Patient Information

University Hospitals Coventry and Warwickshire NHS Trust

## Trauma and Orthopaedics

# 1st metatarsophalangeal joint (MTPJ) osteoarthritis

This leaflet gives you information on the problems you may have with your big toe.

It is not a substitute for professional healthcare advice. It should be used along with verbal information given by your doctor or member of the foot and ankle team.

## What is 1st metatarsophalangeal joint osteoarthritis?

1st metatarsophalangeal joint (MTPJ) osteoarthritis (OA) is the scientific name for a degenerative condition in the joint of the big toe.

This condition is usually characterised by pain and stiffness.

Symptoms are sometimes felt across the lesser toes. This is due to the stiffness or pain altering the way you walk.

Extra bony projections growing around the joint line (called osteophytes) lead to bony bumps around the big toe joint.

Where there is more stiffness of the 1st MTPJ, this can be called hallux rigidus.

## What are common causes of 1st MTPJ OA?

No single cause has been proven.

1st MTPJ OA may develop because of:

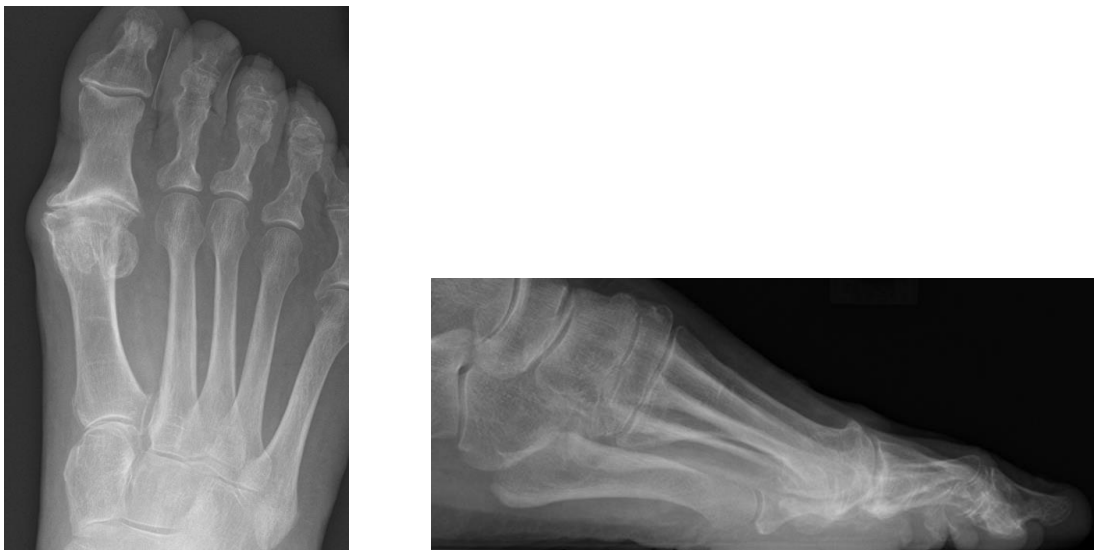
- a prior injury
- the way the foot moves and functions (altered mechanics)
- genetics - the cartilage in the joint wears more quickly in some people than others.

Contributing factors such as gout, or other lifestyle factors, may make some people more at risk than others.

## What are the symptoms?

1st MTPJ OA may not always cause severe symptoms, but sometimes it can cause:

- pain, stiffness, swelling and redness around the joint
- difficulty or altered walking
- pain on the top of the big toe joint or under the small toes
- deformity of the toe
- problems with footwear due to the big toe bony prominence



X-rays showing arthritis of 1st MTPJ (big toe joint) with joint space narrowing and osteophytes.

# What are the treatment options?

## a) Non-surgical treatment

One of the most important things you can do to help is to wear the right footwear. You should try flat, stiff-soled shoes that fit properly, such as walking shoes or boots.

Shoes with a heel that is flexible will increase the pressure through the problematic joint. This will increase your symptoms. This may not be felt immediately, but pain builds up over time after doing thousands of steps every day.

