

# Occupational Therapy (Hand Therapy)

## Mallet Thumb Injury

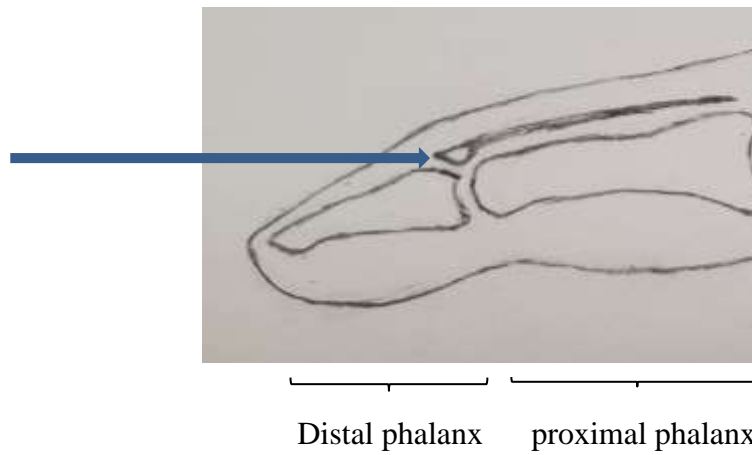
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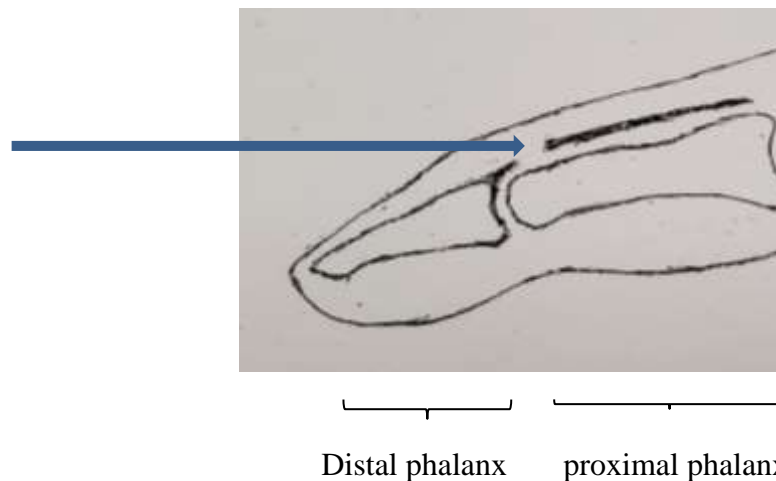
### **Bony mallet injury**

A piece of bone is pulled off along with the extensor tendon



### **Soft tissue mallet injury**

A tear/break in the extensor tendon  
The bone is not broken



## **What is a Mallet thumb?**

The extensor tendon attaches the muscle to the end of the bone. It straightens the end joint of the thumb. When the extensor tendon is not attached to the bone, you are unable to straighten the end joint of your thumb and the tip of your thumb droops.

### **Soft tissue mallet injury**

A soft tissue mallet injury is when the extensor tendon is torn at the base of the bone (distal phalanx).

## **Bony mallet injury**

A bony mallet injury is when the extensor tendon pulls a piece of fragment off the base of bone (distal phalanx). The tendon remains attached to the small fragment of bone. The tendon is not torn in this injury.

Soft tissue mallet injuries take longer to heal than the bony mallet injuries.

## **Symptoms**

- You are unable to straighten the end joint of your thumb.
- The tip of the thumb stays in a bent position.
- Swelling over the end of the thumb.
- Pain at and around the end joint of the thumb.
- You may feel a bump on the back of the end joint of your thumb.

## **What can you do to reduce swelling in your finger?**

It is normal to have swelling after the injury. Swelling can make your thumb uncomfortable. It can also delay the recovery process. The swelling after the mallet injury can last for several months.

You can keep the swelling down by elevating your hand above your heart as often as possible. You can rest your hand on a couple of pillows at night to keep it slightly elevated.

Regularly exercising your shoulder, elbow, wrist and fingers will help the swelling to settle and prevent them from stiffening.

You can also try wrapping an ice pack or a bag of frozen peas in a damp tea towel and putting on your hand in the first few days of your injury. Leave for 10 minutes or less and repeat 3 times a day. If you suffer from circulation problems, it is not appropriate for you to use a cold compress.

## Treatment of mallet injury

Most mallet injuries can be treated by splinting alone. Some injuries will require surgery.

