



# POSTERIOR ANKLE ENDOSCOPY OR ARTHROSCOPY

## WHAT IS POSTERIOR ANKLE ENDOSCOPY OR ARTHROSCOPY?

Posterior ankle endoscopy/arthroscopy is a technique foot and ankle orthopaedic surgeons use to look at and treat problems in the back of the ankle through a scope. The goal is to relieve pain in the back of the ankle.

### Symptoms

First, it's important to understand ankle anatomy. The ankle joint is the joint between the lower leg bones (tibia and fibula) and the ankle bone (talus). The joint below the ankle joint is called the subtalar joint; it involves the ankle bone and the heel bone (calcaneus). The talus has a bony prominence in the back next to the tendon that flexes your big toe down. This tendon is called the flexor hallucis longus (FHL) tendon.

Patients typically experience pain in the back of the ankle. The precise location of the pain may differ depending on the cause.



X-Ray of the ankle from the side showing the ankle joint and subtalar joint.

The bony prominence might be the cause of ankle pain for some people if it is large (called a trigonal process) or if it is not completely fused with the ankle bone (called an **os trigonum**). Pain might also occur if the FHL tendon gets irritated. This can happen if the tendon doesn't fit well because the tunnel is too tight or the tendon is too big, or if the tendon is inflamed and swollen (called tenosynovitis).

An **ankle sprain** may cause a tear of the posterior ankle ligaments. The torn pieces can flip inside the joint. They can get pinched between the joint surfaces and cause pain. This problem is called posterior soft tissue impingement.

The pain from an os trigonum, an FHL problem, or posterior soft tissue impingement typically increases with downward motion of the ankle (pointing the toes). Soccer players and ballet dancers tend to be at higher risk for these problems.

The Achilles tendon attaches to the back of the heel bone. It can get pinched by a prominent piece of bone at the top of the heel (called a **Haglund's deformity**). This can lead to wear of the Achilles tendon and calcium deposits in the tendon (called **insertional Achilles tendinitis**). The pain from Achilles tendinitis is typically at the surface in back of the heel. This pain often increases when wearing closed shoes and improves with shoes that are open in the back (e.g. clogs).

## Diagnosis

Your **foot and ankle orthopaedic surgeon** may use an X-ray to diagnose an os trigonum or enlarged trigonal process and to reveal other bony problems. MRI can be beneficial in evaluating soft tissues such as ligaments and tendons. In some cases, MRI can provide a better understanding of the problem.

Surgery should be considered after non-surgical treatment fails to relieve pain. Non-surgical treatment options include rest, anti-inflammatory medications, a cast or walking boot for a short period of time, physical therapy, and local steroid injection.

You are not a good candidate for a posterior ankle endoscopy or arthroscopy if you have an infection in the skin or soft tissue in the back of the ankle or lower leg. You should discuss all of your medical conditions with your surgeon before you have this procedure.

## Treatment

With the patient lying face-down or on the side, the foot and ankle orthopaedic surgeon makes incisions at the back of the ankle. Typically, two incisions are made on either side of the Achilles tendon. An arthroscope (a tube-shaped device with a camera at the tip) is inserted and allows the surgeon to see the area. Fatty tissue at the back of the ankle is removed to create a workspace. The FHL tendon is identified and the blood vessels and nerves are protected. A small part of the posterior ankle capsule might need to be removed in order to enter the ankle joint. A device that "stretches" the ankle joint is often used to help with visualization.

The problem causing the pain is identified and treated accordingly using various small instruments:

- The os trigonum is freed from the surrounding soft tissues and removed.
- The FHL tenosynovitis is cleaned up using a shaver and the tunnel is released if necessary.
- The torn ligaments causing posterior soft tissue impingement are cleaned up with the shaver.
- The Haglund's deformity is removed using a burr.

## Recovery

The post-operative dressing is usually a splint or bulky soft dressing. A post-op shoe or boot may be added for protection. Depending on the type of surgery, you may not be able to **put weight on your foot**.

Your surgeon may recommend that you elevate your foot in the first 48 hours after the procedure. After the stitches are removed (in 10-14 days), you can start more aggressive exercises to move your ankle and foot joints. Your surgeon may order formal physical therapy. They also may recommend a night splint to keep the ankle at 90 degrees, which prevents tightening of the posterior ankle soft tissues and the Achilles tendon.

## Risks and Complications

Injury to blood vessels and nerves is uncommon but remains a complication of this procedure. Other complications include numbness on the bottom of the foot, very sensitive skin on the outside part of the foot, Achilles tendon tightness, chronic pain syndrome, infection, and the formation of a cyst at the incision site.

## What are the advantages of arthroscopic surgery over open surgery?

Arthroscopic surgery for posterior ankle and subtalar joint pathology is much less invasive and produces less scar tissue than traditional open procedures. The magnification of the arthroscope and the nature of arthroscopy often allow the surgeon to examine the tissues and pathologic problems in a more natural state with less injury to the surrounding tissues.

## How much time it will take an athlete or ballet dancer to return to play or performance after this procedure?

It usually takes 8-12 weeks for a ballet dancer to return to performing after posterior ankle arthroscopy and os trigonum excision, but this time can vary. Always check with your foot and ankle orthopaedic surgeon about the anticipated timeline for recovery. Some swelling and discomfort can continue for several months after surgery.

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