required to sustain intravascular volume, tissue and organ perfusion and urine output
- administer blood for hypovolaemia that is unresponsive to crystalloid boluses
- end points are normal vital signs, absence of blood loss, adequate urine output and no
evidence of end organ dysfunction; blood lactate and base deficit on an ABG may be
helpful in patients who are severely injured

Secondary survey:
- identify all injuries by a head to toe examination
- exclude FATAL TRAUMA
- Flail chest
- Airway compromise
- Tamponade
- Air leaks
- Lung contusion
- Tracheal injury
- Ruptured diaphragm
- Aortic disruption
- Unseen haemorrhage
- Myocardial injury
- Any neurological abnormality
- if the patient is awake collect critical data including AMPLE

Trauma series:
- CXR identifies haemothorax, pneumothorax and pulmonary contusion
- AP pelvis can confirm presence of significant pelvic fracture
- lateral c-spine can identify non-survivable neck injury

FAST:
- used solely to identify free fluid in the peritoneal cavity

CT scan:
- CT brain for neurological injury
- CT neck for neck injury
- CT chest, abdo, pelvis using oral and iv contrast to identify injuries
to solid organs and pelvic and retroperitoneal bleeding
- CT aortogram

Spine X-rays:
- if likelihood of spinal injury is low then imaging can be deferred until
resuscitation phase is well underway
- lateral c-spine helps identify 85% of c-spine fractures

Angiography:
- can be both diagnostic and therapeutic
- commonest indications are:
  (i) suspected aortic injury
  (ii) pelvic or retroperitoneal bleeding
  (iii) organ specific embolisation

Lab studies:
(i) X-match
(ii) ABG
(iii) baseline Hb
(iv) urine dipstick for haematuria
(v) electrolytes, coags, cell counts

Initial evaluation of the trauma patient:
(i) stabilisation of the trauma patient
(ii) identification of life-threatening injuries and initiation of adequate supportive therapy
(iii) efficient and rapid definitive therapy

in trauma centres a team of providers evaluates patients who are critically injured and
simultaneously performs diagnostic procedures (this parallel processing approach can
dramatically reduce the time to assess and stabilise the patient with multiple injuries)

key elements are:
1. primary survey
2. resuscitative phase
3. secondary survey
4. definitive therapy

General:
- involves protocol of primary survey, resuscitation, secondary survey and
either definitive treatment or transfer to an appropriate trauma centre for
definitive care (ATLS system)
- absolute diagnostic certainty is not required to treat critical conditions
identified early in the process and where resources are limited subsequent steps should not
be performed until life-threatening conditions in the earlier steps are addressed

Primary survey:
(i) Airway(ability of air to pass unobstructed to the lungs):
critical findings include:
- obstruction of the airway due to direct injury, oedema, foreign body or inability
to protect the airway because of depressed level of consciousness
key treatment is:
- establishment of airway
(ii) Breathing (ability to ventilate and oxygenate):
key clinical findings are:
- absence of spontaneous ventilation, absent or asymmetrical breath sounds, dyspnoea
hyperresonance, dullness, gross chest wall instability or defects that compromise ventilation
key conditions to identify are:
- pneumothorax, endotracheal tube malposition, tension
pneumothorax, haemothorax, sucking chest wounds, flail chest
key treatment is:
- chest tube
(iii) Circulation:
key clinical findings are:
- collapsed or distended neck veins, signs or tamponade, external sites of haemorrhage
key conditions identified are:
- hypovolaemia, cardiac tamponade, external haemorrhage
key treatment is:
- iv access, fluid resuscitation, compression of sites of bleeding
(iv) Disability:
key clinical conditions are:
- decreased level of consciousness, pupillary asymmetry, gross weakness
key conditions identified are:
- serious head and spinal cord injury
key treatment is:
- definitive airway if indicated, emergency treatment of raised icp
(v) Exposure and control of immediate environment:
- expose patient and prevent hypothermia

Other procedures:
several monitoring and diagnostic adjuncts occur in concert with the primary survey:
(i) ECG and ventilatory monitoring and continuous pulse oximetry
(ii) decompress stomach with NG or OG tube once airway is secured
(iii) insert a foley catheter during resuscitation phase (foley catheter placement is contraindicated
if urethral injury is evident as identified by blood at the meatus, ecchymosis or scrotum or
labium majora or high riding prostate - retrograde urethrogram is required for these patients)