**Opinion Article** 



# Surgical and Non-Surgical Treatments of Foot and Ankle Surgery

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## ABOUT THE STUDY

Foot and ankle surgery is a sub-specialty of orthopedics and podiatry that deals with the treatment, diagnosis and prevention of disorders of the foot and ankle. After completing four years of college, four years of medical school or osteopathic medical school to earn an M.D. or D.O., followed by specialized training as an orthopedics resident, orthopedic surgeons are medically qualified. Only then do they sub-specialize in foot and ankle surgery. Four years of undergraduate study, four years of podiatric medical school (D.P.M.), three to four years of surgical residency, and an optional one-year fellowship make up the training for a foot and ankle surgeon.

The difference between a podiatric and orthopedic foot and ankle surgeon is that an orthopedic surgeon has a Doctor of Medicine or Doctor of Osteopathic Medicine medical degree and training that includes both orthopedic residency and an optional 6-month to 1-year fellowship training specific in techniques of foot and ankle surgery, while a Doctor of Podiatric Medicine's training consists of a podiatric medical degree and three to four years of postgraduate training.

The British Orthopedic Association and the British Orthopedic Foot and Ankle Society produced a position statement on the significance of training and ongoing regulation of podiatrists practicing podiatric forefoot surgery after certification and recommended that this should be to the same standard as that of medically qualified trauma and orthopedic surgeons operating on the foot and ankle. There is considerable debate in the UK regarding the scope of podiatrists practising surgery.

#### Clinical scope

All surgical and non-surgical foot and ankle conditions are treated by foot and ankle surgeons. The surgeons are also taught to comprehend the intricate relationships between conditions and deformities of the foot, ankle, knee, hip, and spine. The surgeon will therefore frequently see patients ranging from trauma (such as malleolar fractures, tibial pilon fractures, calcaneus fractures, navicular and midfoot injuries and metatarsal and phalangeal fractures). The treatment of arthritis in the ankle joint, as well as the joints in the forefoot (phalanges), midfoot (metatarsals), and hindfoot (tarsals) plays a vital role.

Congenital and acquired deformities include hallux valgus, nonneuromuscular foot deformities, adult acquired flatfoot, diabetic foot disorders, and a number of prevalent pediatric foot and ankle conditions (such as clubfoot, flat feet, tarsal coalitions, etc). For the right diagnosis and treatment of heel pain, nerve diseases, such as tarsal tunnel syndrome, and tumors of the foot and ankle, patients may also be sent to a foot and ankle surgeon.

Amputation and ankle arthroscopy, which involves using a laparoscope during surgical procedures on the foot and ankle, have become important instruments in foot and ankle care. Additionally, more uses for laser surgery are being discovered in the management of foot and ankle conditions, including the management of soft tissue lesions and bunions. Surgical treatment for nail issues and phalangeal abnormalities may also be directed to a foot and ankle surgeon.

#### Non-surgical treatments

The majority of foot and ankle disorders can be treated nonoperatively. For instance, the type of foot box used in a shoe can be linked to a number of phalangeal disorders, and the condition may only need to be treated by switching to a different shoe or shoe box. Non-steroidal Anti-inflammatory Drugs (NSAIDs) and Disease-modifying Antirheumatic Drugs (DMARDS) can be used to control or slow down inflammatory processes, such as rheumatoid arthritis.

As shoe inserts, orthotics, or an externally applied device, can be used to change the structural or functional aspects of the neuromusculoskeletal system, specifically for the foot and ankle. This allows the foot to be placed in a more therapeutic, balanced, or comfortable position.

Additionally, physical therapy can help symptoms by bolstering muscles like the gastrocnemius muscle (which in turn will pull on the heel, which will then pull on the plantar fascia, thus changing the structure and shape of the foot).

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#### Surgical treatments

When less invasive, more conservative methods are ineffective at reducing symptoms, surgery is seen as the last resort. Arthrodesis (or the fusion of joint spaces) can be used to treat inflammatory processes, and surgical reconstruction (i.e., invasive measures of manipulating neuromusculoskeletal structures) can be used to treat other deformities.

Techniques like bunionectomies can be used to surgically remove bunions and other foot and ankle deformities. In addition to surgery, orthotics, physical therapy, NSAIDs, DMARDs, and a change of shoes may be helpful, and in most cases, these measures are necessary for a full recovery.