

Diagnosis and Treatment of First Metatarsophalangeal Joint Disorders.

Section 5: Traumatic Disorders

Clinical Practice Guideline First Metatarsophalangeal Joint Disorders Panel:
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This clinical practice guideline (CPG) is based upon consensus of current clinical practice and review of the clinical literature. The guideline was developed by the Clinical Practice Guideline First Metatarsophalangeal (MTP) Joint Disorders Panel of the American College of Foot and Ankle Surgeons. The guideline and references annotate each node of the corresponding pathways.

Trauma (Pathway 6)

Traumatic injuries to the first MTP joint are relatively common and can result in significant residual disability (1–13).

Significant History (Node 1)

Hyperflexion/extension or stubbing-type injuries are the most common causes of first MTP joint trauma (6,14–16). In some instances, the patient may not recall a specific episode of trauma. Crush injuries are a less common cause but they do occur particularly in industrial accidents. Patients may present immediately after acute trauma or sometime later because of persistence of residual symptoms.

Significant Findings (Node 2)

Physical examination of the traumatized first MTP joint may show pain on range of motion and the presence of deformity. There may be localized pain with weightbearing or with direct palpation. Significant soft tissue damage and

vascular embarrassment may be present, particularly with crush injuries.

Radiographs

Radiographs are indicated in most cases of trauma to rule out fracture or joint dislocation. Evaluation of the sesamoids should be included (7,17).

Radiographs: positive for fracture or dislocation (Node 3). Fractures should be evaluated and treated appropriately. Special attention should be directed to maintaining or to restoring articular congruity and segmental alignment. Sesamoid injuries may be subtle and comparison views are often necessary. Significant intraarticular injury may require subsequent arthroplasty or arthrodesis.

Dislocations are relatively uncommon of the first MTP joint (14). Although most traumatic dislocations have occurred in the dorsal direction, there are a variety of reports that discuss dislocation in the transverse plane. When they occur, both dynamic and static deformities may follow, which may present similar to nontraumatic, developmental problems of the first MTP joint.

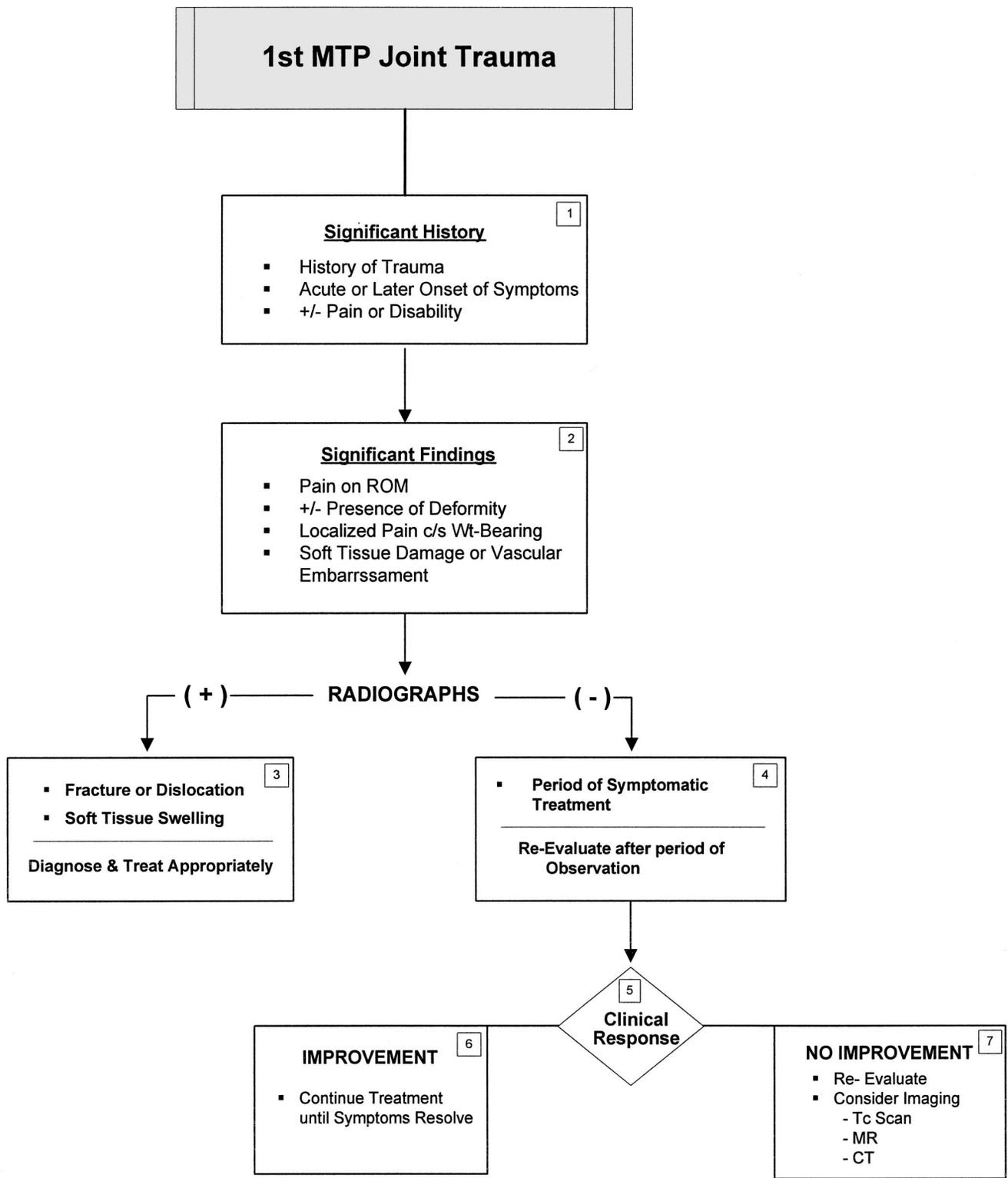
Acute treatment should be directed toward reduction of the joint dislocation (Figs. 1 and 2). In most cases, this can be accomplished in a closed fashion. A period of immobilization is indicated to facilitate joint stability and is followed by range of motion exercises.

