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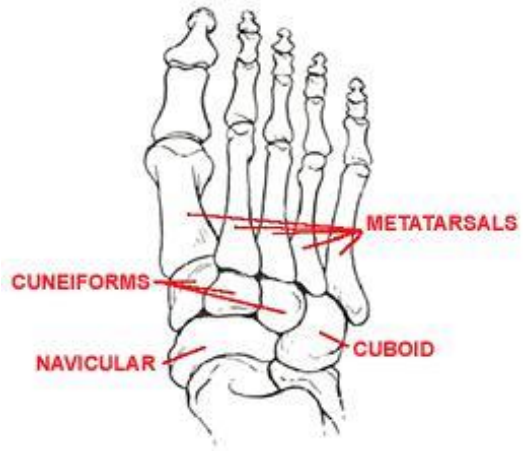
Arthritis of the Midfoot

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 smooth motion. When the cartilage is gone, the bone rubs against bone, which is painful. Inflammation within the joint is also painful.

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

Midfoot arthritis causes pain and stiffness with push-off, such as is needed walking and running. The joints of the midfoot are stabilizing joints of the arch and have minimal motion.

Osteoarthritis, or normal wear and tear arthritis, is a common cause of arthritis in the midfoot. Severe trauma such as a Lisfranc fracture-dislocation can also cause midfoot arthritis.

This can lead to soreness with walking as well as a painful bump on the top of the foot.

Diagnosis

A set of high-quality weight-bearing (standing) x-rays are required for diagnosis, as well as a thorough physical examination. Your doctor may also order an MRI and/or CT scan for more accurate diagnoses.

Treatment

Oral Anti-Inflammatories and Ice

The use of NSAIDs and ice may help to minimize the pain significantly day-to-day. Two Aleve, 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

Reduction of aggravating activities 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 an elliptical machine, and avoidance of aggravating activities, can result in less pain.

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Physical Therapy

Regular physical therapy appointments will help to retrain gait and strengthen the muscles around the foot to normalize motion and minimize pain. It will not reverse the arthritis but can greatly decrease the pain.

Orthotics

Over the counter or custom orthotics will help to prevent the foot from painful bending while walking, and should span the length of the shoe with carbon fiber.

Injections

Performing Injections into 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.

Surgery

Occasionally surgical intervention may be necessary when the pain is NOT able to be treated more conservatively. The specific surgery required is dictated by the severity of the arthritis, as well as other factors.

For young patients with only an 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 may be necessary which welds the joint together to completely rid the joint of any arthritis or pain. The numerous joints that surround the joint allow for near-normal motion afterwards. This surgery does not need to be redone.

<u>There is no replacement for the joints of the midfoot.</u>

References

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