

## Mallet Injuries – standards for treatment

Mallet injuries are common and early appropriate treatment is essential to achieve a good outcome. Treatment is usually straightforward and inexpensive. Please also refer to Closed and Open fracture Standards

### First aid treatment and referral pathways

- All mallet injuries should be treated by splinting of the DIP joint in extension and leaving the PIP joint free to move.
- Radiographs of the finger should be requested to determine the presence of a fracture and joint subluxation.
- Patients should be referred to a hand surgeon or therapist
- Referral category
  - for closed injuries; green – next available clinic (real or virtual) within 72 hours
  - for open injuries; orange – same day (see BSSH hand injury triage app)

### Mallet injuries with no or small (<1/3 articular surface) avulsion fracture

- These should be treated by splinting of the DIP joint in extension 24/7, leaving the PIP joint free to move.
- The splint should be fitted by a hand therapist to ensure it is comfortable, holds the DIP joint in a satisfactory position and does not cause skin problems
- Patients should be offered written information about their injury and contact details to return if they have concerns

### Mallet injuries with a large (>1/3 articular surface) avulsion fracture with no subluxation

- These should also be splinted and then have a lateral radiograph in the splint to check the DIP joint is not subluxed volarly.
- If the joint is congruent, splint treatment should be advised as above. If operative treatment is advised, the risks and benefits of this should be clearly explained and documented.
- Consideration should be given for further Radiographs at follow up to check that the position has been maintained<sup>1</sup>.

### **injuries with subluxation**

- If the joint is subluxed, patients should be counselled as to the risks and benefits of surgery versus manipulation and resplinting (with immediate and follow up check radiographs).

### **Open mallet injuries**

- These should be treated surgically to wash out the wound and DIP joint, close the wound and further decisions made as for a closed mallet injury.

### **Mallet Injuries in children with physeal fracture**

- Have a high suspicion of an open or Seymour fracture with a nailbed injury
- These should be treated surgically to reduce the fracture accurately and then splinted

### **Non-operative treatment**

- For those treated definitively in a splint, the splint should be worn full time and should not be removed until 8 weeks after injury for soft tissue injuries or 6 weeks for bony mallet injuries.
- Written or online information must be provided
- The splint should then be worn for protection during high risk activity for a further 2 weeks.
- If the mallet deformity recurs during this time, full time splinting should resume for further periods of 2 weeks until the deformity either resolves or can be accommodated by the patient
- If the persisting deformity interferes with hand function then surgery can be considered to improve function

### **Consent – principle of shared decision making**

- Examples of this:
  - Whether to operatively reduce a subluxed joint, especially if delayed

### **Operative management**

Please refer to Closed and Open Hand Fracture standards for staff, environment and equipment

#### **Timing**

- Within 24 hours for open injuries
- Within 7 days of injury when fixation is the first choice
- Within 72 hours of the decision to operate where conservative management has failed.

#### **Technical**

- In most cases an axial K wire holding the main fragment to regain a congruent joint is sufficient

### **Therapy requirements post-operatively**

- Access to a hand therapist who will provide support and instruction to regain range of motion at the appropriate speed.

#### Audit

- Regular or continuous audits of
  - Infection rate
  - Rate of re-operation or failed non-operative management
  - Number of hospital visits/interventions
  - Functional outcome and patient satisfaction at 3 months

#### References

1. Giddins **Bony mallet finger injuries: assessment of stability with extension stress testing** European journal of hand surgery 2016 vol 41 (7) p 696
2. Hand Surgery: Therapy and Assessment (Oxford Specialist Handbooks in Surgery) 2<sup>nd</sup> Edition. Edited by David Warwick and Roderick Dunn 2018. Oxford University Press
3. Handoll and Vaghela **Interventions for treating mallet finger injuries** Cochrane Systematic Review - July 2004
4. Lamarinis and Matthew **The Diagnosis and Management of Mallet Finger Injuries**. Hand (N Y). 2017 May; 12(3): 223–228.

Professional consensus

Published 2020  
Date of revision 2025