You can take painkillers, such as paracetamol or ibuprofen, to help relieve the pain and inflammation in your toe joint.

Use a regular ice pack to reduce pain and swelling.

## b) Surgical or invasive treatments

### Joint injection

One of the first options you can consider is a **steroid injection**. This is not a cure for the degenerative changes in the joint and will not improve movement. But it may give some pain relief for a period of time. We cannot predict how long this may be.

This injection can also be used as a diagnostic tool. If you get good pain relief, it indicates that the pain is coming from that joint. If it does not give good pain relief for any period of time, this might be because other factors are causing the pain.

We may try an injection to confirm the diagnosis.

Risks of injection include infection, bleeding, skin atrophy, depigmentation, post-injection flare-up, and immunosuppressant effect from the steroid for up to one month following the injection.

## Surgical options

Surgery for 1st MTPJ OA is considered when non-surgical measures fail to relieve your symptoms enough for you to carry out your normal daily activities, work or hobbies.

The main reason to do the surgery is to improve your pain, and occasionally prevent the big toe bony prominence rubbing against the footwear.

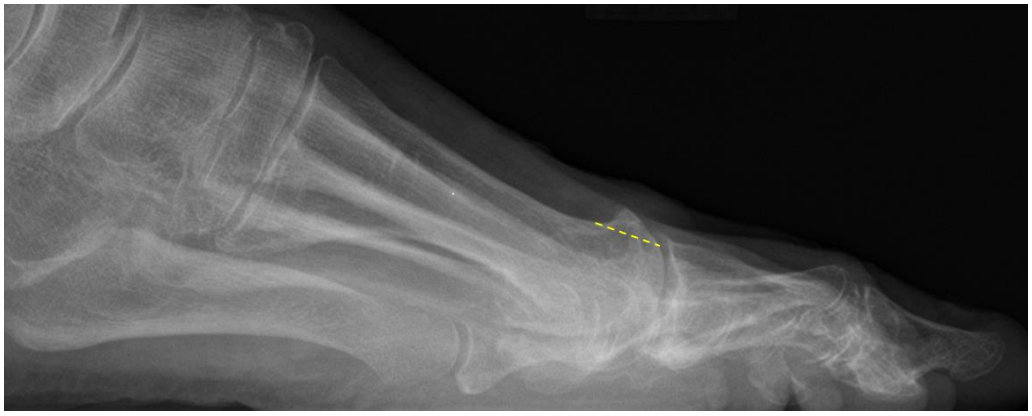
## Cheilectomy

A **cheilectomy** might be offered if your main problem is footwear rubbing due to a lump on the top of your big toe joint, or arthritis limited to the top third of your big toe joint.

This procedure involves an incision (cut) along the inner side of the joint. The most arthritic part of the big toe joint, up to 1/3rd of the joint surface on the top, and any osteophytes around the joint are then removed.

This procedure removes the most arthritic part of the big toe joint. It does not do anything to improve the degenerative changes in the rest of the joint. It can make some patients' pain worse.

The risks of cheilectomy include scar sensitivity, on-going or worsening pain from the joint, need for further surgery and the other risks of surgery. These are explained in more detail under the complications section.



X-ray showing bony bump on top of joint and line indicating what is shaved away.

## Joint fusion

The main end-stage surgery is joint fusion. This procedure involves removing the damaged cartilage left in the joint. We then bring the ends of the bones together, before compressing and fixing them together so they can heal as one, solid piece of bone.

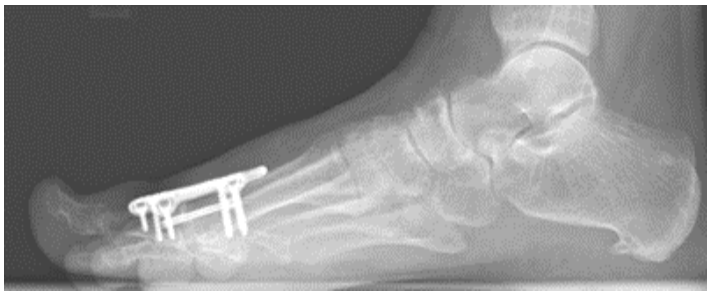
An incision (cut) is made along the inner side of the joint. The joint is prepared by cutting away the damaged cartilage and any osteophytes that have formed around the joint.

