

OSTEOARTHRITIS OF THE ANKLE

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Osteoarthritis of the ankle (ankle OA) is a cause of pain and dysfunction for many Australians. Compared to the hip and knee, primary ankle OA is uncommon. Previous trauma is the most common origin of ankle OA. Therefore, patients with ankle OA will often be younger than those with hip or knee OA. Secondary ankle OA is also associated with a number of other disorders, such as rheumatoid arthritis, haemochromatosis, haemophilia, gout, neuropathic disease, avascular necrosis and infection.

The functional limitations of patients with ankle OA are significant. Pain can be severe and is often felt as an ache within the ankle joint. It may be more localised, such as across the front of the ankle or anterolaterally. It can also be more generalised, around the whole hindfoot complex. It tends to be worse in cold weather. The pain is normally with walking. It is often worse for the first few steps (start-up pain). In more severe cases the patient develops rest and night pain. Recreation and daily functions become severely limited. Stiffness, swelling, deformity and instability are also common symptoms. In early stages the pain may be purely from osteophytes causing impingement pain at the anterior ankle on squatting and walking up hills, with little or no pain in the ankle joint itself.

Diagnosis is usually confirmed with weight bearing AP, mortise and lateral X-rays (Figure 1). These show loss of joint space, osteophytes, subarticular sclerosis and occasionally cyst formation. It is important



Figure 1 Advanced ankle OA

to specifically order weight bearing views, as supine X-rays often underestimate the severity. Nuclear medicine and MRI scans can aid in diagnosis but are not routinely necessary.

Symptoms can often be controlled with regular paracetamol, adding stronger analgesics and NSAIDs as necessary. Some patients report symptomatic relief with glucosamine and chondroitin sulphate, but these do not alter disease progression. Other measures include physiotherapy for range of motion and strengthening, hydrotherapy, weight loss and use of a walking stick. A low profile ankle brace (usually fitted by a physiotherapist) can also help. Referral to a podiatrist for cushioning orthotics and shoes with a stiff sole and rocker bottom can provide prolonged relief. Injections of local anaesthetic and cortisone help for several months in some cases.

Surgery may be necessary if these measures fail. In early cases, with anterior impingement pain from osteophytes and very mild loss of articular cartilage within the joint (Figure 2), ankle arthroscopy can help by removing the anterior impinging spurs.

In more severe, incapacitating cases the operation of choice is normally an ankle arthrodesis (Figure 3). The ankle joint is prepared back to bleeding bone and held with screws. The joint then fuses over 12 weeks. Patients mobilise touch weight bearing in a boot or plaster for 6 weeks, followed by a second 6 weeks of gradual weight bearing in a boot. At 12 weeks the patient can walk in supportive shoes, with any



Figure 2: Early ankle OA with impinging spurs

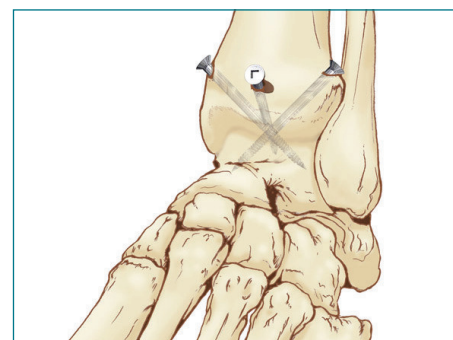


Figure 3: Ankle arthrodesis

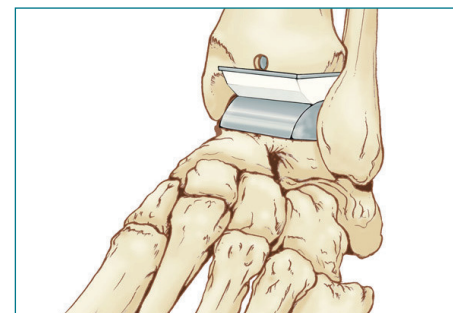


Figure 4: Total ankle replacement

limp resolving over the following 3 months. This procedure leads to excellent pain relief in approximately 90% of cases and a normal walking pattern, as observed by relatives and friends. The lack of movement in the ankle joint is compensated for by movement in the surrounding hindfoot joints, with 30% of dorsiflexion and plantarflexion being maintained as a result.

Total ankle replacement (Figure 4) can also lead to excellent pain relief, with the advantage that ankle movement is retained. This leads to a more normal gait pattern and less stress on surrounding joints, resulting in a lower incidence of later hindfoot osteoarthritis. The disadvantage of ankle replacement is that pain relief is not quite as reliable as ankle arthrodesis. In addition, they can loosen over time. The incidence of loosening is higher than that of hip and knee replacements, and revision options are more difficult, in part due to the small size and poor vascularity of the talus. The ideal candidate for an ankle replacement is an older, lower demand patient without significant deformity or instability. Ankle replacement is also particularly useful in cases of previous hindfoot arthrodesis, where an ankle arthrodesis may result in debilitating stiffness.