

Dr. Milap S. Patel

Dr. Anish R. Kadakia

## Hallux Rigidus / Big Toe Arthritis



Arthritis of the great toe is also known as hallux rigidus (stiff big toe). This condition can be caused by repetitive trauma, deformity, idiopathic (unknown cause), and degeneration over time from wear and tear. Unlike arthritis that occurs in many other joints, arthritis of the big toe is common in younger patients as well, and can commonly occur by the age of 30. Arthritis is when the cartilage is damaged or worn away and no longer provides the cushion to allow the smooth motion between the bones. Cartilage is unique in that there is no blood flow that provides nutrition, so that when injured it does not have the ability to repair itself very well, unlike bone. This inability to repair itself is why scientists and surgeons have a very difficult time in trying to restore large cartilage defects in the setting of arthritis.

Symptoms from arthritis of the great toe can present in multiple ways. As the loss of cartilage occurs, the body will form a spur/osteophyte along the top and sides of the big toe joint. In some cases this can be mistaken for a bunion. The bony prominence can interfere with footwear causing pain and discomfort with closed toe shoes. The loss of cartilage typically occurs more on the top of joint more so than the bottom and this results in pain with “up” motion of the big toe, we term this dorsiflexion. This motion occurs with all activity, however, is accentuated with running, sports, activity that requires one to be on the tips of their toes, and high heels. In more severe cases, the great toe hurts with all activity, regardless of

shoe wear and the motion becomes limited. The exam is focused on the location of the pain, and in most cases this is focused to the top of the big toe joint, but in some cases - the little bones on the bottom of the foot - the sesamoids, these are like kneecaps for the big toe, can become arthritic as well resulting in pain on the bottom of the big toe joint as well. A "grind test" is commonly performed, and this is when the smaller bone of the big toe joint is pushed against the larger bone (1st metatarsal) to determine if there is cartilage loss in the center of the joint. X-rays are taken to determine the extent of the arthritis. In some cases, for surgical planning a CT may be considered.

Treatment for arthritis of the big toe begins with activity modification and shoe modification. Activities such as running, sports, lunging, some positions in yoga and pilates can be avoided to minimize the need for the big toe to dorsiflex (move up). Additionally, shoe modifications can help as well to maintain athletic activities. Stiffer soled shoes with a cushioned bottom can be helpful for many patients. If these modifications of shoes and activity are not acceptable or do not offer sufficient help then surgery can be considered to improve the pain. If there is pain primarily secondarily on the top of the big toe joint from shoe wear or primarily with up motion, then the spurs/osteophytes can be removed to help the pain. In the case of pain that occurs with activity not related simply to shoewear and is center in the joint or has a painful grind test, then in that case - simply removing the spurs will not help. In those cases the joint may need a fusion to minimize the pain. Motion preserving procedures can be considered, however, they have are less reliable for pain relief and the most appropriate operation depends on the patients needs and the anatomy of the foot.