

Sesamoiditis

Introduction

Sesamoiditis is an inflammatory condition of the sesamoid bones. The Tibia and Fibula sesamoids are two well defined bones located on the plantar surface of the first metatarsal head and lie within flexor hallucis brevis tendon. Sesamoids are present in approximately 85% of the population.

The action of the sesamoids is to:

- Act as a fulcrum for flexor hallucis brevis tendon by increasing the mechanical force of the tendons
- Serve to protect flexor hallucis longus tendon
- Reduce friction beneath the metatarsal head
- Absorb shock at forefoot during loading by redistributing ground reaction forces thus protecting the metatarsal head.

Etiology

Essentially this condition is caused through repetitive micro-trauma.

The many causes of sesamoiditis can include an increase in activity; pivoting, jumping or landing sports such as rugby, netball, and tennis; poorly cushioned or worn footwear; and foot deformities such as a cavus foot type, rigid plantar flexed 1st ray and fibro fatty atrophy.

Examination

On examination there is pain localised to the plantar surface of the first metatarsal head. Direct palpation of both the tibia and fibula sesamoids should be performed. Discomfort will often be present of extension of the hallux although interestingly flexion of the hallux can often be worse. In more severe cases pain on resisted hallux flexion will be noted.

Swelling is often present thus limiting first metatarsal/phalange joint range of motion.

Assessment of pain on performing simple tasks such as double legged, single legged raises is important. Progress to the hop test if the patient is able.

To rule out a bony injury an X-ray is recommended however bone changes are often not seen. Remember to ask for an Axial Sesamoid view along with AP and Lateral views. Beware of bipartite or multipartite sesamoids that mimic the appearance of a fracture. Their edges are not irregular like a fracture. These are the failure of union between ossification centres. Generally they exist without causing any significant pathology. Persistent pain may lead to avascular necrosis. This is not uncommon in chronic cases of the

condition in adolescents.

Treatment

Initial modification of patients exercise regime will be necessary to allow the sesamoids to recover.

Rest, ice, anti-inflammatory medication are all of value depending upon the level of pain present. Orthoses are extremely valuable to accommodate foot deformities while offloading sesamoids, thus redistributing the forces across the foot.

Modifying shoes to provide support and cushioning. A stiff sole on the forefoot of a shoe can limit the amount of motion the 1st MPJ undergoes. Limit the use of High heel shoes as this throws weight onto the forefoot. In chronic or particularly painful cases Low Dye taping the foot to immobilize the joint is of benefit.

If signs and symptoms fail to reduce then immobilization with a moon boot/casting/ can be implemented. A referral for cortisone / surgical opinion may be necessary in non responsive cases.



Review the sesamoids carefully and note any irregularities

Take home messages

- Tibial sesamoid is more commonly injured
- Common causes include:
 - Repetitive micro trauma
 - Foot deformities increasing pressure on the area
- X-ray may be needed to rule out fracture
 - Also request Axial Sesamoid views
- Orthoses / taping with offloading and cushioning modifications can usually immediately reduce symptoms