

## Physiotherapy & Management of Common Finger Injuries | 2018 Newsletter

- The hands are highly functional anatomical structures that play a pivotal role in our daily lives.
- Hand injuries are very common and finger and hand injuries are the **most common** type of work related injury in Australia.
- **Best patient care** and clinical decision-making while treating these areas relies largely upon anatomical knowledge, physical examination, and recognition of the limitations of imaging modalities.
- Even though severe hand injuries present in the hospital emergency setting, many injuries of the hands and fingers are initially assessed in the general practice setting.

Below are some updates on the latest evidence & management of common hand injuries you may encounter in your clinical practice.

Hand therapists provide non-operative interventions, preventative care and post-surgical rehabilitation for a wide variety of upper extremity disorders, from simple fingertip injuries to complex replanted extremities. It may be useful to refer patients with elbow, wrist & hand injuries to a hand therapist for:

- Second opinion on a diagnosis
- Options for conservative management
- Refer onwards when surgical referral is required



### Skier's Thumb/ UCL Ligament



Skier's thumb is an injury of the ulnar collateral ligament (UCL) at the MCP joint of the thumb due to a hyperabduction trauma of the thumb. The prevalence is very common, as high as 86% of all injuries to the base of the thumb.

#### Key Clinical Signs:

- Weakness in pinching and grasping objects due to ineffective thumb adduction and opposition may occur if untreated.
- Joint laxity  $> 30^\circ$  or  $> 15^\circ$  of relative joint laxity is diagnostic of a complete UCL tear.
- X-ray is recommended to identify associated avulsion fracture or dislocation.

#### Conservative Treatment:

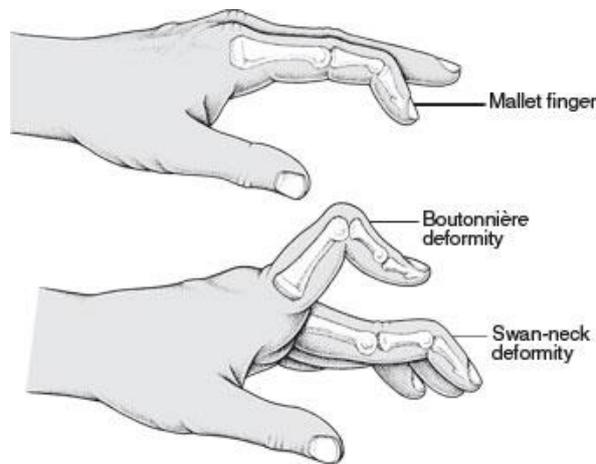
Patients with a clinical suspicion of Skier's Thumb, requires a referral to a hand therapist for fabrication of a short arm thermoplastic thumb spica splint. This allows for early use of the IP thumb joint functionally, provides advice & education on healing timeframes and a graded return to activity through immobilisation, ROM and strengthening at the appropriate time.

### Finger Fracture/Dislocation



Finger & hand fractures are highly prone to displacement due to the opposing pull of tendons and lack of muscle bellies in the finger. Therefore, most hand fractures require at least one follow up X-ray approximately 1 week after the injury. In general, closed and minimally displaced fractures with good alignment can be treated conservatively with the appropriate splinting/immobilisation. Volar plate avulsion fractures usually occur after hyperextension injury to the PIP (proximal interphalangeal) joint, often from a 'jamming' injury during ball sports. This type of fracture is common but easily missed and, unfortunately, permanent loss of PIP joint function results from mismanagement. Treatment involves several stages of exercise prescription and an extension blocking splint, ideally under the supervision of a hand therapist.

### Extensor Tendon Injuries



Boutonnière deformity can occur following an injury to the central slip of extensor digitorum and usually results from a direct blow to the PIP joint. In the setting of an acute injury to the central slip, conservative management should be employed in an attempt to permit tendon healing before the onset of this deformity. If untreated, an injury to the central slip can result in a BD within 2-3 weeks.

#### Treatment:

Conservative management consists of either splinting the PIP joint in full extension for 4-6 weeks. During this time, the distal interphalangeal (DIP) joint is taken through frequent flexion/extension exercises. Thereafter, PIP joint flexion exercises are introduced, and PIP joint extension splinting is continued at night for an additional 4-8 weeks.

### Mallet Finger Injuries

Mallet finger is an injury of the extensor tendon distal to the DIP joint. It is most commonly due to forced extension of the DIP joint, usually from an external object. The third, fourth, and fifth digits of the dominant hand are most commonly affected. X-ray imaging should be obtained to identify avulsion fracture. Evidence greatly supports the conservative management of mallet injuries, with the splinting of the limb in extension for a period of 6-8 weeks to be most beneficial. However, treatment by a hand therapist is recommended for adequate positioning & splinting and helps to improve patient compliance, education and graded return to activity to promote optimal healing & functional use of the injured finger. A study by Katzman et al of 32 cadavers demonstrated that DIP splinting alone immobilises the extensor tendon equally effectively, versus combined DIP/PIP splinting.

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### Sports & Spinal Hand Physiotherapist:



**Bethany Butler** has a keen interest in promoting whole body health and wellness through manual therapy, movement and rehabilitation. She has a special interest in treating the upper limb – shoulder, elbow, wrist & hand conditions. Bethany has recently started the 'Hand Therapy Clinic' that is running at the Sippy Downs Sports & Spinal Clinic. After working in private practice musculoskeletal physiotherapy and recently completing further training in hand therapy & splinting, Bethany is able to draw from a wealth of experience to provide you with a personalised, hands-on approach and can treat a wide variety of upper limb conditions.

Should you have any questions about Management of Finger Injuries please contact Bethany Butler at: Sippy Downs Sports & Spinal on 5445 6033 or [Bethany@sportsandspinalphysio.com](mailto:Bethany@sportsandspinalphysio.com)

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