

# Osteoarthritis of the big toe joint

## (Hallux Limitus / Hallux Rigidus)

The big toe joint is the most common site for osteoarthritis in the foot. This can occur from late teens onwards, though it is more common with increased age. It is thought to affect about 20% of people over the age of forty. 'Hallux' is the medical term for the big toe. 'Limitus' means there is reduced movement at the big toe joint which is an indication of osteoarthritis. 'Rigidus' means that the condition is so advanced that the joint will no longer move. Full upward motion at the big toe joint is about 90°. Recent studies have shown that we use no more than 45° of upward movement at the big toe joint during normal walking. It is therefore typical that the osteoarthritic changes can progress to quite an extent before people start experiencing a level of pain and swelling that requires them to seek medical attention.



help explain the reduced upward movement of the big toe. This is sometimes referred to as a 'dorsal bunion' as opposed to a normal bunion that you get at the side of the joint. Pain can typically be experienced by bending the big toe joint upwards with your hand, most commonly at the end of this range of motion.

## What causes osteoarthritis of the big toe?

In most cases, these changes are due to a specific injury or repetitive minor trauma. Certain recreational and occupational activities can lead to degenerative changes over time. You are more likely to develop osteoarthritis in the big toe if you have a flat arched (pronated) foot, if you already have a bunion, if there is a family history of osteoarthritis in the big toe and with the wearing of shoes that are too flexible or if the heel is too high.

There are some conditions such as rheumatoid arthritis and gout that can lead to changes within the joint which results in degeneration and subsequent osteoarthritic changes. These conditions normally affect more than one joint. Other rare causes of big toe joint pain include infection or a piece of bone within the joint space.

## How is osteoarthritis of the big toe diagnosed?

These osteoarthritic changes have quite a characteristic appearance. The joint will normally be enlarged or inflamed, with heat and redness. There can be a bony lump (exostosis) over the top of the joint which can

These signs and symptoms will normally be sufficient for your clinician to make the diagnosis. Sometimes investigations such as x-ray or ultrasound may be used to help decide the best way to treat the condition. Blood tests may be ordered if there are any reasons to suggest that the symptoms may be due to conditions such as gout or rheumatoid arthritis.

## Will the pain get worse?

Arthritis is a progressive condition and typically will get worse through time though this is usually very gradual over a number of years. As a result, the joint will become more stiff and prominent / enlarged. Although the degree of pain is generally related to the extent of arthritic change, it does not necessarily get more painful through time. The joint can continue to stiffen until the point that it stops moving altogether. Often, at this stage, there can be a reduction in pain.

It is common for people to experience other symptoms away from the big toe joint due to changes in the way that they walk to compensate for the loss of big toe joint movement. There can be discomfort over the outside of the foot as you 'push off' away from the big toe joint. Pain over the outside of the ankle and lower back pain can also occur.

## Will I require any treatment?

Usually the symptoms associated with this condition can be self-managed.

### Pain relief

You can take simple pain killers if the pain is bad and interfering with your daily activities. Try paracetamol first as side-effects are rare if you stick to the correct dosage. Sometimes anti-inflammatory medicines such as ibuprofen are useful. If you have never taken this type of medication before, or have not done so for a long time, you should first check with a pharmacist, or your GP to make sure there is no reason why you should not take these. These are painkillers but they also reduce inflammation and may work more effectively than ordinary painkillers. Some people find that rubbing a cream or gel, that contains an anti-inflammatory medication, onto the swollen joint can be helpful.

### Ice

This can help to reduce the pain and inflammation associated with the condition. This can be very effective at the end of a busy day. Place some ice cubes or a bag of frozen peas in a tea towel. Place on the joint for 10-15 minutes. This can be repeated on the same day though not within 2 hours of the last application.

### Footwear

Rather than treating the symptoms, it is better to try and prevent this happening in the first place. The pain and inflammation occurs in the big toe joint because the joint is being forced to bend when your foot pushes off from the ground when walking and running. Footwear such as high heels, or footwear that is overly flexible, increase this demand on the big toe joint to bend and will lead to pain and inflammation.

It is generally found that the best type of footwear are those that are hard to bend or even completely stiff at the front of the shoe. The front of the shoe should also have a roll or a rocker. These properties in a shoe will act to splint the joint and reduce the demands on the joint to bend. Shoes may also need to be quite deep at the front of the shoe to accommodate the enlarged joint. Many people find that they can control the pain and inflammation well if they wear this type of footwear most of the time.

### Foot orthoses

This intervention can offer benefit though it is likely to only be considered at an early stage, with the aim of improving the motion at the big toe joint during walking/sporting activities. This is unlikely to help much in the more advanced stages where the joint is quite stiff.

## What other treatments can be offered?

If the above measures do not reduce the symptoms sufficiently, remaining treatment options are:

### Steroid injections

A steroid (cortisone) injection, which usually includes a local anaesthetic, can work very well to settle the pain and inflammation. As with any osteoarthritic condition, there are, however, no guarantees on how long any benefit will last. The symptoms may recur quite soon, within days or weeks, although there might not be a recurrence of pain for over a year. Adherence to footwear advice should prolong any benefit experienced from a steroid injection. It is not advisable to have too many steroid injections to the same joint, over a short period of time, as there are concerns that this may accelerate further osteoarthritic change.

### Surgery

A referral can be made for you to be assessed in a surgical department where it can be decided if it is appropriate for you to have an operation. Although most people will benefit from having surgery for this condition, as with all operations, there are risks and complications that can occur and these will be discussed with you by your specialist. It is also important to be aware that, following surgery, you may be left with some pain and stiffness and the deformity can recur again in the future. It is therefore not advisable to have surgery if the deformity is not painful and does not limit your daily activities.

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