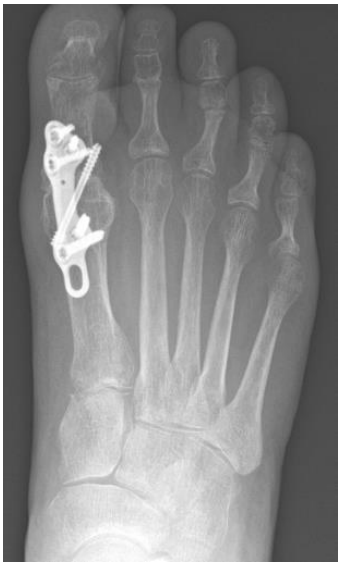
A screw is then passed across the joint to compress it together. A special plate is applied to hold the joint still whilst the bones attempt to heal together over the coming months.

Careful attention is made to the position of the toe. It needs to be slightly raised off the floor to enable a more natural walking pattern once healed.

The wound is closed with stitches which are usually dissolvable.

There is usually no need for a plaster cast. You will have a bulky dressing and be given a special shoe afterwards.





X-ray appearance before and after surgery showing metal plate and screws.

## Smoking advice

One of the main risks with a fusion procedure is that the bones fail to heal together. This is called a “non-union”.

Evidence shows that people who smoke take longer for their bones to heal. If you smoke, you are 5 times more likely to develop non-union of the bone.

It is important that you stop smoking for at least 8 weeks before your surgery and that you do not smoke for up to 4 months afterwards or until the bones have healed.

You can get help from your GP or a smoking helpline.

## Does the surgery have any complications?

Big toe surgery is usually successful at achieving improvements in pain and deformity, but complications can occur.

### Swelling

It is normal for your foot to swell after surgery. It may take up to 6 months for the swelling to go down depending on your general health and activity.

It is important to raise your foot above the groin in the early stages, and then when increased swelling develops as you do more activity.

### Pain

It is usually painful for the first few weeks after surgery.

In the first 6 months after 1st MTPJ fusion surgery, you may tend to walk on the outer border of your foot to avoid bearing weight through your big toe. This could cause discomfort or pain under the other toes.

The pain and swelling will improve as the bone healing progresses, and so should your walking.

## Infection

This occurs in a small percentage of patients. Minor infections normally settle after a short course of antibiotics.

Deep infection happens in less than 1 in 100 cases. It may need further surgery to resolve the infection and a prolonged course of antibiotics.

## Bleeding

Wounds can bleed after surgery. If this occurs, please contact the team looking after you (not your GP) and they will invite you back to clinic for a wound assessment.

If this occurs in the evening or at the weekend, please attend A&E if you are concerned.

## Numbness and tingling

Minor nerve damage can cause numbness or tingling around the wound. Numbness or sensitive areas usually settle, but occasionally can be permanent.

## Blood clots

Deep vein thrombosis (DVT) or pulmonary embolism (PE) is rare.

All patients will undergo a risk assessment to check their chance of developing a blood clot, and preventive injections are given to reduce your risk.

## Scar

All surgery will leave a scar, and these can be sensitive. It is recommended to massage the scar with E45 cream or Bio Oil once the scar is healed after surgery.

### Prominent screws or plate

Occasionally, the metal work inserted during your surgery can be felt beneath the skin and cause discomfort.

These may be removed at a later stage, after the bones have healed, if they continue to cause problems.

### Non-union

The bones occasionally do not heal and cause continued pain. The risks of non-union or major complications are higher if you smoke.

Non-union may require further surgery to repeat the process to help the bones heal, but this also has a risk of non-union.

### Mal-union

This happens when the bones heal in the wrong position. This may require further surgery to improve the position.

### Chronic regional pain syndrome (CRPS)

A small number of patients may experience CRPS. This is a chronic condition where patients have severe pain, swelling and changes to the skin which persist beyond the first few weeks after surgery.

