

# Surgical Treatments for PTTD

Surgery should only be done if the pain does not get better after 6 months of rehabilitation. The type of surgery depends on where tendinopathy is located and how much the tendon is damaged. Surgical reconstruction can be extremely complex.

## Gastrocnemius Recession or Lengthening of the Achilles Tendon

This is a surgical lengthening of the calf muscles. It is useful in patients who have limited ability to move the ankle up. This surgery can help prevent flatfoot from returning, but does create some weakness with pushing off and climbing stairs. Complication rates are low but can include nerve damage and weakness. This surgery is typically performed together with other techniques for treating flatfoot.

## Tenosynovectomy (Cleaning the Tendon)

This surgery is used when there is very mild disease, the shape of the foot has not changed, but there is pain and swelling over the tendon. The surgeon will remove the inflamed tissue (synovium) surrounding the tendon. This can be performed alone or in addition to other procedures. The main risk of this surgery is that the tendon may continue to degenerate and the pain may return.

## Tendon Transfer

Tendon transfer can be done in flexible flatfoot to recreate the function of the damaged tendon. In this procedure, the diseased posterior tibial tendon is removed and replaced with another tendon from the foot. If the disease is not too significant, the transferred tendon can instead be attached to the preserved (not removed) posterior tibial tendon.

The tendons used to replace the posterior tibial tendon are often taken from either the big toe or little toe. After the transfer, the toes will still be able to move and most patients will not notice a change in how they walk.

Although the transferred tendon can substitute for the posterior tibial tendon, the foot still is not normal. Some people may not be able to run or return to competitive sports after surgery. Patients who need tendon transfer surgery are typically not able to participate in many sporting activities before surgery because of pain and tendon disease.

## Osteotomy (Cutting and Shifting Bones)

An osteotomy can change the shape of a flexible flatfoot to recreate a more "normal" arch shape. One or two bone cuts may be required, typically of the heel bone (calcaneus).

If flatfoot is severe, a bone graft may be needed. The bone graft will lengthen the outside of the foot. Other bones in the middle of the foot may also be involved. They may be cut or fused to help support the arch and prevent the flatfoot from returning. Screws or plates hold the bones in places while they heal.

## Fusion

Sometimes the flatfoot is stiff or there is also arthritis in the back of the foot. In these cases, the foot will not be flexible enough to be treated successfully with bone cuts and tendon transfers. Fusion (arthrodesis) of a joint or joints in the back of the foot is used to realign the foot and make it more "normal" shaped and remove any arthritis. Fusion involves removing any remaining cartilage in the joint.

Over time, this lets the body "glue" the joints together so that they become one large bone without a joint, which eliminates joint pain. Screws or plates hold the bones in places while they heal.

Side-to-side motion is lost after this operation. Patients who typically need this surgery do not have a lot of motion and will see an improvement in the way they walk. The pain they may experience on the outside of the ankle joint will be gone due to permanent realignment of the foot. The up and down motion of the ankle is not greatly affected. With any fusion, the body may fail to "glue" the bones together. This may require another operation.

## Complications of Surgical Treatments

The most common complication is that pain is not completely relieved. Non-union (failure of the body to "glue" the bones together) can be a complication with both osteotomies and fusions. Wound infection is a possible complication as well.

## Surgical Outcomes

Most patients have good results from surgery. The main factors that determine surgical outcome are the amount of motion possible before surgery and the severity of the flatfoot. The more severe the problem, the longer the recovery time and the less likely a patient will be able to return to sports. In many patients, it may be 12 months before there is any great improvement in pain.