

Metacarpal fracture

Information for patients

What is a metacarpal fracture?

There are five metacarpal bones inside your palm. They connect your wrist bones to your thumb and fingers bones.

The metacarpal is divided into four sections:

- the base, which articulates with the wrist
- the shaft (middle section)
- the neck
- the head, which articulates with the finger.

A fracture can happen at any of these sections. A fracture is the same as a break.

The most frequent type of metacarpal fracture is a 'boxer's fracture', which is a little finger (5th metacarpal) neck fracture. This is illustrated in the picture above.

If you are not sure of which part of the metacarpal you have broken you will be explained during your first appointments after your emergency visit.



What are the signs and symptoms of a metacarpal fracture?

Pain, swelling and bruising are very common following a metacarpal fracture. You may feel that moving your wrist or fingers, or both, is painful. You may notice some changes in the appearance visual aspect of your joints or in the direction your fingers point.

An X-ray may be needed to confirm the presence of a hand fracture.

What's next? In the emergency department:

If it is confirmed that you have a metacarpal fracture the emergency practitioner may need to manipulate your hand to help realign the fragments. You will also be given a splint to protect your metacarpal, or to stop it from moving.

Depending on the severity of the break and which section of the metacarpal is broken you may be provided with:

- a 'buddy strap' linking the broken finger to a non-broken finger
- a buddy strap and a splint supporting your hand and wrist

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- a cast to immobilise the wrist or wrist and fingers

How a buddy strap works

Many people wonder how a buddy strap can support a broken bone. The role of the buddy strap in finger fracture is not to support the bone but to prevent some of the muscles of our hand from pulling on the broken bone.

Buddy straps also:

- help to avoid catching the finger
- help align the fingers
- help to improve movement by being attached to a stronger finger

A buddy strap alone is usually reserved for simple fracture of the neck of the little finger. There is strong evidence that this is an adequate and safe method of protection.

All metacarpal fractures need protection and support for 3 to 4 weeks.

What's next? Your virtual review appointment

You will have your medical notes and X-ray reviewed in a **virtual fracture clinic** within five days of your emergency admission.

Learn more about the **virtual fracture clinic** at www.imperial.nhs.uk/our-services/orthopaedics/virtual-fracture-clinic

You will receive a call from a nurse who will explain your injury, the length of time needed in the protection or support.

From this virtual review there are three outcomes:

- you may be discharged with some advice on self-management. This will include the type and length of protection needed
- you may be referred to hand therapy if you need rehabilitation to help you regain your hand function. You will receive an appointment in the next 14 days
- you may need a face-to-face assessment if your fracture is complex. This assessment is to confirm that a non-surgical treatment of your hand injury will be the best treatment option. In less than 10% of cases, hand fractures need surgical treatment

You may also be booked for a face-to-face assessment instead of the virtual fracture clinic. This is rare and usually because there is a need for further clinical assessment. Following a face-to-face appointment the scenarios are the same as above.

Surgical intervention may be needed for more **complex metacarpal fractures** such as:

- a fracture involving several bone pieces (comminuted fracture)
- a fracture associated with an open wound

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- a fracture where the pieces of bones are no longer in alignment (displaced or angulated fracture)
 - a fracture where the fragments are at risk of changing position (typically a spiral or oblique fracture)
 - a fracture with other associated injuries, for example to tendons or nerves

How long will it take to heal?

Most hand fractures are healed enough between three to four weeks to allow the use of the hand in light day-to-day activities.

Strengthening exercises, such as squeezing a ball or activities requiring force, can gradually be added from eight weeks after the injury

It takes around 12 weeks for the bone to be as strong as it was before the injury. So, heavier activities or impact sports should wait until then.

When can I return to my day-to-day activities?

- you can decide when to **drive** again. However, you should feel confident you can control your car safely in case of an emergency
- you can resume **moderate activities** after around eight weeks
- you must wait three months to return to **contact sports** and leisure involving impact on the hand
- your **return to work** depends on the type of work and how flexible your job or employer are. If you need a fit note (Statement of Fitness to Work) this can be provided by the surgeons, hand therapist or your GP

Will I regain full function and when?

Most people tend to underestimate the impact of hand fractures on day-to-day life and the time it takes for the signs and symptoms to resolve completely.

Pain should improve on a weekly basis and tend to be present during use for around 12 weeks. Some people experience occasional pain for up to a year, but this is rare and tends to be associated with heavier activities or colder temperature.

At three months after the injury most patients will have regained **near full range of motion** and **strength** and will not experience significant issues in their day-to-day life.

The **shape and size** of the finger may appear different. If your metacarpal has loss length it may be that your joint (knuckle) appears shorter or less prominent when making a fist. This will not change with time. You can also feel or see a lump at the back of your hand, and this tends to improve in the first year. The swelling can take up to six to 12 months to settle completely.

What can I do to help myself after my emergency visit?

There are several things that you can do to help your recovery:

- painkillers can be useful in the first few days after the injury, but we recommend you stop them when you start to move your hand. It is important that you feel your pain as it will be the best way to guide your return to activities
- keep your hand elevated above your heart to improve the swelling in the hand. A sling can be useful when you are out and about, but you should avoid wearing one full time. You should not have to wear a sling after the first week. Do not worry too much about keeping your hand elevated at night – it is more important to sleep well to recover
- you can gently move all joints that are not immobilised if it is comfortable to do so

Contact details

These contact details are not for urgent queries. Please allow 24hrs for a reply Monday-Friday.

Waiting to hear from us after your Emergency Department visit?

Call us on 020 3312 5552 – general virtual fracture clinic enquiries

Who can I contact for more information?

If you have any concerns about your injury, you **can call us on:** 020 3312 5990 (**Tuesday and Friday mornings** between 09.00 and 11.00).

Email: imperial.virtualfractureclinic@nhs.net

How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3313 0088** (Charing Cross, Hammersmith and Queen Charlotte's & Chelsea hospitals), or **020 3312 7777** (St Mary's and Western Eye hospitals). You can also email PALS at **imperial.pals@nhs.net** The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department
Fourth floor
Salton House
St Mary's Hospital
Praed Street
London W2 1NY

Email: **ICHC-tr.Complaints@nhs.net**

Telephone: **020 3312 1337 / 1349**

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:

Hand therapy
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