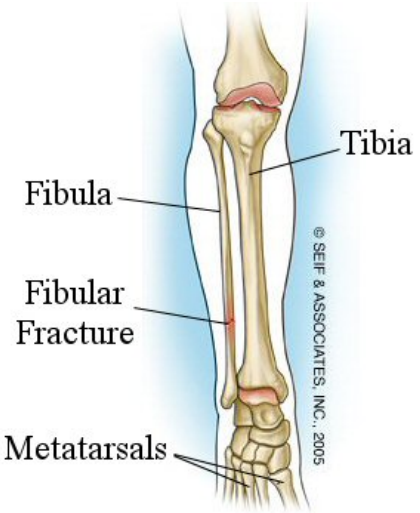
Generic Fracture Care

The 206 bones in our body are important for supporting our body (skeleton) and also for production of blood cells by the bone marrow. A fracture is a break in a tissue. A tissue is a collection of cells that performs a function or job in our body. We most commonly think of fractures in bones. When a bone is broken, or fractured, it affects not only blood production and function. There may also be other damage when structures near the bones are injured.



THERE ARE THREE MAIN TYPES OF FRACTURES

- **Open** - where there is a wound leading to the fracture site or the bone is protruding from the skin.
- **Closed** - where the bone has fractured but has no external wound.
- **Complicated** - this may involve damage to associated vital organs and major blood vessels as a result of the fracture.

Fractures are usually managed by keeping the bones in place long enough for them to heal. This is usually done with splints or casts. Sometimes surgery is required and pins, plates and screws may be used to hold fractures in proper position. The amount of time it takes a fracture to heal depends mostly on the age and health of the patient.

Young children are prone to fractures. These fractures heal rather quickly. The common fractures suffered by children tend to be associated with the arms and wrists. As young bones do not harden for some years, children's fractures tend to 'bend and splinter', similar to a broken branch on a tree. This the reason for the name, 'greenstick fracture'.

As we grow older, there may be a loss of bone known as osteopenia or osteoporosis. These conditions make breaking a bone much easier. Sometimes a minor accident or simply over-use may produce a fracture. These fractures do not heal as fast a younger person's.

SIGNS AND SYMPTOMS OF FRACTURES

The signs and symptoms of fractures of bones depend on how bad the injury is. If shock is present, there may be pale, cool, clammy skin with a rapid, weak pulse. There is usually pain and tenderness in the area of the fracture. There may or may not be deformity of the bone. There may be injury to surrounding tissues.

CARE AND TREATMENT OF FRACTURES

- Care and treatment of fractures relies on immobilization and adequate splinting of the injury. If the fracture is complex, the wound associated with an open fracture may be difficult to handle without professional help.
- If the pulse to the end part of the limb (distal pulse) cannot be restored by gentle traction, then the limb should be stabilized in its current position. Urgent ambulance transport should be obtained. Do not waste time with splinting.
- Generally, fractured limbs should be made immobile and left for medical aid. In remote areas or some distance from medical aid, you may be required to treat as follows:

FRACTURED FOREARM

- Check for pulse at the end part of the limb. If none - gentle traction until pulse returns
- Treat any wounds
- Pad bony prominences
- Apply adequate splinting.
- Secure above and below fracture, secure wrist.

- Reassess pulse or return of color and/or warmth.
- Elevate injury with arm sling.

FRACTURED UPPER ARM

- Check for pulse at the end part of the limb, if none - gentle traction until pulse returns.
- Treat any wounds.
- Pad between arm and chest.
- Apply 'collar and cuff' sling, secure above and below fracture firmly against chest with triangular bandages.
- Reassess pulse or return of color and/or warmth.

FRACTURED LEG

- Check for circulation and pulse at the end part of the limb (skin color and temperature). If no circulation, apply gentle traction until pulse or color returns.
- Call '911' for an ambulance.
- Treat any wounds.
- *Immobilize* (keep it from moving) the limb.
- Pad bony prominences.
- Reassess circulation below injury.