### Mallet splints

There are different designs of mallet splints. They are made to support the end joint of your thumb in a straight position to allow the bone/tendon to heal.

### Splinting instructions

- The splint is worn **continuously** for at least 6 weeks with bony mallet injuries and at least 8 weeks with soft tissue mallet injuries or can be longer depending on the healing of the injury.
- You must keep the end joint of the thumb supported in a straight position all the time. You must not allow the end joint to bend.
- If the end joint of your thumb bends during the continuous splinting period, it will slow the healing. You will need to re-start splinting again from the beginning.
- You need to wear your splint all the time including when you are in the bath/shower and when you are in bed.
- You can put a plastic bag over to keep your hand and splint dry.
- At the end of continuous splinting the splint is worn for next 4 weeks at night and when the thumb is at risk of injury.
- Redo the tapes on the splint if you feel pins and needles in the thumb or if you feel the tapes are too tight.

### Can you use your hand while you are still wearing a splint?

- You may use your fingers for light activities.
- You must **not** use your thumb.
- Do not engage in contact sports.

## How should you remove and put the splint back on your thumb?

Remove your splint once a day to clean and dry your thumb

- When you remove your splint to clean your thumb you must not allow the tip of thumb to bend or leave your thumb unsupported. You can place your thumb on a flat surface/table, removing your splint to clean and dry your thumb. After cleaning, reapply the splint straightaway.

Diagrams show how to remove a dorsal mallet splint on the thumb



- Place your thumb flat on a table
- Undo the two round tapes



- Take the splint off your thumb leaving sticky tape on the bottom of the thumb



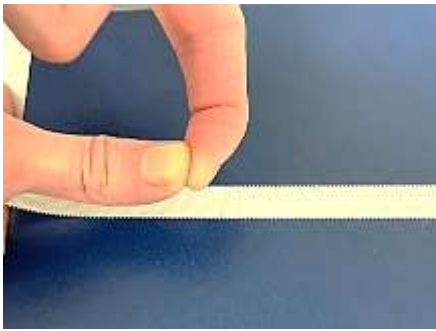
- Keeping your thumb flat on a table gently pull the sticky tape off your thumb

Diagram below shows how to remove a volar mallet splint



- Place your thumb flat on a table
- Remove the round sticky tapes, gently pull the splint off your thumb

## Diagrams below show how to put on a dorsal mallet splint



- Put a long sticky tape on a flat surface
- Use your other hand to hold the thumb straight and place the thumb on the sticky tape
- Use other hand to put the splint on the back of your thumb



- Pull the tape from the front of your thumb as far as to the splint and stick the tape on top of the splint



- Put 2 round tapes on the thumb to secure the splint

## Splinting schedule

- Please wear your splint all the time until \_\_\_\_\_.
- From \_\_\_\_\_, remove your splint and check whether you can hold the end joint of your thumb straight without supporting it.
- If the end joint of the thumb is not straight, please continue to wear your splint full time for another \_\_\_\_\_ weeks until \_\_\_\_\_.
- If the end joint of your thumb is straight, you may start to remove your splint and do the following exercises. You must **put the splint back** on your thumb after you have done the thumb exercises.
- From \_\_\_\_\_, you wear the splint at night and when the thumb may be at risk of injury.
- From \_\_\_\_\_, you do not need to wear the splint anymore.

## Important note

If you lose any extension in the end joint of your thumb after starting the thumb exercises, please stop doing the exercises and put your splint back on for continuous splinting. Please contact your Occupational Therapist as soon as you can.



# Thumb exercises during the period of continuous splinting

Exercise your elbow, shoulder, wrist, fingers and any joints that are not included in the splint.

**With the splint on**, please do these exercises \_\_\_\_\_ times a day.

For each set do \_\_\_\_\_ repetitions of each movement.

