



# METACARPAL FRACTURES

## ABOUT

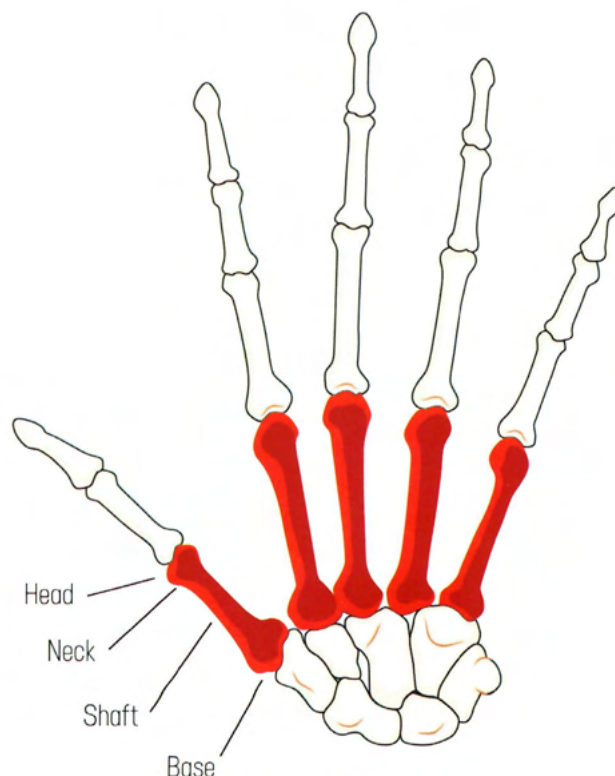
The metacarpal bones are the long bones of your hand between the wrist joint and the fingers. Your knuckles are the ends of the metacarpal bones you can see when you make a fist. Fractures to these bones are very common and make up approximately 40% of all hand fractures. They are seen more frequently in males than females and occur most commonly between the ages of 11 - 45. They usually occur following an accidental fall or a direct blow to the knuckles when punching something.

It's possible to fracture the metacarpal bone at 4 main points, these being the head, neck, shaft or base. In more serious fractures there may be multiple parts of the bone fractured. These fractures are managed depending on which part of the bone is fractured, the type of fracture pattern and how severe the fracture is. The metacarpal head and neck are the most common parts of the bone to break and this occurs close to the joints (knuckles).

## SYMPTOMS

The metacarpal bones are surrounded by many types of soft tissues including ligaments, muscles, tendons, nerves and blood vessels. When you experience a fractured metacarpal you injure the bone as well as soft tissues. The pain is often caused by the trauma to the surrounding soft tissues as the bone itself has no nerve endings. It is not uncommon to see bruising and swelling after a metacarpal fracture. This is due to bleeding from the bone and the trauma to the soft tissues. Often the bruising and swelling happen quite quickly after the injury. Fractures of these bones often lead to permanent change of the shape and appearance of the hand. It is possible to still move your hand and fingers after this kind of fracture, so it is important not to assume it isn't broken just because you can move your fingers. You should see a doctor or therapist to have your hand assessed to rule out a fracture if you have ongoing pain after an injury to your hand.

## METACARPAL BONES



# HOW HAND THERAPY CAN HELP

Usually these fractures are managed by therapists, GPs, emergency physicians or hand surgeons. For non-complicated fractures, treatment involves keeping the bones still to allow the fracture to heal naturally. A therapist can fabricate either a custom made thermoplastic orthosis or a cast made from plaster or fibreglass. It is important to keep the fracture still whilst keeping uninvolved fingers and joints free and mobile to minimise unnecessary stiffness. The size, and which fingers are included in your orthosis or cast, will be based on the location of your fracture.

Sometimes metacarpal fractures are more complex because more than one part of the bone is fractured or the bone has moved too far from the normal position. This can cause the fracture to not heal well or can affect the way your hand functions long term. The fracture may need to be manipulated under anaesthetic, or surgery may be needed to put the bones back into a better position. The need for surgery after a metacarpal fracture is not common and only happens in approximately 5 percent of cases, but a thorough assessment by a doctor is needed to decide on the best way to manage your fracture. Following surgery, therapy may be required to assist with providing a suitable exercise programme, swelling management, wound care and scar management.

Metacarpal fractures are usually held still for 4-6 weeks when managed conservatively and are usually protected for 6 weeks following surgery. The bones normally aren't strong enough to tolerate heavy or repetitive tasks or contact sports until 12 weeks - but it's important to check this with your doctor, along with their opinion on your ability to drive.

Therapists can further assist once your fracture has healed enough for you to start doing some light activity like showering and getting dressed, making yourself something to eat and using cutlery. They will help you regain movement, normal functional use, improve your strength and provide advice on the realistic expectations of your hand over the coming weeks.



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LIMB - SHOULDER TO HAND*

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