FRACTURED PELVIS

- Call '911' for an ambulance.
- Check for pulses in both legs.
- Bend legs at knees, elevate lower legs slightly and support on pillows or something padded.
- Support both hips with folded blankets either side.
- Discourage attempts to urinate.
- Care must be exercised with a suspected fractured pelvis. This injury may have serious complications. The casualty should always be transported by ambulance and not by alternative means unless absolutely necessary.

FRACTURED JAW

- A common injury in certain contact sports is dislocation, or fracture of the lower jaw (mandible). The casualty will have pain in the jaw, be unable to speak properly, and may have trouble swallowing.
- Call '911' for an ambulance.
- Support the jaw.
- Sit the injured person leaning slightly forward.
- Rest the injured jaw on a pad held by the injured person.
- **DO NOT** apply a bandage to support the jaw.
- Observe the casualty carefully for signs of breathing difficulties and any indication that he or she is becoming drowsy or unconscious.

SLINGS

- Slings are used to support an injured arm, or to supplement treatment for another injury such as fractured ribs. Generally, the most effective sling is made with a triangular bandage. Every first aid kit, no matter how small, should have at least one of these bandages.
- Although triangular bandages are preferable, any material (tie, belt, or piece of thick twine or rope) can be used in an emergency. If no likely material is at hand, an injured arm can be adequately supported by inserting it inside the injured person's shirt or blouse. Similarly, a safety pin applied to a sleeve and secured to clothing on the chest may work well enough.
- There are essentially three types of sling; the arm sling for injuries to the forearm, the elevated sling for injuries to the shoulder, and the 'collar-and-cuff' or clove hitch for injuries to the upper arm and as supplementary support to fractured ribs.
- After application of any sling, always check the circulation to the limb by feeling for the pulse at the wrist,

or by squeezing a fingernail and observing for change of color in the nail bed. All slings must be in a position that is comfortable for the injured person. Never force an arm into the 'right position'.

ARM SLING

- Support the injured forearm approximately parallel to the ground with the wrist slightly higher than the elbow.
- Place an opened triangular bandage between the body and the arm, with its apex towards the elbow.
- Extend the upper point of the bandage over the shoulder on the uninjured side.
- Bring the lower point up over the arm, across the shoulder on the injured side to join the upper point and tie firmly with a reef knot.
- Ensure the elbow is secured by folding the excess bandage over the elbow and securing with a safety pin.

ELEVATED SLING

- Support the injured arm with the elbow beside the body and the hand extended towards the uninjured shoulder.
- Place an opened triangular bandage over the forearm and hand, with the apex towards the elbow.
- Extend the upper point of the bandage over the uninjured shoulder.
- Tuck the lower part of the bandage under the injured arm, bring it under the elbow and around the back and extend the lower point up to meet the upper point at the shoulder.
- Tie firmly with a reef knot.
- Secure the elbow by folding the excess material and applying a safety pin, then ensure that the sling is tucked under the arm giving firm support.

COLLAR-AND-CUFF' (CLOVE HITCH)

- Allow the elbow to hang naturally at the side and place the hand extended towards the shoulder on the uninjured side.
- Form a clove hitch by forming two loops - one towards you, one away from you.
- Put the loops together by sliding your hands under the loops and closing with a “clapping” motion. If you are experienced at forming a clove hitch, then apply a clove hitch directly on the wrist, but take care not to move the injured arm.
- Slide the clove hitch over the hand and gently pull it firmly to secure the wrist.
- Extend the points of the bandage to either side of the neck and tie firmly with a reef knot.
- Allow the arm to hang comfortably. For support to fractured ribs, apply triangular bandages around the body and upper arm to hold the arm firmly against the chest.

If your caregiver has given you a follow-up appointment, it is very important to keep that appointment. This includes any orthopedic referrals, physical therapy, and rehabilitation. Any delay in obtaining necessary care could result in a delay or failure of the bones to heal. Not keeping the appointment could result in a chronic or permanent injury, pain, and disability. If there is any problem keeping the appointment, you must call back to this facility for assistance.

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