

# Bone or joint injury

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## Rationale

Bone and joint injuries are a frequent cause of musculoskeletal pain and may contribute to permanent disability or premature death. Major fractures and dislocations may be associated with other injuries, which may take priority. Unexplained fractures or injuries should alert physicians to the possibility that the patient is being abused.

## Causal Conditions

(list not exhaustive)

- High-energy trauma
- Nonaccidental injuries (e.g., intimate partner violence)
- Falls
- Pathologic conditions predisposing to injury (e.g., osteoporosis, ligamentous laxity)

## Key Objectives

Given a patient with acute onset of musculoskeletal pain or deformity, the candidate will determine whether the condition is due to a bone or a joint injury, assess the severity of the injury, identify possible complications, and construct an appropriate management plan. The candidate will also recognize circumstances in which the patient may have an increased risk for fracture.

## Enabling Objectives

Given a patient with acute onset of musculoskeletal pain or deformity, the candidate will

- list and interpret critical clinical findings, including
  - a. mechanism of injury and, when required, exclusion of other immediately life-threatening injuries through targeted examination;

- b. specific site of injury;
  - c. neurologic and vascular status;
  - d. symptoms and signs suggestive of abuse;
  - e. history of recurrent falls;
  - f. risks for bone abnormalities and/or increased risk for falls or injury; and
  - g. signs of pathologic fractures;
- list and interpret critical investigations, including
    - a. appropriate imaging modalities; and
    - b. bone density testing and investigations for causes of osteoporosis if relevant;
  - construct an effective initial management plan, including
    - a. applying an appropriate splint, sling, or brace;
    - b. restricting weight bearing if indicated;
    - c. prescribing analgesics and anti-inflammatory medications as required;
    - d. referring to specialized care if necessary; and
    - e. choosing the correct treatment for prevention of fractures, including among pharmacologic and nonpharmacologic treatments; and
  - provide follow-up care and address the following:
    - a. duration of immobilization;
    - b. return to work and/or normal activity;
    - c. appropriate use of other health care professionals (e.g., physiotherapist, occupational therapist);
    - d. complications requiring further treatment or referral (e.g., complex regional pain syndrome, compartment syndrome); and
    - e. factors that will affect recovery from the injury (e.g., living situation, employment, nutrition, substance use disorder, general health).