

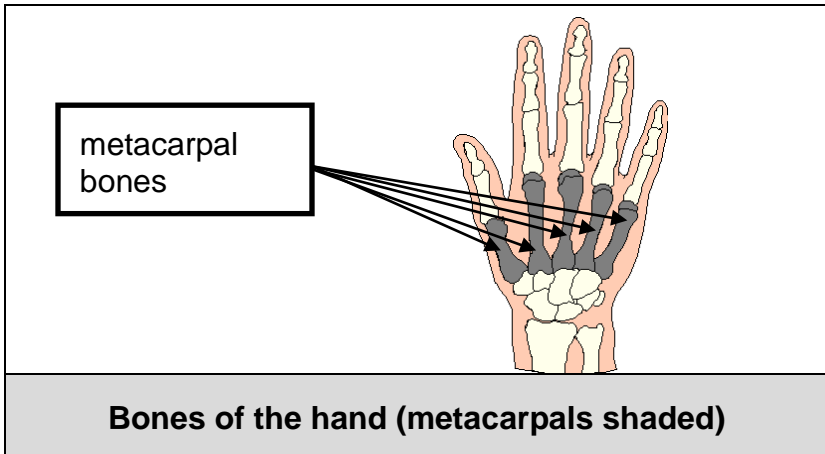


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Metacarpal fractures

***Information for
patients and carers***



Head fracture	Neck fracture
Shaft fractures	Base fracture

What are the metacarpal bones?

These are the bones in the main part of your hand between your wrist and your fingers (see top diagram opposite).

A fracture (break) can occur in any of the bones in the hand. The fracture can be simple (two fragments of bone) or comminuted (many fragments).

Fractures can occur in different parts of the metacarpal bones (such as the head, neck, shaft or base - as shown in the four lower diagrams opposite).

The fracture can be closed (no break in your skin) or open (also called compound) where there is a break in your skin over the fracture.

Fractures can be more complicated if the joints at either end of the bone are also involved (this is known as an intra-articular fracture).

What symptoms does a fracture cause?

- Most people have pain, swelling, bruising and loss of movement.
- There may be numbness or pins and needles.
- There may be an obvious deformity of the fingers or thumb.
- In an open fracture, there will be a wound.

Why have I fractured a bone?

Fractures occur because a force is applied to the bone, which is strong enough to break it.

The site and pattern (shape) of the fracture depends on how that force was generated and applied.

Causes of metacarpal fractures include falls, sporting incidents, crushing, road accidents and violence.

How is a fracture diagnosed?

A health care professional can diagnose a fracture by assessing your injury or by carrying out tests such as an X-ray, CT scan (a specialised type of X-ray), ultrasound or MRI (Magnetic Resonance Imaging) scan.

What is the treatment?

Non-surgical

You have a splint and/or buddy strapping to support your injured finger. You will have to wear this for between 2 and 4 weeks.

Once you've worn the splint for the advised time, you may need to keep wearing the buddy strapping for a further few weeks.

Surgical

- **Method 1:** The fracture can be manipulated into a satisfactory position. Your hand is then either fitted with a splint or k-wires (these are like thin pins) are inserted through the skin and across the fracture to hold it in the right position.
- **Method 2: Open reduction internal fixation (ORIF):** In this method, the surgeon makes a cut in the skin to expose the fracture. The surgeon can then see the fracture and move the bones into the right position. The bones are held in place with k-wires, screws, and/or plates.

External fixators: In an open fracture (where there is a break in your skin) and occasionally in a closed fracture, the surgeon might use an external fixator to hold the bones. An external fixator is a frame on the outside of the skin, connected to the bones by k-wires that the surgeon inserted through the skin.

Removal of hardware: K-wires are usually removed. This is done in the clinic or, if they're left under the skin, in a second, small operation.

Screws and plates may need removing. Your surgeon can advise you about this, if appropriate.

What should I do after treatment? (for non-surgical and surgical treatment)

We'll give you exercises to help you get your fingers moving again.

Don't do any heavy lifting or weight bearing through your hand for 8 to 12 weeks.

Fractures in the hand generally take 6 to 8 weeks to unite.

The strength in your hand takes approximately 3 to 4 months to return to near normal levels.

The fingers and thumb are often quite stiff to begin with after a fracture, but with exercise and use, this gradually settles.

What are the risks of surgery?

Any operation has some risks. We've listed some of these below, with the most common risks first.

- Joint stiffness.
- Scarring.
- Tethering of tendons (so they no longer glide smoothly).
- The wound failing to heal.
- Haematoma (a collection of blood under the skin).
- Infection (see next section for signs of infection).
- Damage to the nerves supplying sensation to your fingertips.
- Complex regional pain syndrome.

How do I care for my hand after any surgery?

You must keep your finger immobilised for a period of time. Timescales can vary depending on your injury.

You may need to wear a splint. If you do, always carefully follow the instructions given to you.

Scar care:

As wounds heal, they go through several changes. You can help reduce any scarring by massaging your scar regularly with bland moisturising cream (such as Nivea or E45). This will give you the best cosmetic result for your scar, but it will not make your scar disappear completely.

Infection:

Check your hand for signs of infection. These can include:

- Your wound or hand becomes red, hot and swollen.
- Redness tracking up your arm.
- Fever.
- Feeling generally unwell.

Exercises after injury and/or surgery

Do these exercises every hour during the day:

Exercise 1:

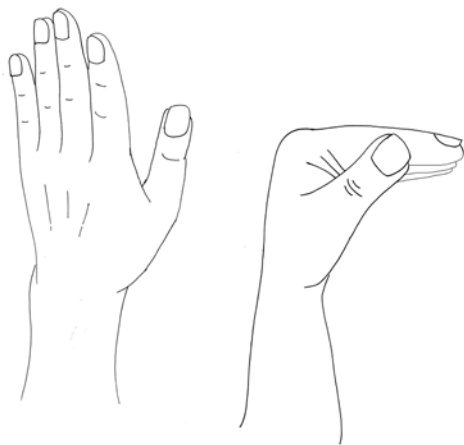
Straighten your fingers as much as you can. Use your other hand to help if you need to.

Repeat times



Exercise 2:

Starting with straight fingers, bend your knuckle joints as shown. Keep your other finger joints straight.



Exercise 3:

Keep your wrist and fingers straight.
Make a fist, keeping the tips of your fingers straight.

Repeat times.

**Exercise 4:**

Start by keeping your fingers straight. Then hook your fingers as shown.

Repeat times.



Your recovery plan

Weeks since your injury	What to do and what to expect
0 to 3 weeks	<ul style="list-style-type: none">• Use your splint for comfort• Keep your fingers moving to prevent stiffness
3 to 6 weeks	<ul style="list-style-type: none">• Try not to use the splint• Gradually restart your normal activities as your pain allows
6 to 12 weeks	<ul style="list-style-type: none">• Your fracture should be almost healed• Do your normal activities• Heavier or more strenuous tasks can still be difficult and cause pain and swelling at this stage.
12 weeks and over	<ul style="list-style-type: none">• You should keep improving over the next few months• If you still have pain and/or stiffness, contact us for advice

Contact details

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