

Hand Fractures



What is a Hand Fracture?

A **hand fracture** is a break in one of the bones of the hand. The hand contains **metacarpal bones** (in the palm) and **phalanges** (finger bones), and fractures can occur in any of these bones.

Hand fractures are common injuries and usually occur following trauma such as a fall, direct blow, or twisting injury. Depending on the severity and position of the fracture, symptoms may range from mild discomfort to significant pain, swelling, and deformity.

Some fractures are stable and can be treated with splinting alone, while others may require surgery to restore alignment and allow the hand to function normally.

Causes and Risk Factors

Hand fractures are most commonly caused by trauma. Common causes include:

- **Falls**, particularly onto an outstretched hand
- **Direct blows**, such as punching an object or impact during sports
- **Crush injuries**, for example from machinery or heavy objects
- **Twisting injuries**, particularly during sporting activities
- **Road traffic accidents**

Factors that may increase the risk of hand fractures include:

- Participation in **contact sports**
 - **Manual occupations**
 - **Reduced bone strength**, such as in osteoporosis
 - Previous fractures or injuries to the hand
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Symptoms

The symptoms of a hand fracture can vary depending on the location and severity of the injury, but common signs include:

- **Pain** in the hand or finger, often worse with movement
- **Swelling** around the injured area
- **Bruising** or discoloration of the skin
- **Tenderness** when touching the affected bone
- **Reduced movement** or difficulty using the hand
- **Deformity**, such as a finger appearing bent or rotated
- **Weakness** when gripping objects
- In some cases, **numbness or tingling**, particularly if nearby nerves are affected

Rotational deformity, where a finger crosses over another when making a fist, may occur in some fractures and can significantly affect hand function if not corrected.

Diagnosis & Investigation

Hand fractures are diagnosed **based on clinical history and physical examination**, supported by imaging.

During your visit:

- The surgeon will ask about **how the injury occurred**, the timing of symptoms, and any previous hand injuries.
- A **physical examination** will assess swelling, tenderness, deformity, and finger alignment.
- The surgeon will check **movement, stability, and circulation** to the fingers.

Imaging

- **X-rays** are usually required to confirm the diagnosis and determine the position and severity of the fracture.
 - In **rare cases**, additional imaging such as **CT scans** may be used to assess complex fractures or joint involvement.
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Non-Surgical Treatment

Many hand fractures can be treated without surgery, particularly if the bones remain well aligned.

Non-surgical treatment options may include:

- **Splinting or casting** to protect the fracture and allow it to heal
- **Buddy strapping**, where an injured finger is supported by taping it to a neighbouring finger
- **Activity modification**, avoiding heavy use of the injured hand
- **Pain relief medication**, such as paracetamol or anti-inflammatory medication
- **Hand therapy**, to maintain movement and prevent stiffness once healing has begun

Stable fractures often heal successfully with these measures.

Surgical Treatment

Surgery may be recommended if the fracture is **displaced, unstable**, involves a **joint**, or cannot be held in a satisfactory position with splinting alone.

Common surgical options include:

Manipulation Under Anaesthetic (MUA)

In some cases, the fracture can be **realigned without making an incision**. This is performed under local or general anaesthetic, allowing the surgeon to carefully reposition the bones into the correct alignment. The hand is then immobilised using a splint or cast to maintain the corrected position during healing.

Fracture Fixation with Pins (K-wires)

Thin metal wires (**Kirschner wires or K-wires**) may be used to hold the bones in the correct position while they heal. This is often performed following manipulation of the fracture to maintain alignment. The wires are usually removed once healing has occurred.

Plate and Screw Fixation

In more complex fractures, small **plates and screws** may be used to stabilise the bone and restore alignment. This provides stable fixation and may allow earlier movement in certain cases.

External Fixation

In certain injuries, particularly **crush injuries** or **open fractures**, an **external fixator** may be used to stabilise the bones while the surrounding tissues heal.

The choice of surgical technique depends on the type of fracture, its location, and the functional demands placed on the hand.

Recovery

Recovery following a hand fracture depends on the type of fracture and whether surgery is required.

- Most fractures take **4–6 weeks** to heal sufficiently.
- **Hand therapy** is often recommended to restore movement, strength, and function.
- Stiffness is common following hand fractures, and early guided movement is important once safe to begin.

Recovery times vary depending on treatment:

- **Simple fractures treated with splints** may recover more quickly.
- **Manipulation under anaesthetic** is usually followed by immobilisation in a splint or cast while the fracture heals.
- **Fractures treated with K-wires** typically require a period of immobilisation followed by therapy.
- **Plate and screw fixation** may allow earlier movement but still requires structured rehabilitation.
- Full recovery of strength and function may take **several months**, particularly after more complex injuries.

Risks

Although treatment of hand fractures is usually successful, complications can occur, including:

- Infection
- Stiffness or reduced range of motion
- Malunion (healing in an incorrect position)
- Non-union (failure of the fracture to heal)
- Tendon or nerve injury
- Persistent pain or weakness
- Hardware irritation (in surgical cases)

Early treatment and appropriate rehabilitation help reduce the risk of complications.

When to See One of Our Hand Specialists

You should consult a hand specialist if:

- You have sustained an injury to your hand and have **pain, swelling, or deformity**
- You are unable to move your fingers normally
- Your finger appears **bent, rotated, or shortened**
- Symptoms are not improving after initial treatment
- You have ongoing pain or reduced function following a previous hand injury

If you have an open wound associated with a fracture, a severe injury, or significant deformity, this should be assessed urgently in the Emergency Department (A&E).

Book and appointment:

