

Sesamoiditis

Sesamoiditis is an inflammatory condition of the sesamoid bones which are located on the plantar (bottom) aspect of the first metatarsal phalangeal joint (1st MPJ or big toe joint).

Treatment of Sesamoiditis

Conservative treatment of sesamoiditis consists of limiting activities and padding or 'off loading' of the joint. Off loading refers to taking the weight bearing load off of a particular area by use of a sleeping pad. In the case of sesamoiditis, the mat should be approximately 1/4" thick with a cut out for the bottom of the first MPJ. Ought to padding help, a prescription orthotic with a similar pad would be of use.



Surgical treatment of sesamoiditis usually consists of removal of the entire sesamoid bone. Sometimes planing from the bone, or removing the bottom half of the bone may be a useful surgical procedure. Planing is employed less often than complete excision due to the fact that planing may weaken the sesamoid and lead to fractures of the sesamoid.

Removal of the tibial or fibular sesamoids does not generally impact the normal function of the joint. If a patient has a family history of bunions or currently has a bunion, there will be a tendency to increase the rate that a bunion will form with isolated removal of the tibial sesamoid. By removing the tibial sesamoid, the pull of the FHB muscle will become slightly stronger by means of the remaining fibular sesamoid. As a result, this may increase the formation of a bunion. If there is no history of bunions in the family, this may not even grow to be a factor in choosing to excise the tibial sesamoid.

Nomenclature:

First metatarsal phalangeal joint - the big toe combined. Often referred to as the very first MPJ.

Itis - Used as a Suffix and Refers to Any Structure that is Painful.

Plantarflex - to move down towards the plantar surface (or floor).

- Sesamoid is derived from Greek and refers to a sesame seed.
- The Greeks apparently related the shape of the sesamoid bone to a sesame seed.

Anatomy:

The two sesamoid bones are located on the bottom surface of the first metatarsal phalangeal joint. The sesamoids are actually a working part of the 1st MPJ and articulate with the plantar surface of the first metatarsal. The sesamoid bones are usually an extension of the flexor hallucis brevis (FHB) muscle and give the FHB a greater range of motion and improved lever action at the level of the 1st MPJ.

- Sesamoid bones are referred to by their location and are classified as the tibial sesamoid (medial) and also the fibular sesamoid (lateral).
- Tibial and fibular make reference to the bones of the lower leg.

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Sesamoid bones are most common in order to the first MPJ but may also be found at other tendon/joint surfaces where a tendon changes direction. Although they're discovered with much less frequency, other locations range from the lower MPJ's as well as even the metacarpal phalangeal joint (the thumb).

Biomechanics:

The flexor hallucis brevis muscle (FHB) starts on the plantar surface of the calcaneus (heel bone). When the FHB fires, its function is to plantarflex the great toe. The primary function of the FHB is to aid in balance and assist the calf with the toe off portion of gait. As the FHB fires, the load generated by the body of the muscle is sent through the sesamoid to an extension of the FHB that attaches to the plantar facet of the great toe. The net result is that the great toe plantarflexes using the sesamoid bones to glide around the plantar top of the 1st MPJ.

Symptoms:

The onset of sesamoiditis may be insidious or abrupt. A good insidious onset would suggest a good inflammatory condition of the joint between the articular top of the sesamoid and also the articular surface of the First metatarsal. An abrupt onset would suggest a fracture of the sesamoid. Regardless of onset, pain is typical specific to the bottom of the 1st MPJ. Occasionally the entire 1st MPJ may get bigger and become stiff. Pain is aggravated by long periods of standing, squatting and also the use of higher heeled shoes.

X-ray results in cases of sesamoiditis usually show an increased density of the affected sesamoid bone. Whenever viewing an AP x-ray, the physical appearance of the bone would light up brighter suggesting increased density of the bone consistent with inflammation.

Differential Diagnosis:

Arthritis.

Bunion

Fractured sesamoid.

Gout as Well as Pseudogout

Hallux limitus and hallux rigidus.

Infection With the Joint (Septic Joint)

About the author: Jeffrey A. Oster, DPM, C.Ped is a board certified foot and ankle surgeon. Doctor. Oster is also board certified in podiatry. Medical professional. Oster is medical director of Myfootshop.com and is in active practice in Granville, Ohio.

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