

## Wrist Injury Scaphoid Fracture

The scaphoid is the **most commonly fractured carpal bone** in the wrist. Its treatment can be complicated as scaphoid fractures are **commonly missed and may not heal**, even with good management.

### Cause:

The scaphoid usually breaks during a fall on an outstretched hand. It is commonly injured in younger patients during sport or activities such as skateboarding.

### Symptoms:

- Pain. This can be relatively minor and patients often assume it is just a sprain.
- Reduced movement. Again, this may be similar to a sprain.
- **The wrist can seem normal for a long time** and sometimes it is not until the wrist is injured again that an old fracture is found.

### Diagnosis:

- History and examination findings are important in the diagnosis as **x-rays are often normal**. You should be placed in a plaster slab if there is any concern.
- Repeat x-rays are often arranged after 1-2 weeks. If the fracture moves it will become obvious.
- **MRI is the only way of being positive there is no fracture.**

Treatment:

- **Depends if it is the distal part (pole), middle (waist) or proximal pole of the scaphoid**
- Displaced scaphoid fractures always need surgery

**Distal pole:**

- **Cast immobilisation for 6 weeks**

**Waist:**

- **Undisplaced fractures will heal  $\geq 90\%$  of the time.** It is controversial if this improves with surgery, but most surgeons believe it does.
- **Displaced, comminuted (multiple fragments) fractures have a high rate of not healing if treated in a cast.** They heal  $\geq 90\%$  of the time with screw fixation.
- Bone graft is occasionally required in a recent fracture, but commonly if it is an old injury.

**Proximal pole:**

- **Non-union (not healing) is common (~50%) in proximal pole fractures.** This is due to interruption of the blood supply to the proximal fragment.
- Surgery is always recommended because of this.
- **Non-union is still common after surgery (~10%)** and may be related to osteonecrosis (dead bone) of the proximal fragment. This often requires a secondary surgical reconstruction or a salvage procedure to prevent wrist arthritis.

