

# What Is It?

Hallux rigidus is arthritis of the big toe joint. It is the most common arthritic condition of the foot and second only to hallux valgus (bunion) as a condition associated with the big toe. Females are more commonly affected than males in all age groups, and the condition typically develops in adults between the ages of 30 and 60 years.

## Symptoms And Clinical Presentation

Most patients present with a complaint of pain in the big toe joint while active, especially when pushing off to walk. Others note swelling and stiffness around the big toe joint or an inability to bend the toe up or down. A bump, like a bunion or bone spur, can develop on top of the big toe joint and be aggravated by rubbing against the inside of a shoe.

## Cause (Including Risk Factors)

The true cause of hallux rigidus is not known. However, several risk factors have been identified and include an abnormally long or elevated first foot bone (metatarsal), differences in foot anatomy, prior traumatic injury to the big toe and family history. Most of these risk factors cause damage to the surfaces of the bone and lead to wear and tear of the joint, which in turn leads to arthritis.

## Anatomy

The big toe joint connects the head of the first foot bone (metatarsal) with the base of the first toe bone (proximal phalanx) and the two tiny bones (sesamoids) underneath the head of the first foot bone (metatarsal). This big toe joint is called the hallux metatarsal phalangeal or MTP joint.

## Diagnosis

In many cases, the diagnosis of hallux rigidus can be made by a physician on physical examination alone. He or she will examine the foot for evidence of bone spurs and check the MTP joint by moving it up and down to see how much motion is available without pain. X-rays may be performed to help

understand the extent of joint degeneration and to show the location and size of bone spurs.

# Treatment Options

## **Non-Surgical Treatment**

Non-surgical management is always the first line treatment for this condition. A physician may suggest pain relievers and anti-inflammatory medicines, ice or heat packs, or even injections into the joint to reduce pain and stiffness. Changes in footwear may also be suggested, including advice to avoid thin-soled shoes or high heels, wear wider shoes with a curved sole (rocker bottom), or even add shoe inserts that limit the motion at the MTP joint. Although these treatments may help decrease the symptoms, they do not stop the condition from progressing.

## **Surgical Treatment**

Surgical treatments for hallux rigidus are determined by the failure of non-surgical treatment and the extent of arthritis and deformity of the toe.

### **Cheilectomy**

For the more minor type of hallux rigidus, when the damage is mild to moderate, shaving the bone spur on top of the metatarsal (cheilectomy) is sufficient. Removing the bone spur allows more room for the toe to bend and alleviates pain caused when pushing off the toe. The advantages of this procedure are that it is joint sparing, preserves joint motion and maintains joint stability.

### **Arthrodesis**

Advanced stages of hallux rigidus, when the joint damage is severe, are often treated by fusing the big toe (arthrodesis). In this procedure, the damaged cartilage is removed and the two bones are fixed together with screws and/or plates to allow for them to grow together. The main advantage of this procedure is that it is a permanent correction with elimination of the arthritis and pain. The major disadvantage is the restriction of movement of the big toe.

## **Interpositional Arthroplasty**

For the patient with moderate to severe hallux rigidus who is unwilling to accept the loss of motion at the big toe, an interpositional arthroplasty may be an option. This procedure consists of taking away some of the damaged bone and placing a piece of soft tissue from the foot, such as tendon or capsule, or a piece of cadaver tissue between the joint to allow for some motion. The operation is effective but not as reliable or predictable as a fusion.

## **Recovery**

Recovery depends upon the type of surgery performed. For cheilectomy and interpositional arthroplasty, most surgeons recommend wearing a hard-soled sandal and allowing weightbearing as tolerated for about two weeks before a gradual return to normal footwear. For arthrodesis procedures, the foot may be immobilized with a cast for six to eight weeks, and limited weightbearing may be allowed with crutches for two to three months. The patient should expect some swelling of the foot for several months after the procedure.

## **Outcome**

Outcomes are usually quite good. Most patients are able to exercise, run and wear most shoes comfortably. Wearing a heel higher than an inch and a half may be more difficult after a fusion of the toe.

## **Complications**

When surgery is warranted, the typical risks of operation apply, including scarring, infection and failure to relieve symptoms. However, there are minimal risks with these procedures.

## **Frequently Asked Questions**

### **Why can't you replace the MTP joint?**

Although it's possible to replace either half of the joint (hemiarthroplasty) or the entire joint (total joint replacement), there are insufficient long term studies to support their use. Many of the current toe implants suffer from loosening and early failure requiring another surgery.

**What type of activity is allowed after fusion surgery?**

Most patients are able to return to their usual level of activity, including jogging, but most will also have some limitations in footwear.