- Gently bend and straighten the knuckle joint of your splinted thumb (DO NOT bend the end joint of the thumb)



Volar splint



Dorsal splint

- Thumb opposition exercises

Use your thumb to touch the tip of each finger



Opposition exercises with wearing a volar thumb splint



Opposition exercises with wearing a dorsal thumb splint

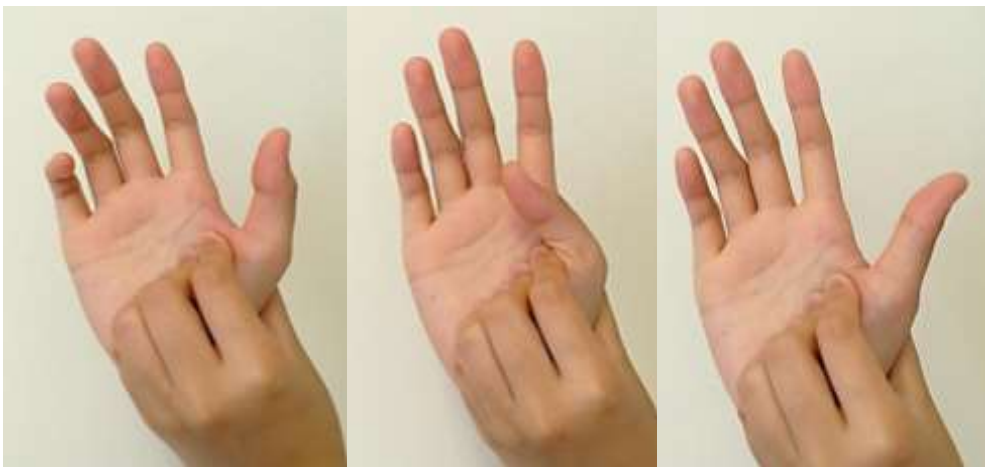


# When you don't need to wear your splint all the time, you can do the following exercises

From \_\_\_\_\_, please remove the splint to do the following exercises.

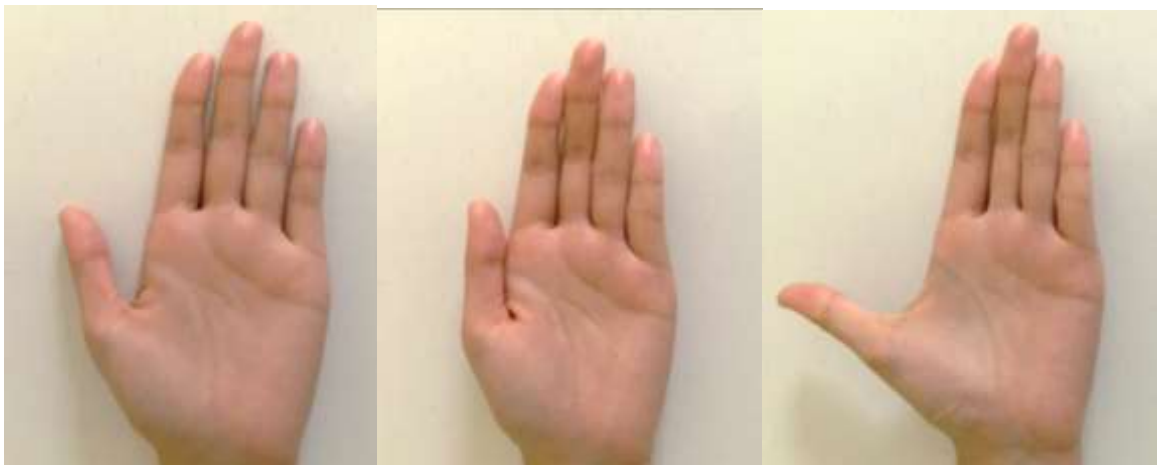
Please exercise \_\_\_\_\_ times a day, each time do \_\_\_\_\_ repetitions of each movement.

## 1. Bending the knuckle joint of your thumb



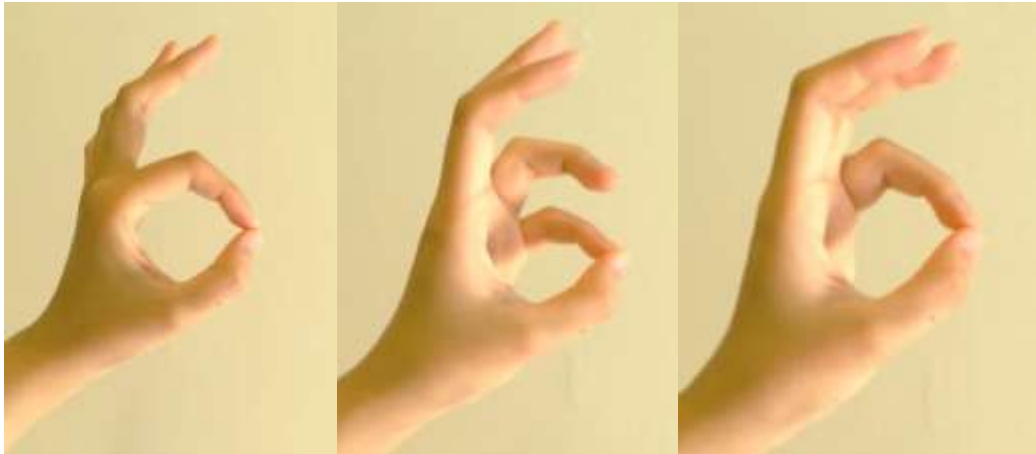
Use your other hand to hold just below the knuckle joint of your thumb	Bend down the knuckle joint of your thumb	Straighten your thumb
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## 2. Thumb extension exercise



