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### Osteoarthritis of the Foot and Ankle

#### What is Osteoarthritis?

Osteoarthritis is a condition characterized by the breakdown and eventual loss of cartilage in one or more joints. Cartilage—the connective tissue found at the end of the bones in the joints—protects and cushions the bones during movement. When cartilage deteriorates or is lost, symptoms develop that can restrict one's ability to easily perform daily activities.

Osteoarthritis is also known as degenerative arthritis, reflecting its nature to develop as part of the aging process. As the most common form of arthritis, osteoarthritis affects millions of Americans. Many people refer to osteoarthritis simply as arthritis, even though there are more than 100 different types of arthritis.

Osteoarthritis appears at various joints throughout the body, including the hands, feet, spine, hips, and knees. In the foot, the disease most frequently occurs in the big toe, although it is also often found in the midfoot and ankle.

#### Signs and Symptoms

People with osteoarthritis in the foot or ankle experience, in varying degrees, one or more of the following:

- Pain and stiffness in the joint
- Swelling in or near the joint
- Difficulty walking or bending the joint

Some patients with osteoarthritis also develop a bone spur (a bony protrusion) at the affected joint. Shoe pressure may cause pain at the site of a bone spur, and in some cases blisters or calluses may form over the surface of the bone spur. Bone spurs can also limit the movement of the joint.

#### Causes

Osteoarthritis is considered a “wear and tear” disease because the cartilage in the joint wears down with repeated stress and use over time. As the cartilage deteriorates and gets thinner, the bones lose their protective covering and eventually may rub together, causing pain and inflammation of the joint.

An injury may also lead to osteoarthritis, although it may take months or years after the injury for the condition to develop. For example, osteoarthritis in the big toe is often caused by kicking or jamming the toe, or by dropping something on the toe. Osteoarthritis in the midfoot is also often caused by dropping something on it, or by a sprain or fracture. In the ankle, osteoarthritis is usually caused by a fracture and occasionally by a severe sprain.

Sometimes osteoarthritis develops as a result of abnormal foot mechanics. People who have flat feet or high arches are at increased risk for developing osteoarthritis in the foot. A flat foot causes less stability in the ligaments (bands of tissue that connect bones), resulting in excessive strain on the joints, which can cause arthritis. A high arch is rigid and lacks mobility, causing a jamming of joints that creates an increased risk of arthritis.

## **Diagnosis**

In diagnosing osteoarthritis, the foot and ankle surgeon will examine the foot thoroughly, looking for swelling in the joint, limited mobility, and pain with movement. In some cases, deformity and/or enlargement (spur) of the joint may be noted.

In addition to the foot examination, x-rays may be ordered to help the doctor diagnose osteoarthritis and evaluate the extent of the disease in the foot and ankle.

## **Treatment: Non-Surgical Options**

To help relieve symptoms, the surgeon may begin treating osteoarthritis with one or more of the following non-surgical approaches:

- **Oral medications.** Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, are often helpful in reducing the inflammation and pain. Occasionally a prescription for a steroid medication is needed to adequately reduce symptoms. In addition, certain nutritional supplements may provide some longer-term benefit.
- **Orthotic devices.** Custom orthotic devices (shoe inserts) are often prescribed to provide needed support to improve the foot's mechanics or cushioning that may help minimize pain.
- **Bracing.** Bracing, which restricts motion and supports the joint, can reduce pain during walking and help prevent further deformity.
- **Immobilization.** Protecting the foot from movement by wearing a cast or removable cast-boot may be necessary to allow the inflammation to resolve.
- **Steroid injections.** In some cases, steroid injections are applied to the affected joint to deliver anti-inflammatory medication.
- **Physical therapy.** Exercises to strengthen the muscles, especially when the osteoarthritis occurs in the ankle, may give the patient greater stability and help avoid injury that might worsen the condition.

## **When is Surgery Needed?**

If non-surgical treatment fails to adequately reduce the pain associated with osteoarthritis, surgery may be recommended. The goal of surgery is to decrease pain and improve function. The foot and ankle surgeon will consider a number of factors when selecting the procedure best suited to the patient's condition and lifestyle.