The surgical patient
Adult or paediatric

Key Points
3.1 APPROACH TO THE SURGICAL PATIENT

History and physical examination

- Talk to, examine, and think about the patient
- The patient's history and physical examination are key parts of surgical decision making
- The history and physical examination should not delay resuscitation of the acutely ill surgical patient
3.1 APPROACH TO THE SURGICAL PATIENT

History and physical examination

- A full medical history includes the following:
  - Patient’s identification
  - Presenting complaint
  - History of present symptoms / illness
  - Past medical history
  - Family history
  - Social history
  - Functional inquiry which reviews all systems

- Examine the whole patient, assess his or her general health, nutrition and volume status and look for anaemia.
3.1 APPROACH TO THE SURGICAL PATIENT
History and physical examination

• Past medical history especially previous surgery and any complications, including:
  – allergies,
  – medications including non-prescription and locally obtained drugs, immunizations,
  – use of alcohol, tobacco,
  – chronic or incurrent illness
3.1 APPROACH TO THE SURGICAL PATIENT

Investigations

• Use laboratory and diagnostic imaging investigations to confirm a clinical hypothesis; they will not make the diagnosis in isolation.

• Only ask for an investigation if:
  – You know why you want it and can interpret the result.
  – Your management plan depends on the result.

• Do not delay an urgent procedure if laboratory services or diagnostic imaging are not available.
3.1 APPROACH TO THE SURGICAL PATIENT

Decision making

• Your clinical assessment of the patient may indicate that surgery is required. If so, consider the following important issues:
  – Can we do the procedure here?
  – Can we manage this patient?
  – If the answer to any of these questions is "No", it is inadvisable to proceed with surgery.
  – Is this patient stable enough to be transferred elsewhere?
  – If the transfer is not possible or the patient could not withstand such a stress, then be aware of, and communicate, the increased risk of the procedure.
3.1 APPROACH TO THE SURGICAL PATIENT

Decision making

- Make a diagnosis and treatment plan. Manage and care for the patient while awaiting transfer and while in transit.

- Do not refer unless the referral centre can provide a higher level of expertise and care and patient can tolerate the transfer.

- When possible, talk to the person to whom you are sending the patient.

- Identify the transportation options available and decide which is best for the patient.
3.1 APPROACH TO THE SURGICAL PATIENT

- Stabilize the patient before transfer.

- The highest priorities are airway, breathing and circulation (ABC).

- Immobilize fractures, control bleeding, pain and prevent further injury. Place a nasogastric tube if nasogastric obstruction is suspected.

- Assess the need for care and intervention during the transport. Send the patient with the equipment and staffing required.

- Pain management is our job.
3.2 THE PAEDIATRIC PATIENT

- Infants and children differ from adults in significant physiological and anatomical ways.
- Infants and small children have much smaller physiological reserves than adults and minor deviations from normal levels require early attention.
- Infants and children are at special risk of becoming dehydrated and hypoglycaemic.
3.2 THE PAEDIATRIC PATIENT

- Malnutrition can impair the response of children to injury and their ability to heal and recover.

- Good nutrition helps healing. Poor nutrition prevents it.

- When completing a preoperative assessment on a child, consider nutritional status and anaemia; treat chronic anaemia as part of the preparation for surgery.

- Infants and young children, especially those with little subcutaneous fat, are unable to maintain a normal body temperature when there are wide variations in the ambient temperature or when they are anaesthetized.
3.2 THE PAEDIATRIC PATIENT

- Monitor fluid status, electrolytes, and haemoglobin diligently and correct any abnormalities promptly.

- Maintenance fluid requirements must be supplemented to compensate for all losses.

- Fluid requirements in surgical patients commonly exceed maintenance requirements.

- Whenever possible, give fluids by mouth.

- Use the intravenous route for rapid resuscitations (20 ml/kg bolus of normal saline) and for cases where the oral route is not available or inadequate.

- Intra-osseous puncture can provide the quickest access to the circulation in a shocked child if venous cannulation is impossible.
• The most sensitive indicator of fluid status in a child is urine output.

• Normal Urine output:
  – Infants 1-2 ml/kg/hour
  – Children 1mg/kg/hour

• Infants are unable to concentrate urine as well as adults, making them more susceptible to electrolyte abnormalities.
3.2 THE PAEDIATRIC PATIENT

• Underlying malnutrition and immuno-suppression from chronic parasitic infections greatly affect wound healing and the risk of infection.

• Abscess, pyomyositis, osteomyelitis and septic arthritis have similar presentations and treatment in children as in adults.
3.2 THE PAEDIATRIC PATIENT

- The systemic illness and fever may overshadow localizing symptoms.

- Careful history and physical examination is necessary to avoid the pitfall of identifying all childhood fever as malaria.

- Pain is the most important symptom and tenderness the most important sign suggesting infection.

- Most causes of peritonitis require laparotomy.
3.2 THE PAEDIATRIC PATIENT

Surgical problems in neonates

• By recognizing common congenital conditions you can identify when urgent referral is required.

• Jaundice in the newborn is usually physiological or due to ABO incompatibility; if it is progressive, however, consider a congenital abnormality of the biliary tree.
3.2 THE PAEDIATRIC PATIENT
Surgical problems in neonates

- Injuries, including burns and surgical infections, are common problems in children; the calculation of doses, based on weight, for fluids, transfusions and drugs is crucial to correct management.

- The principles of priority apply to children with injuries.

- Burns, especially scald injuries, are very common in children; children with burns are at increased risk for infection.