



Infection Prevention and Control (IP&C) Considerations

- Use contact precautions when dressing wounds
- Sterile dressings must be applied using aseptic technique

Etiology

Fractures

A fracture is a condition in which there is a break in the continuity of a bone. It may be caused by direct force (e.g. femur struck by car bumper) or indirect impact (e.g. following a fall from height landing on the heels, trauma gets passed through the legs to vertebrae causing fractures). The aging process causes significant changes to the skeletal system; bones become less flexible, more brittle, and more susceptible to fractures. As well, pathological conditions such as tumours of the bone, periosteum, cartilage or other diseases can also increase the likelihood of fractures. Fractures are characterized by deformity, swelling, pain, bruising, crepitus, and instability. Fractures are categorized as:

- a. Closed; surrounding skin remains intact
- b. Open / Compound; disruption in the surrounding skin with or without protruding bone ends

Dislocations

A dislocation is a separation of two bones where they meet at a joint. In a complete displacement of a bone end from its normal joint position, the bone sits in an abnormal position. Risks associated with dislocations include trapping, compressing, or tearing of the blood vessels and nerves. Dislocations are characterized by obvious deformity, pain, swelling, and immobility of the joint.

Interventions

Stabilization

1. Immobilize the limb in the position found if distal neurovascular status is intact
2. Assess neurovascular status prior to and after splinting, a careful neurovascular exam distal to the site of the fracture/dislocation before and after splinting is necessary to ensure that the displaced fracture/dislocation has not damaged nerves or arteries
3. Consider cold packs and elevating the limb

Suspected Pelvic Fracture: If there are obvious deformities, contusions/hematomas, or swelling in the region of the pelvis or pubic symphysis and/or the patient complains of pain, do not palpate. This may cause further trauma to the pelvis and worsen any potential hemorrhage. Whenever possible, patients with suspected pelvic fracture should be stabilized in the position found until EMS arrival.

Limb Realignment

It is not normal practice to reduce fractures or dislocations in the field, however, a one-time realignment may be attempted if significant neurovascular or circulatory compromise is suspected.

1. If a gross deformity that could compromise extrication exists, apply in-line traction and realign the limb towards anatomical position
2. If distal neurovascular status is compromised, attempt realignment once

3. If the limb is unable to be realigned easily or if the patient is unable to tolerate the pain, then wait until the arrival of EMS and leave the patient in the position found

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Patient Experience Considerations

- Pain is the most obvious symptom of a fracture or dislocation and is often accompanied with deformity and dysfunction. In addition to the intense pain experience, these patients also have an injury experience and are fearful of the recovery experience and the disability experience, such as having to rely on others. In addition to controlling hemorrhage and preventing ischemia-reperfusion injury, pain management and meeting psychological needs are paramount for these patients
- For a person who cannot speak (for example, a very young child, a person with a head injury, or an older person with dementia), refusal to move an extremity may be the only sign of a fracture. Alternatively, just because an extremity can move does not mean there is not a fracture