

# Foot Orthotics

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The malalignment of the foot is a common structural defect seen. Defects of malalignment may result from injury, disease, habit, muscular weakness or heredity. Such abnormalities are tolerated by the body for a short period of time, but sooner or later subtle, often serious, adaptation occurs throughout the body. This may be expressed in the way of foot pain, ankle sprains, shin splints, tendonitis, knee pain, muscle pulls, hip pain and low back pain.

Tensions introduced throughout the body as a result of foot imbalances are called serial distortions. It is estimated that 80 percent of us, once past the age of 40 years, will experience serial distortions as a direct result of foot imbalance caused by supination or pronation.

The management of foot malalignment problems and resulting serial distortions is imperative; not only to prevent pain and injury but to maximize performance. The use of a orthotic, providing arch support and correcting pronation or supination, in conjunction with proper musculoskeletal treatment, can successfully improve biomechanical improprieties. Abnormal lower extremity function, excessive rotation and inefficient gait, oftentimes making the difference between winning and losing, can be bettered by a custom designed orthotic. Improved weight distribution, decreasing excessive motion, increasing the efficiency of propulsion and decreasing injuries, all are benefits of a good sports orthotic.

Running and walking involves tremendous amounts of shock. A person weighing only 100 pounds while walking receives 25 tons per foot per mile of shock as a result of ground reaction forces. These forces increase to 50 tons per foot per mile while jogging and 100 tons per foot per mile with running. Another important benefit of a sports orthotic is its ability to significantly absorb shock, decreasing the shock absorbing loads on the body's own shock absorbing structures; the muscles, tendons, and joints. Reducing the stress on the body will reduce injuries and delay or prevent degeneration problems.

Many different types of orthotics are available. Rigid, semi-rigid and flexible insoles each have a different effect on the foot. Molds or impressions should be taken to form a custom designed orthotic. Working with a sports physician who is accustomed to fitting such orthotics and who can treat related serial distortion problems, will provide the best potential for decreasing pain and increasing physical achievement and overall health.

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