

TREATMENT OF OPEN FRACTURES

What are open fractures? These are fractures that communicate with the outside through an open wound

Challenges of open fractures:

- Hemorrhage.
- Hypovolemic shock
- Wound Infection.
- Sequestrum.

Emergency Treatment:

a. Ensure adequate ventilation

Clear air passage way in conscious animal

Pass endotracheal tube in unconscious patient

b. Control Hemorrhage

Apply bandage dressing.

c. Treat shock

Administer intravenous fluid.

Administer corticosteroid

Administer antibiotics.

d. Prevent Infection

Debride wound edges

Apply topical antibiotics

Apply bandage dressing

e. Treat wound.

Point to remember:

Wound is considered contaminated in the first 6-8 hours of wounding.

Wound is said to be infected after 8 hours of wounding.

Treatment of open fracture in the first 6-8 hours

- The management aim is to convert a dirty field to a clean field.
- This could be achieved through debridement of foreign materials and devitalized tissue.
- Wound should be protected from further contamination by applying sterile gauze.
- Traction should be applied on limb to prevent bone movement and allow for clipping of hair.
- Apply surgical scrub like iodine –povidone and drape the limb.
- Trim the edges of skin wound and enlarge if necessary.
- Irrigate wound with copious amount of Ringers solution and remove with suction.
- Remove bones that have lost periosteal attachment.
- Re-drape and prepare for aseptic surgery.
- Reduce the fracture appropriately and apply a suitable fixation device that will provide rigid, un-interrupted fixation.

Wound closure of open fractures in the first 6-8 hours

- Early wound closure turns open fracture into closed fracture thus preventing secondary infection and osteomyelitis.
- Undermine skin edges to provide some relief of tension.
- Close fascia loosely to prevent trapping of fluids.
- Eliminate all dead spaces.
- Instill local antibiotics.

Contraindication to primary closure of wound

- Wounds over 8-10 hours old
- Severe swelling
- Extensive skin necrosis
- Where adequate debridement is not feasible e.g. joint

Treatment after 8-10 hours

- Do not close wound primarily at this phase as infection is likely to occur.
- Debride the wound and pack with sterile Vaseline gauze.
- Immobilize the limb with Robert Jones dressing or plaster cast. When a plaster cast is used, create a window on the cast around the wound.
- Administer systemic antibiotics and observe closely for signs of local or systemic infection.
- Bone plate is preferred as fixation device as it leaves the medullary blood supply intact.
- Use cortical graft where there is bone infection (sequestrum).
- Close wound in 6-7 days to allow for enough granulation.