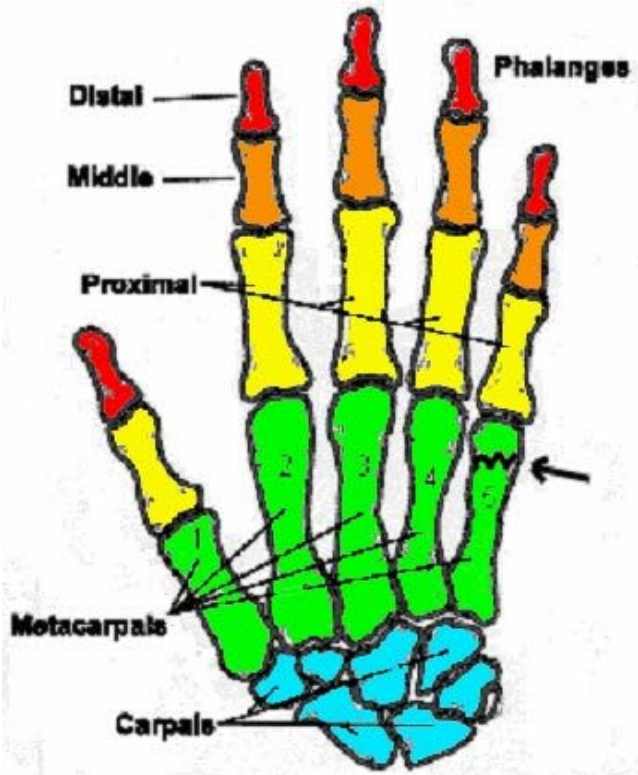


# Boxer's Fractures

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## General



There are 27 bones in the hand & wrist. A fracture occurs when excess force is applied to a bone.

A Boxer's Fracture is a fracture of the **Neck of the 5<sup>th</sup> Metacarpal**. It is usually caused by a **punching** injury.

When the forces are severe the bone may end up in multiple pieces or become significantly displaced resulting in a deformity. An open (or compound) fracture is when a bone fragment shows through the skin & is at risk of infection. This may occur if the punch hits a tooth.

Many people think that a "**fracture**" is different from a "**break**", but **they are the same**.

## Effect on the hand

When a bone breaks there is bleeding from the bone ends which can result in finger stiffness.

If a fracture involves the joint surface then arthritis may develop later in life.

A Boxer's Fracture results in **loss of prominence of the Little finger Knuckle**. It may result in **malrotation of the little finger** such that it overlaps the ring finger when one makes a fist. This has a significant affect on grip strength.

This fracture usually does **not** involve the joint surface and so arthritis in later life is unusual after this fracture.

In general the function of the ring and little fingers is to perform strong grip where as the index and middle fingers are for fine grasp and manipulation.

Full bend of the little finger is therefore very important.

## Fracture Types

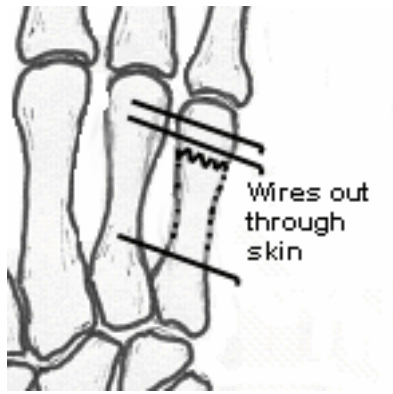
<b>Stable</b>	<b>Unstable</b>
<b>Undisplaced</b>	<b>Displaced (rotated)</b>
<b>Joint not involved</b>	<b>Joint involved</b>
<b>Closed</b>	<b>Open</b>
<b>1 fragment</b>	<b>Many fragments</b>
<b>Acceptable</b>	<b>Unacceptable</b>

## Treatment

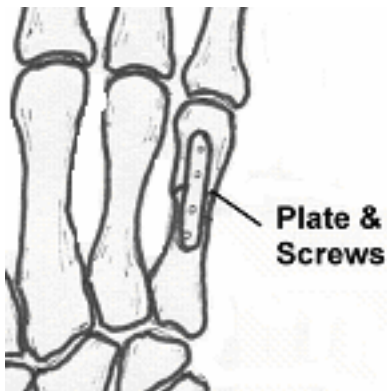
1. Control & reduce **swelling** - ice packs  
- elevation
2. Control **pain** - splint, pain killers
3. **Coban bandage**
  - lets other people know that you have a fractured hand.
  - Discourages people from shaking your hand especially after 2-3 weeks when the pain has improved but the fracture has not united.
  - It is wrapped around the hand and between the ring and little fingers to prevent the little finger catching on things
4. Prevent **stiffness** - early movement if the fracture is stable (even before the fracture has healed. Many Boxer's fractures are stable)
5. Prevent **deformity**

“**Reduction**” means pulling the bones back into place. This can be done “**Closed**” in which no cut is made & a plaster or splint is applied or “**Open**” where a cut is performed & the bones are directly repositioned. An open reduction often requires the use of wires or plates & screws.

A closed reduction alone is rarely performed for a Boxer's fracture because it is unstable once the bone has been realigned ( due to crushing of bone at the fracture site ) It may be combined with the insertion of wires through the skin.



An **open reduction** with a **plate** allows immediate movement of the finger after the surgery which is desirable to **prevent stiffness**.



The major indication to operate on a **Boxer's fracture** is if the little finger is significantly rotated and is affecting the function of the ring finger.

## Results

- **Loss of 5<sup>th</sup> Knuckle** - Perfect alignment of the bone on X-ray is not always necessary to get an excellent result. A large degree of forward angulation at the fracture site can be tolerated without affecting hand function. This is because there is a large amount of compensatory movement (25 - 40°) at the 5<sup>th</sup> C.M.C. joint to make up for deformity at the fracture site.
- A **bony lump** may appear at the fracture site as the bone heals & is known as "**fracture callus**". This is a normal part of the healing process & usually gets smaller over 6 – 12 months.
- **Little finger droop** – it often takes 6-8 weeks for the Little finger to fully straighten



- **Ache** – the hand often aches for 8 – 12 weeks after the fracture even though it has healed.
- In general it takes **6 weeks** for a hand fracture to heal and a further 6 weeks to reach near normal strength. Very heavy lifting and contact sport should be avoided until the fracture has solidly healed ( 8-12 weeks) - Occasionally loss of bone alignment occurs & additional treatment may be required.

Modified 5 / 8 / 05

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