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Arthritis of the Hindfoot

The foot is a complex structure formed by many joints, each of which have limited range of motion. It is divided into forefoot (toes and metatarsals), midfoot (the arch), and the hindfoot (the larger bones that allow for side to side motion).

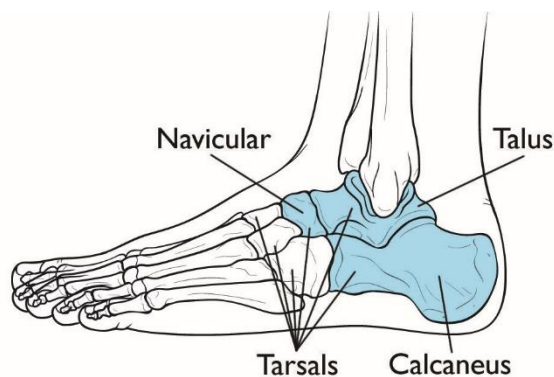
Arthritis is the wear of cartilage inside the joint. The cartilage acts as a nearly frictionless surface to allow motion. When the cartilage is gone, the bone rubs against bone, which is painful.

Inflammation within the joint is also painful.

Almost half of people in their 60s and 70s have arthritis in the foot or ankle, but not all these people notice symptoms or experience pain.

Hindfoot arthritis causes pain and stiffness with side-to side motion, such as is needed for hiking on uneven surfaces or playing cutting sports such as tennis and soccer. The joints of the hindfoot are the subtalar joint, talonavicular joint, and calcaneocuboid joint. Together, these are called the “triple joint complex” because their motion is in concert with each other.

Arthritis at the subtalar joint is often confused with tendinitis, and is difficult to see on x-ray. A CT scan is usually necessary.



Arthritis at the talonavicular joint can cause a painful bone spur at the top of the foot, and is often confused with the ankle. This can be the first sign of rheumatoid arthritis.

Arthritis at the calcaneocuboid joint is rarely seen alone. It is usually present in conjunction with arthritis at the other joints of the hindfoot.

Diagnosis

A set of high-quality weight-bearing (standing) x-rays are required for diagnosis, as well as a thorough physical examination. Sometimes, an MRI and CT scan may be necessary.

Treatment

Oral anti-inflammatories and ice help to minimize the pain significantly. Two Aleves twice a day for two weeks as a trial can show how much NSAIDs will minimize pain. Topical NSAIDs are also available by prescription. Ice should always be wrapped in a tea towel and applied for no more than fifteen minutes every hour to prevent frostbite. It should be done at least twice a day but not more than once an hour.

Activity modification will help to alleviate pain. Impact activities will always be more painful on an arthritic foot, and cutting activities will also aggravate these joints. Cross training with swimming or elliptical machine, and avoidance of aggravating activities, can result in less pain.

Temporary immobilization with a custom brace or boot can help during severe flares of pain.



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Physical therapy helps to retrain gait and strengthen the muscles around the foot to normalize motion and minimize pain. It does not reverse the arthritis, but can greatly decrease the pain.

Orthotics to normalize the foot's contact with the ground and offload areas of pressure.

Injections in this area are difficult and unpredictable. They are often done in the operating room in order to use imaging guidance. There are three main types of injections used for arthritis:

- **Anti-inflammatory injections:** these are steroid injections, which decrease inflammation. They may help some of the pain from swelling within the joint. They do carry the risk of damage to the cartilage over time and should be used judiciously.
- **Lubricant injections:** these are made of glycoproteins that occur naturally in joint fluid. Arthritis disrupts the normal concentrations of glycoproteins in our joint fluid, and the lubricant injections help to restore a more normal lubricant joint fluid. These are off-label in the foot and may not be covered by insurance but many patients find them to be helpful.
- **Biologic injections:** these include stem cells and PRP (platelet rich plasma). Without help, cartilage is not repaired by the body. The goal of these injections is to stimulate the body's healing responses above normal levels to allow for healing of injured cartilage. PRP, which is commonly used, is drawn from your own blood to stimulate the inflammatory pathways that create cartilage. This may allow for some healing. These are not usually covered by insurance.

Occasionally **surgery** is necessary when the pain is not able to be treated. The specific surgery required is dictated by the severity of the arthritis, as well as other factors.

For young patients with only an anterior osteophyte or bone spur, simple removal of the bone spur may alleviate a significant portion of the pain and allow for better range of motion.

For severe arthritis, a fusion of the arthritic joint or of the triple joint complex may be necessary.

A fusion welds the joint together to completely rid the ankle of any arthritis or pain. The numerous joints that surround the ankle allow for near-normal motion afterwards. This surgery does not need to be redone.

There is no replacement for the joints of the hindfoot.

References

"Arthritis of the Foot and Ankle" <https://www.footcaremd.org/conditions-treatments/ankle/arthritis-of-the-foot-and-ankle>

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