

# GET ACTIVE. STAY ACTIVE.

How do I know if I am selecting the right running shoe?

- **Brad**

**Rochester Hills**

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For health-conscience individuals, selecting proper running shoes is extremely important. Many of the common running overuse injuries seen by healthcare providers can be attributed directly or indirectly to improper shoes. Choosing appropriate footwear will not only help prevent injuries but will also help you participate to the best of your ability. Knowing your foot type is the first step in making a proper shoe selection.

Foot type is often categorized by arch height. The arch of the foot is formed by bones and is supported by muscles, tendons, and ligaments. When evaluated in a standing position, arches may be categorized as high (excessive supination), normal, or low (excessive pronation). The use of the word “excessive” is an important descriptor. The normal foot is supposed to pronate and supinate to an extent; a problem arises when a foot moves too little or too much in either direction.

Pronation is a foot motion that occurs normally when the heel strikes the ground to help the body absorb the impact. This motion appears as a flattening of the arch or a rolling in of the foot. Pronation is a problem only when it becomes excessive and the arch falls too far down towards the surface while attempting to shock absorb. Excessive pronation can be the result of inherited foot structure, muscle or tendon imbalances, leg length differences, or other biomechanical irregularities. A foot that overpronates is often considered an unstable foot; and while it is usually good at absorbing shock, it may not be stable enough to prevent certain injuries related to symptoms of inner shin, knee, and outer hip pain.

Supination is the opposite of pronation. It occurs normally right after heel strike to help the foot become a rigid lever to propel off of. Supination is a problem only when it becomes excessive and the arch is high and stays rigid throughout the gait cycle. High-arched feet have smaller weight-bearing areas when they contact the ground and also tend to be too rigid, resulting in greater stress being transmitted to the foot and leg. A foot that underpronates (excessive supination) is not able to absorb impact very well, which can lead to stress fractures, heel pain, knee pain, and other injuries.

Here is a quick test to start to gathering information on what type of foot you might have. Lay a brown grocery bag flat on a hard surface. Wet your bear feet and walk across the bag. An excessively pronated foot will show only a very small arch on the inner side of the foot print, a normal foot should have a moderate curve that makes up about 1/3 of the width of the foot print, and an excessively supinated foot will show a large curve making up most of the width of the foot print.



The evolved running shoe assists the excessively pronated or supinated foot. Shoes that help support an excessive supinated foot main defense is extra cushioning. For the excessively pronated foot, material with that has higher density than the other load bearing surfaces of the shoe is placed into the inner part of the shoe to help to make the foot more rigid when it is shock absorbing. This also provides a type of block for the falling arch. Running shoes come in many different varieties of these types. If you use a corrective or supportive orthotic, this can change the

type of shoe you might want to purchase because the orthotic may be improving your foot alignment and often a more neutral shoe is appropriate for an orthotic user. Take advantage of the help at specialty running shoe stores. These stores tend to employ knowledgeable salespersons that have training in matching your foot type to a shoe.

Please submit any questions you may have for our sports medicine experts by e-mailing [cangelel@dmc.org](mailto:cangelel@dmc.org). In the subject line, please write, "Get Active, Stay Active." We will respond to all the questions we receive and select one each month to feature in our column.

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