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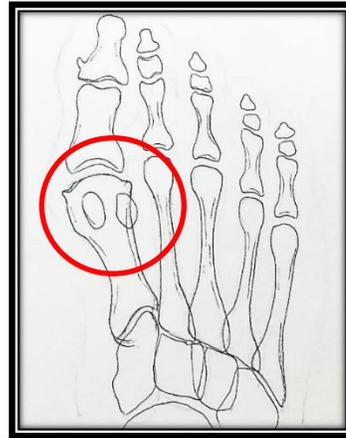
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## Sesamoiditis and Sesamoid Fractures

The two major sesamoid bones in the foot lie under the first metatarsal head. A sesamoid bone is a specialized bone within a tendon that works to increase the fulcrum and thereby increase the force of a powerful muscle. The largest example is the patella or kneecap, which helps to strengthen quadriceps function by 50%. Similarly, the most powerful motion in the foot is push-off during gait, and the two sesamoids help to increase the force.



Given their location on the bottom of the foot, however, they are susceptible to injury.

### Causes

Common causes of injury of sesamoids are significant forces to the bottom of the foot, such as a fall from height. Repetitive impact such as sprinting or dance (especially in the demi-pointe relevé position) can also cause a fracture or injury. Certain foot shapes such as those with high arches are predisposed to injury, as does frequent high-heeled shoe wear.

Some people are born with sesamoid bones that are in two segments, which can appear to be a chronic fracture. The tenuous connection between the two parts can be injured.

### Diagnosis

A set of high-quality weight-bearing (standing) x-rays are required for diagnosis, as well as a thorough physical examination. An MRI and/or CT scan maybe recommended and ordered by your doctor.

### Treatment

#### Shoe Wear Modification

Avoid high heels and thin-soled shoes that predispose to injury.

#### Orthotics

Over the counter or custom orthotic scan be used to normalize the foot's contact with the ground and offload areas of pressure. The standard orthotic for this purpose stiffens the shoe and provides a softer area directly under the sesamoid.



#### Surgery

Surgical Intervention is necessary when the pain is NOT able to be treated conservatively. This requires removal of the injured sesamoid and reconstruction of the tendon that it is removed from. Because of the delicacy of the reconstruction, the rehabilitation from this surgery is prolonged non weight bearing and use of an orthotic for six months after surgery.

### References

"Sesamoid injuries" <http://legacy.aofas.org/footcaremd/conditions/ailments-of-the-big-toe/Pages/Sesamoiditis.aspx>