

# The Norwalk Hour

Monday, April 9, 2018 | SINCE 1871 | VOLUME 146, EDITION 099 | \$1.50

HEALTH

## Pronation can be painful

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Pronation may cause injury or pain.

Increased numbers of athletes, including walkers, suffer from pronation and do not even realize it. The term pronation refers to a flattening of the arch on weight-bearing — the foot rolls inward when running and walking. Pronation can cause injuries to the foot, ankle, knee, and lower back.

The causes of foot pronation are mainly malalignments of the rearfoot and forefoot joints. Another contributing factor of pronation is a structural malalignment of the bones, i.e. Morton's foot (long second toe/ short first metatarsal), which causes an imbalance of the foot as an inherent genetic trait. In a large majority of the population, inward rotation and flattening of the arch is excessive, placing strain on the muscles, tendons, and ligaments of the back, hip, thigh, leg, knee, and feet. With increased motion and force, it can cause shin splints and stress fractures in the legs. As the condition continues, it leads to arch fatigue and then strain which may create plantar fasciitis (a tearing of the muscles on the bottom of the foot which attaches the toes to the heel).

Additional complaints of symptoms in the hip and lower back are occasionally found in the sedentary people when they begin a walking program and over-pronate. The pain in the hip region can occur with excessive inward leg rotation.

Low back pain can result from the chronic fatigue that develops as leg muscles are needed to perform increasing amounts of work over a pronated foot.

A telltale sign of pronation are the ankles bulging inward while you walk, run and making heel contact with the ground or supporting surface. Your shoes will also be worn down on the outside heel area from the pronation motion.

In treating pronation, it is important to select a well-fitting shoe which will provide good support, shock absorption, and a firm heel counter that supports pronation. The use of felt padding from the heel to under the arch may give relief.

Home physical therapy in the form of ice massage will be helpful in pronation-related injuries; apply ice to the tender area for approximately eight minutes in a circular motion to increase blood supply.

If self-treatment and proper shoes do not give you good results, it may be necessary to treat the pronation by changing the functional and structural imbalances of the foot on the leg with a customized functional orthotic shoe insert.

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