Soft Tissue Injury & Fracture

Sprain: Over-extension of a joint with stretching and tearing of ligaments. Strain: Over-stretching of muscles and tendons with tearing of muscle tissue or tendon fibres. Dislocation: Displacement of bone ends in a joint. Fracture(#): Broken bone, classified as:
- Closed: Fractured bone doesn’t penetrate skin.
- Open: Fracture is exposed through open wound or penetrates skin.
- Complicated: Vital organ, major nerve or blood vessel is damaged by a broken bone.

The Signs & Symptoms and First Aid for a fracture and soft tissue injury are very similar.

**SIGNS & SYMPTOMS**
- Pain
- Tenderness
- Snap or pop at time of injury
- Restricted movement
- Discolouration
- Swelling
- Deformity*
- Indicative of fracture or dislocation

**FIRST AID**
- Control external bleeding or cover wound (Pg 12)
- Remove rings from fingers – swelling likely
- Support or Immobilise +/- R.I.C.E
- Medical Assistance: X-rays are the only sure way of diagnosing the type of injury.
- Call ☎ if: Deformity as blood vessels and nerves can be damaged. Open Fracture: Risk of blood loss and infection.

**Fracture Management:**
The main aim of fracture treatment is to support or immobilise an injured part which: • minimises pain • prevents further damage • minimises bleeding and • prevents a closed fracture becoming an open fracture.

**Support:**
- Leave injured part as found and pack around to give support.

**Immobilise:**
- Use Splint, Sling or bandage to prevent movement.
- Stabilise joint above and below fracture site.
- Apply triangular or broad bandages above and below fracture site.
- Check circulation every 15 mins (Pg 11).
- DO NOT elevate a suspected fracture until it has been immobilised.

**Soft Tissue Management:**
**R.I.C.E:** Method used to treat soft tissue injuries (sprains/strains) and fractures.
- Rest: Rest casualty and injured part; this prevents further damage and reduces bleeding.
- Ice: Reduces pain, fluid and swelling by constricting blood vessels. Apply wrapped ice pack for 10 - 20 mins – do not place ice directly on skin. Ice pack or frozen peas can be placed over a bandage. Continue to cool injury three times/day for 2-3 days after the injury.
- Compression: Apply a firm supporting bandage to injured part. This restricts movement of injured part and reduces bleeding and swelling.
- Elevation: Raise injured area above the level of the heart if possible. This slows the flow of blood and reduces swelling.

- Degree of pain is not a good indicator of injury type since pain tolerance varies in individuals.
- Never manipulate a dislocation - there may be an associated fracture.
- When in doubt, always treat an injury as a fracture.
- Check circulation (Pg11) after immobilisation ie after bandaging, splinting, sling.
- May need to slowly adjust position of limb if no circulation is present.
**Immobilising Lower limb:**
- A **body splint** is an effective way to immobilise lower limb fractures.
- The key to immobilising leg fractures is a figure of 8 bandage around the feet.
- Place padding in natural hollows between legs.
- Stabilise joints above and below fracture site.
- Position all bandages before tying off.
- Apply broad bandages above and below injured area.
- Tie bandages off on uninjured side of body.
- If using a **rigid splint** (eg stick) ensure splint doesn’t extend further than length of legs.
- Ensure splint stabilises joints above and below injury.
- Pad over splint to make more comfortable.
- Check circulation:
  - SIGNS AND SYMPTOMS that a bandage is too tight:
    - Pain
    - Numbness
    - Cold to touch
    - Tingling
    - Pale or discoloured
    - Pulse weak/absent below injury

**Splints** can be classified as:
- **Body Splint:** Uses uninjured, adjoining body part to immobilise an injury. Lower limbs, fingers and toes are commonly strapped together as body splints.
- **Soft Splint:** Folded blankets, towels, pillows
- **Rigid Splint:** Boards, sticks, metal strips, folded magazines and newspapers

**Checking Circulation:**
- Check skin colour below injury - if pale or discoloured, there may be impaired circulation.
- Assess skin temperature by gently placing hand below level of injury. Compare to other side. If colder, there may be impaired circulation.
- Squeeze fingernail until nail turns white. Colour should return within a few seconds.
- Compare pulse below injury with other side - If weaker or absent, circulation may be impaired.

**Pelvic Injury:**
- Pain in hip or groin region
- Pain worse on movement
- Inability to walk
- Shock (Pg 14)

**Hip Injury**
- Fractured Pelvis
- Fractured neck of femur
- Dislocated head of femur
- Fractured patella
- Dislocated patella
- Sprain/strain

**Thigh Injury**
- Fractured femur
- Strain: front of thigh (quadriceps)
- Strain: back (hamstrings)
- Cartilage tear
- Sprain

**Knee Injury**
- Fractured femur
- Strain: front of thigh (quadriceps)
- Strain: back (hamstrings)
- Cartilage tear
- Sprain

**Lower Leg/Ankle Injury**
- Fractured tibia
- Fractured fibula
- Dislocation
- Sprain/strain

**Foot**
- Fractured tarsal/metatarsal/phalange
- Dislocation
- Sprain/strain

**FIRST AID**
- Call ☎️
- Reassure casualty
- Control any external bleeding.
- Lie casualty flat with knees slightly bent and supported.
- Place padding between legs and on either side of hips (eg blanket, towel, pillow).
- ‘Figure-of-eight’ bandage around ankles and feet.
- Apply broad bandage above knees.
- Don’t attempt to move casualty.
- Discourage attempts to urinate.
- Maintain body temperature.
- Monitor vital signs (Pg 37,40)

**Signs & Symptoms**
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**Pelvis Fracture**
- Consider internal bleeding from bladder, uterus, bowel damage.

**Thigh Injury**
- A 1.5 litre blood loss can result from a closed fracture of the femur. In this case a 3 litre blood loss could result in shock (Pg 14) and death.

**Knee Injury**
- Support knee in position of comfort.
- Do not try to straighten knee if painful.

**Ankle Injury**
- R.I.C.E for a sprained ankle:
  - Rest: Casually doesn’t move ankle
  - Ice: Cool injured area
  - Compression: Use a crepe bandage
  - Elevation: Place foot higher than hip

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