

MANAGEMENT OF FINGERTIP INJURIES

Fingertip injuries occur very commonly in the Paediatric A&E setting. Fingers trapped in doors or hinges being the most common cause.

A fingertip injury is defined as any soft tissue, nail or bony injury distal to the dorsal and volar skin crease at the distal interphalangeal joint.

Anatomical considerations:

The fingertip is divided into 3 anatomical parts. An understanding of this will help description of injuries when referral to Plastics at distal sites is necessary:

1. The pulp: dense fibrous layer under the epidermis of the entire fingertip. This helps to support the distal phalanx.
2. The nail: protective plate over the nailbed
3. Distal phalangeal bone: integral supporting structure of the fingertip

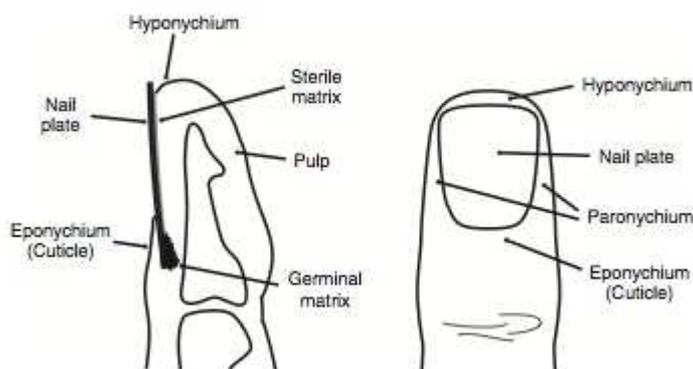


Figure 1. Anatomy of fingertip.

Assessment of the injury:

The following key history points should be obtained and recorded as part of the assessment:

- Mechanism of injury
- Hand dominance
- Length of time since injury
- Ischaemic time if fingertip amputation has occurred
- Tetanus status

The fingertip should be examined for the following:

- The size and location of any pulp defect
- Presence and extent of any nail bed injury

- Presence of nail avulsion
- Presence of subungal haematoma
- Presence of exposed bone

Investigations:

All fingertip injuries should be X-rayed to look for underlying fractures, foreign bodies and to assess bone loss in the case of amputations.

Management:

1. Analgesia

A child with a fingertip injury is likely to be distressed and in considerable pain. Give prompt simple analgesia (paracetamol and ibuprofen). In severe cases consider using the departmental protocol for intranasal diamorphine and/or inserting a ring block. In younger children where a ring block is impractical dripping 1% lidocaine onto lacerations or nailbed injuries can be helpful.

2. Pulp avulsion injuries

Achieving haemostasis is a priority and can be difficult due to the vascularity of the pulp. Irrigate and elevate the digit and apply a pressure dressing. Significant avulsions should be discussed with the Plastic surgeon on-call at Wexham Park Hospital.

3. Nail avulsion and nailbed lacerations:

It is uncommon for nail avulsion to occur without a co-existing nailbed laceration and all nail avulsions should be carefully assessed for this. The area should be irrigated and dressed. If the nail is intact it can be splinted onto the nail fold to provide temporary protection. Nailbed lacerations should be repaired to avoid subsequent abnormal nail growth, therefore all nailbed lacerations should be referred to the Plastic surgeon on-call at Queen Victoria Hospital, East Grinstead, or SGH.

4. Subungal haematomas:

A subungal haematoma occurs when there has been bleeding underneath the nail. These injuries should be managed according to the level of pain experienced by the child. Children experiencing mild pain can be managed conservatively with oral analgesia and splinting. Moderate to severe pain should be treated with trephination. This can be performed by rolling a 21 gauge needle and applying downwards pressure onto the nail until the nail is penetrated and the pressure released. Afterwards the finger should be dressed and healing will generally occur within 5-7 days.

5. Amputation:

The area should be thoroughly irrigated and dressed. The amputated digit should be wrapped in sterile gauze that has been moistened with 0.9% saline. Place the digit in a sealed water tight bag and then place the bag in ice. The time that the digit was placed on ice should be recorded in the notes. Contact the on-call Plastic surgeon at Queen

Victoria Hospital, East Grinstead, or SGH urgently and prepare for a priority transfer of the child.

6. Antibiotics:

Often the Plastic surgeons will want the child to receive prophylactic antibiotics prior to transfer for the various injuries described above. This should be discussed with them on a case by case basis.

7. Tetanus:

In cases where there is not adequate tetanus cover, vaccination may be required. In the case of dirty, tetanus prone wounds tetanus immunoglobulin may be required. Please refer to local tetanus guidelines.

Dr Marc Barton A&E Registrar 2nd September 2013

Reviewed Dr Erin Dawson 15th March 2017. Next review 2022