Rest the back of your hand on the table or place your palm on the table	Move your thumb next to your index finger	Straighten your thumb
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### 3. Thumb opposition exercises



Move your thumb to touch the tip of the index finger, aiming to make a good "O" shape with the tip of your thumb and finger

Repeat the same movement with your thumb and other fingers.

Proceed to touching the little finger if pain free

### 4. Bending end joint of your thumb

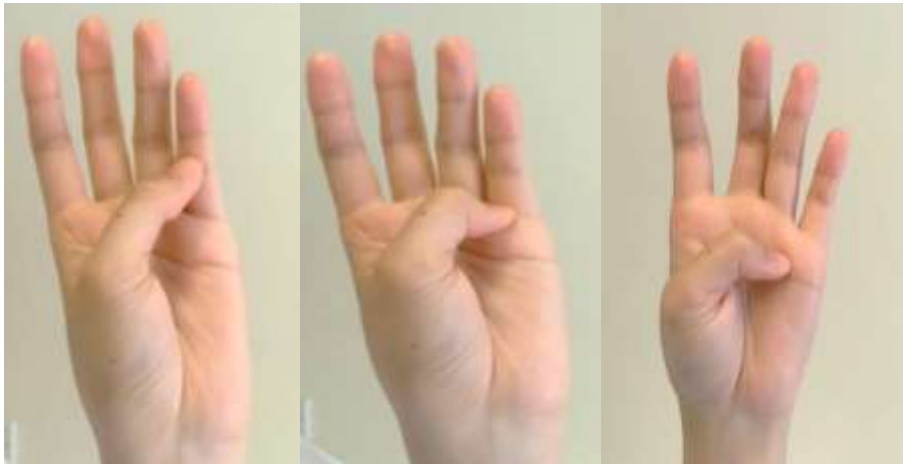


Use your other hand to hold your thumb just below the end joint

Bend down the end joint of your thumb

Straighten your thumb

## 6. Bending the whole thumb



Move the thumb across the palm to touch the tip of the ring or little finger

Gradually slide and bend your thumb down the finger to reach the palm

## **When can you start using your injured thumb?**

From \_\_\_\_\_, you may use your hand as normal and go back to playing contact sports. However, boxing should be delayed for another 4 weeks

## **When can you return to driving?**

You should not drive while you are in a splint. You should not return to driving if you have significant pain or if you have reduced grip function that affects your ability to drive safely and perform an emergency stop manoeuvre.

We cannot give you permission to drive. It is your decision. It is your responsibility to ensure that you are safe to drive and you are in control of the vehicle. Please refer to the DVLA website regarding fitness to drive.

You are advised to check with your driving/motor insurance provider before returning to driving.

## **What outcome can you expect after a mallet injury?**

Most mallet injuries heal well with splinting alone. The aim of splinting is to return the end joint to as near normal as possible. There may be a slight loss of full extension at the end joint of your thumb at the completion of treatment.

It may take a few months for the swelling and tenderness to settle as well as the redness over the back of your thumb. You may also find the skin of the thumb become more sensitive. You can massage the skin with a light moisturiser to help desensitise the skin.

Bony mallet injuries may leave a bump/deformity over the end joint of the thumb due to the fracture. You may not regain full normal or pre-injury movement in the end joint of your thumb. This generally doesn't affect the overall function of your hand.

Occasionally the tendon may not heal at the completion of splinting. It may be necessary to do another course of splinting. If extension still does not improve and the thumb remains painful, then you need to see the consultant/your GP for other options.

If you have any questions on this information leaflet, please contact your Occupational Therapist

The telephone number in Occupational Therapy is **01752 432220**

Your Occupational Therapist is: \_\_\_\_\_

**Your notes:**



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