

Fact sheet: The painful 'big toe' (hallux) joint explained - *hallux limitus*

Our task as clinicians is to prevent worsening of the painful bunion – hallux valgus or stiff toe known as hallux limitus. Long term failure to act means the joint fails to work. Two main reasons arise: The toe is misshapen, forming a bunion OR it becomes stiff. The stiffness is often called arthritis but degenerative changes are more likely the reason for pain. Four conditions are considered -

- Spasm due to inflammation (repeated strain)
- Loose body (not necessarily fracture)
- Split or worn cartilage
- Excessive outgrowth of bone (spurs or osteophytes)

The condition is time delayed. Many of the conditions above are further highlighted on my website ConsultingFootPain. An event when young (10-25) may not show up until 45-65. After exercise the problem comes to light in older age. An x-ray may report 'arthritis' where the joint space is smaller.

Joint oil (synovial fluid)

The surface of the bone requires lubrication. The oil or synovial fluid makes the process work smoothly. If the fluid increases within the joint, the toe can become painful, or, if it dries out, then the surfaces scrape, causing impingement. Same thing – pain.

What causes this?

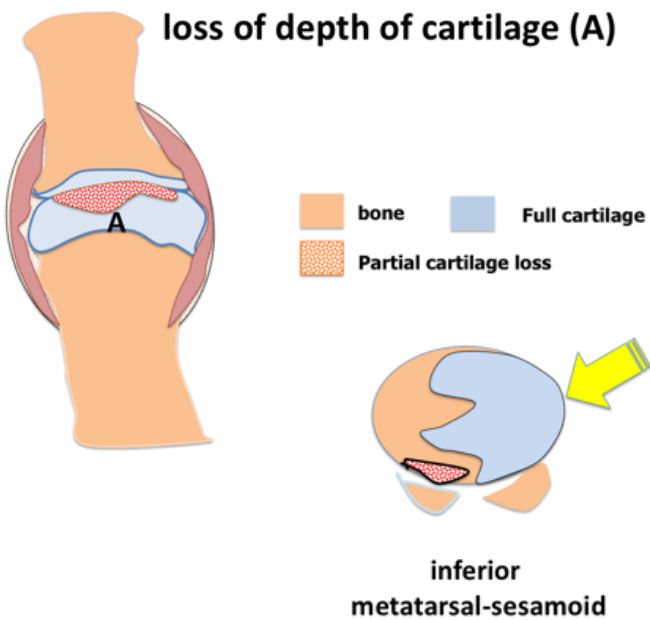
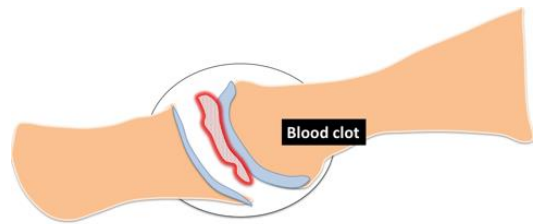
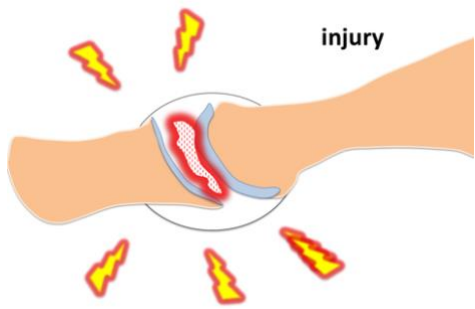
Lack of movement is the end process leading to poor lubrication, BUT, if the cartilage is split or damaged then flexibility (hydro elastic property) is lost. Cartilage must be able to deform during joint movement. Once this process disappears the cartilage may against bone. The joint then becomes more inflamed and fluid fills with repair cells (white cells and platelets). Small clot formation acts to fill in gaps but tethers down movement further. This is where steroid injections come in. They can reverse the scar tissue (sheet 19).

Early signs can be helped

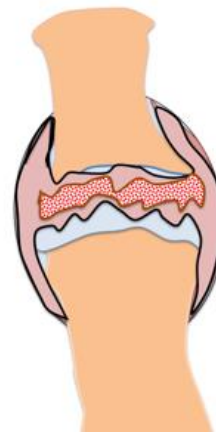
In early stages, the big toe joint has a protection mode. The muscles around the joint tighten, and go into spasm. All movement is lost at this point. The toe may reverse, get better or stay like this and worsen. An injection of steroid, or anaesthetic, can expose this as the correct diagnosis. Part of the joint, the sesamoid bone, can be involved. This ball bearing like bone jams on movement and can cause spasm (sesamoiditis).

Bone spurs

When a joint becomes affected, with long standing inflammation, new bone forms. This will cause a spur to arise. This happens on the top of the joint and sides. These horn like projections (osteophytes) jam the joint further. Fluid lubrication stops. A big toe joint works with the ankle, knee and hip to provide smooth walking. Lack of ultimate useful movement can affect the body elsewhere. Painful toe joints may form loose bodies which may be associated with scar tissue that generates into bone fragments. This leads to reduced joint unction.



fibrinoid change



signs of arthrosis