Later, repair and balance of the capsuloligamentous tissues may be necessary as dynamic deformities occur. Because most dislocations are dorsal, sagittal plane deviations are the most common posttraumatic deformity, secondary to soft tissue contracture and scarring. These may include hallux limitus, hallux rigidus, hallux hammertoe, and planar flexion deformities.

Radiographs: negative for fracture or dislocation (Node 4). If no fracture or dislocation is identified, then symptomatic treatment is indicated, including rest, immobilization, local physical therapy modalities, and anti-inflammatory nonsteroidal drugs. Clinical response (Node 5) to treatment

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Pathway 6

after an appropriate time is then evaluated. If improvement has been noted, then continuing treatment until symptom resolution is indicated (Node 6). If no improvement in

symptoms has been appreciated, then reevaluation of the original diagnosis is indicated (Node 7). Consideration should then be given to other diagnostic modalities.

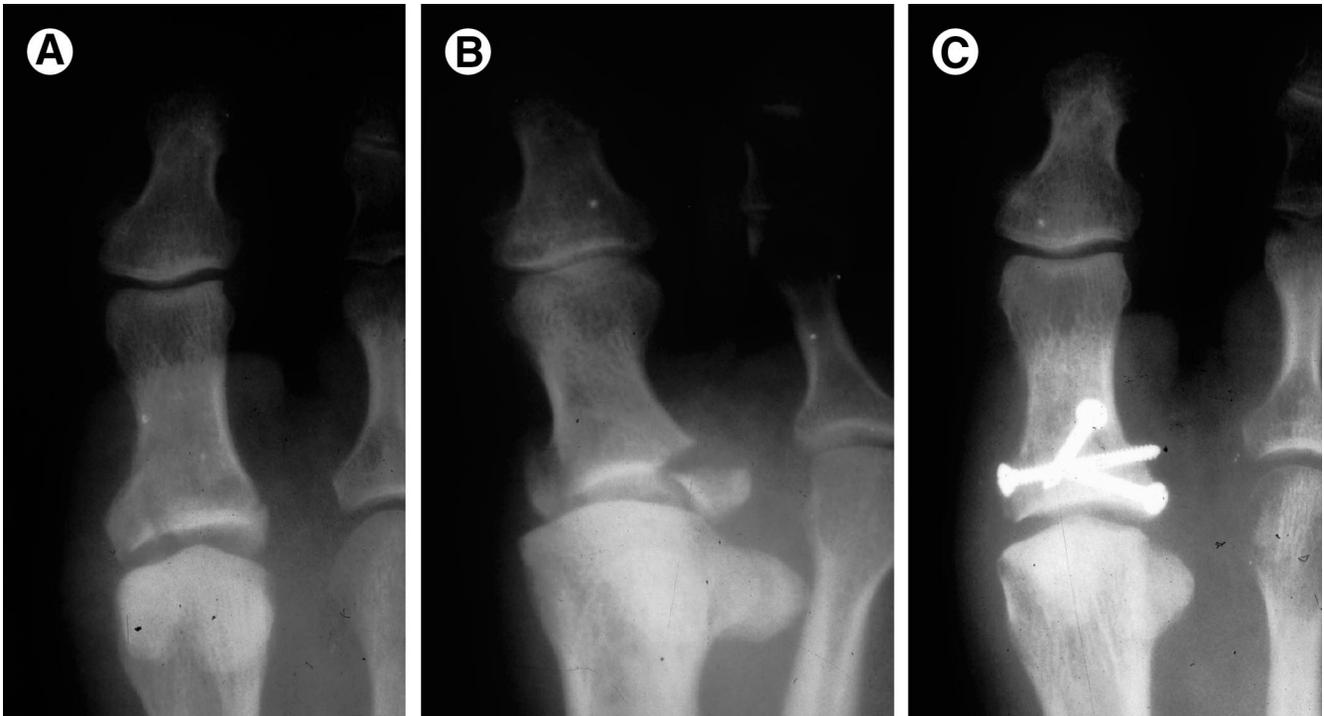


FIGURE 1 The (A) anteroposterior and (B) oblique radiographs show multiple fragments of the proximal phalangeal base, with (C) open reduction internal fixation.

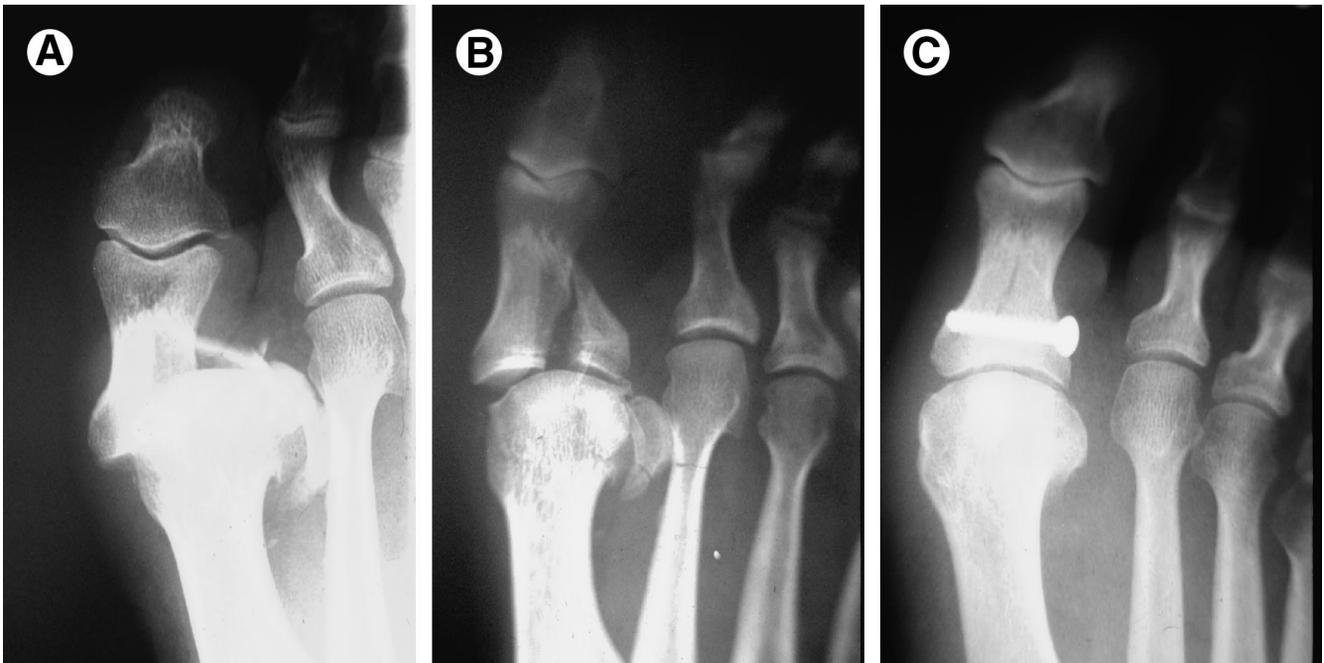


FIGURE 2 Fracture dislocation of the first MTP joint is shown in (A) anteroposterior and (B) oblique views. (C) Anteroposterior radiograph of surgical reduction with screw fixation.

Summary

Traumatic injuries to the great toe and first MTP joint require accurate diagnosis and appropriate treatment. These may be associated with significant long-term morbidity.

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