CRPS is treated with physiotherapy and painkillers.

## Post-operative advice

### Wound care/dressing

The foot and ankle will be in a bulky bandage following both fusion and cheilectomy procedures. This should remain in place until your next outpatient appointment, usually 2 weeks after surgery at a nurse-led clinic.

You will be supplied with a special post-operative shoe to help with walking. This may be either a heel weight bearing sandal or a flat, stiff-soled sandal. It must be worn at all times when you are on your feet.

## Elevation

It is extremely important to keep the foot which has been operated on elevated (raised) above groin level for the first two weeks after surgery. You must do this as much as possible.

For 2 days after surgery, your foot needs to be elevated (raised) for 55 minutes out of every hour. The duration of the elevation is reduced by 5 minutes per hour every day (e.g. 50 minutes on day 3, 45 minutes on day 4 etc.).

This should help to reduce the foot swelling, pain, and allow better wound healing.

## Pain relief

Painkillers are recommended to be taken regularly during the first week after surgery. These will be supplied to you before you leave the hospital.

# Exercises

A physiotherapist will assess your walking and provide crutches if required before you get discharged from the hospital. You will be instructed on how to move the affected foot and ankle to prevent stiffness in other joints and help manage the swelling.

We encourage you to move around and walk as comfort allows. “Little and often” is a good general rule once the acute pain and swelling has subsided.

If you have had a **cheilectomy** procedure, and once the wound has healed, we encourage you to move the big toe joint. This can be by moving the toe up and down using your hands initially and then progressing on to perform heel raises (up onto your toes).

Again, start with ”little and often” and increase to performing these 4 to 6 times daily with 3 to 4 sets of 10 to 20 repetitions.

Expect some discomfort with these, but this should improve over the first 2 months.

If it continues to be painful as your activity levels increase, reduce the number of sets and repetitions down to a tolerable level.

## Follow-up appointments

You will be given an outpatient appointment for 2 weeks after your surgery. At this appointment we will remove the dressings and inspect the wound. You will also be given further information on how to care for your wound and how to manage your symptoms.

A further appointment will be made 6 to 8 weeks after your surgery to check your progress. An X-ray is usually done to assess the position of the toe and the metal work.

A final review would be at 4 months after your surgery with X-rays to check the bone is healing. However, if you develop any problems, you can contact us and we will see you more quickly. Foot swelling and discomfort is expected for up to 4 to 6 months after surgery.

## Returning to work

This depends on your individual circumstances and your type of employment.

If you have a sedentary job (you sit down for most of the time), and can raise your affected foot, then you may return to work 2 to 3 weeks after surgery. If you have a more physically demanding job, it may take 4 months or sometimes longer to return to work. The average bone healing time is 4 months.

## Driving

If surgery is on your **left foot** and you have an automatic car, you can start driving at around 2 weeks after the operation. Otherwise, you may be able to drive at 8 weeks. This depends on your progress.

If you have had a **cheilectomy** procedure, you can attempt to drive when your wounds have healed. You need to do a test drive to make sure you can perform an emergency stop.

You should tell your insurance company the type of procedure that you have had. This is to check that your insurance cover is valid.

## Sport

You can return to sporting activities, like swimming and cycling, from 3 to 4 months after your operation.

Activities involving more impact such as jumping and running would take more than 6 months and some patients may not be able to carry on with these types of activities for many reasons.

## Contact details

If you have any questions or concerns, please contact the following:

Consultants' secretaries (Monday – Friday, 8am to 4.30pm)

- Mr Dhukaram – Jas Virdi 024 7696 5095
- Mrs Chapman – Sophie Carvell/Amber Jolliffe 024 7696 7117
- Mr Ali – Claire Merrall 024 7696 5073

Further information on OA may be found at:
https://www.nhs.uk/conditions/osteoarthritis/

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact 024 7696 5095 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

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We would like you to tell us what you think about our services. This helps us make further improvements and recognise members of staff who provide a good service.

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www.uhcw.nhs.uk/feedback

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