Mallet finger is a flexion deformity of the finger resulting from injury to the extensor mechanism at the base of the distal phalanx.

Objective
This article discusses the current clinical assessment and appropriate management of mallet finger injuries.

Discussion
Mallet finger usually results from forced flexion of an extended finger. Treatment can be difficult as patient compliance is essential, and if not treated appropriately the injury can lead to permanent deformity. Patients will present with a flexion deformity of, and inability to actively extend, the distal interphalangeal joint. Closed mallet finger injuries are managed in a strict extension or hyperextension immobilisation splint for 8 weeks. Surgery is reserved for injuries involving fracture to greater than 30% of the articular surface, volar subluxation of the distal phalanx, avulsed fragments that fail reduction, injuries failing conservative management, and absence of full passive extension of the joint. Early referral is recommended if there is any concern.

Keywords: orthopaedics, hand; musculoskeletal diseases; specialties, surgical

Clinical examination
Examination should start with initial observation looking for any deformities, both at rest and in flexion (interphalangeal and metacarpophalangeal joints). Sensation should be examined next, followed by active movements of all joints in the finger. This is followed by examination of passive movements and if appropriate, resisted movements to assess tendon function.

Examination of an acutely injured mallet finger may reveal bruising over the dorsum of the distal interphalangeal joint (DIPJ). However, these injuries often present with no bruising, swelling or tenderness over the DIPJ. All patients will exhibit a flexion deformity of the DIPJ and be unable to actively extend the DIPJ. A mallet finger flexion deformity will be correctable with passive movement to full extension. Patients will rarely complain of a functional disability because there are few activities that require full digital extension. Plain X-ray (anteroposterior, lateral and oblique) is mandated in any patient with a suspected mallet finger injury to assess for bony involvement which is reportedly present in one-third of patients.

It is also important to remember that in cases where the injury has occurred due to trauma, patients should be appropriately examined to ensure they have not suffered any other injuries.

Management
Closed mallet finger injuries are treated with an immobilisation splint in extension, or slight
Mallet finger – management and patient compliance

It was suggested by Crawford\(^\text{13}\) that surgery should be delayed until at least 6 months postinjury to ensure maximum spontaneous improvement has been made. Pulvertaft\(^\text{14}\) suggested that of the 40% who fail splint management, half will spontaneously improve sufficiently to be acceptable. There is a significant risk of complication involved with surgery. Some of the complications described include infection, permanent nail deformities, joint incongruity, fixation failure and bony prominence.\(^\text{4}\)

Mallet finger injuries that involve avulsion fractures to greater than 30% of the articular surface, or injuries with volar subluxation of the distal phalanx should be treated surgically.\(^\text{15}\) Other indications for referral include inability to reduce the avulsed segment, injuries that fail conservative management,\(^\text{16}\) and absence of full passive extension of the joint as it may be caused by soft tissue or bony entrapment in the joint.\(^\text{17}\) If any doubt exists regarding the management of patients with mallet finger injuries, referral to a specialist hand surgeon or sports physician is recommended.

Summary

- Mallet finger is a flexion deformity of the finger that results from injury to the extensor mechanism of the distal phalanx.
- Without appropriate treatment it may lead to a permanent flexion deformity of the finger.
- Mallet finger should be managed in an extension splint full time for 8 weeks.
- The most important issue with splinting is compliance; any flexion during the 8 week period requires the period of splinting to restart from zero.
- Surgery is reserved for cases involving fractures to greater than 30% of the articular surface, injuries with volar subluxation of the distal phalanx, injuries where the avulsed segment cannot be reduced, injuries failing conservative management and injuries where full passive extension is absent.
- Referral to a hand specialist or sports medicine physician may be appropriate.

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References


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