

Ankle Fusion

Ankle arthritis

Ankle arthritis occurs when the cartilage (lining) of the ankle joint deteriorates. This causes inflammation within the joint which manifests as pain, swelling and stiffness. The pain is initially activity related but as the disease progresses and more cartilage is lost, the pain occurs at rest also. Osteophytes (bone spurs) may form around the joint and restrict the amount of motion in the ankle. Ultimately most, if not all of the cartilage lining the joint is lost and the underlying bone is exposed. Bone then articulates against bone. The pain and disability at this stage usually interfere with quality of life.

Ankle arthritis is not as common as hip or knee arthritis. It more commonly occurs as a result of trauma such as recurrent ankle sprains or fractures. Repetitive heavy loading of the ankle, such as manual labour can also be a cause. It can also occur in the presence of systemic inflammatory disorders, such as rheumatoid arthritis.

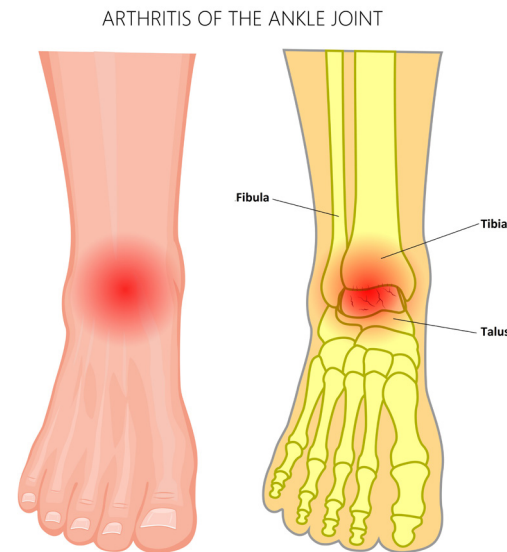
The initial management is non-operative. This involves simple analgesia such as paracetamol and anti-inflammatories, activity and footwear modification, weight loss, low impact exercises such as swimming, stationary cycling or walking on a treadmill and injections such as cortisone. These treatments do not reverse the injury to the cartilage but can delay the progression of arthritis. The use of stem cells is not supported by the current scientific literature.

Once non-operative measures have been tried and failed, surgery can be considered.

Debridement

In the earlier stages of the disease, the stiffness and pain that arises from the impingement of osteophytes around the joint may respond to a resection of these spurs. This usually can be carried out via arthroscopy (key-hole surgery).

This can be performed as a day surgery procedure. It is done under a general anaesthetic. Ambulation begins immediately after surgery in an aircast boot. Physiotherapy commences straight away and the boot is discontinued as soon as comfort allows. This form of surgery is a temporizing measure, as it does not stop the progression of arthritis and does not treat the cartilage loss.



Ankle arthritis



X-Rays of Ankle Arthrodesis

Ankle arthrodesis (fusion)

This remains the gold standard for end-stage ankle arthritis. An ankle replacement is an option. Essentially, the tibia (shin bone) is fused to the talus (ankle bone). Although the normal motion at the ankle joint no longer occurs, this is usually no worse compared to the pre-operative state, where motion was already significantly restricted from arthritis. The other joints of the foot remain mobile. After an ankle fusion, the ankle is pain free and the ability to walk and exercise is improved. A patient can expect to be able to walk without a limp and perform manual labour.

The operation is performed under a general anaesthetic supplemented by a local anaesthetic block. There are many different approaches to fusing the ankle but these can generally be classified as open or arthroscopic (key-hole surgery). Essentially, the joint is prepared by removing all the remaining cartilage. Bone graft is then harvested from the calcaneus (heel) and inserted into the ankle joint. This is then compressed and held in position with either screws or a combination of a plate and screws. The fibula (the smaller of the 2 leg bones), may also need to be shortened surgically to increase the chances of a successful fusion. Dr Lau is experienced and trained in all the various methods of performing an ankle fusion and will tailor the operation to the individual patient's demands and anatomy.

A half cast is applied at the end of the procedure. Ambulation begins with walking aids as soon as possible and discharge home usually occurs after 2-3 nights. Sometimes, a stay in the rehabilitation ward at the hospital may be necessary. A patient will need to be independently mobile and comfortable, prior to discharge. Walking aids will be required for at least 6 weeks from surgery. These include crutches and/or a knee scooter. A minimal amount of weight only is permitted through the operated leg for 6 weeks. A blood thinning injection, Clexane, will need to be self-administered for this period of time also to prevent blood clots. The half cast is changed to a full cast at 2 weeks. At 6 weeks, an x-ray of the ankle is taken prior to commencement of weight bearing in an aircast boot. This is used for 4-6 weeks.

Although the operation is safe, reliable and performed with utmost care, complications may still occur. These include numbness, infection, blood clots and non-union. Non-union is said to occur when there is ongoing pain in the ankle joint due to the bones failing to fuse. If this occurs, the operation may need to be repeated. The incidence of this happening is low, being around 5%.