
Overpronation(Flat Feet)

Information from Foot Solutions

Feet are supposed to roll inward as a part of every step you take. This helps them to mould to the various terrain that they step on (sand, rocks, various obstacles) without injury. This is called pronation. But, when your feet roll inward excessively, problems often arise. Excessive inward rolling of the feet and ankles is called over-pronation. Sometimes, people who over-pronate are told they have "flat feet".

Causes

The term "flat feet" can be misleading. When standing, body weight causes the arch of most feet to flatten out somewhat. This does not mean they become flat like pancakes (though some feet do). Instead, the arch shape gets longer and flatter and the arch height gets lower.

When the feet are too flexible and they bear the full weight of the body above (as in standing, walking or running), they stretch too much causing the feet and ankles to roll inward. People who have high arches, medium arches and low arches all have the potential for over-pronation ("flat feet"). It is not the height of the arches that determines over-pronation. It is the amount of flexibility in the feet.

Over-pronation is the result of too much flexibility in the feet. There are lots of reasons for this including heredity, obesity, pregnancy and the repetitive pounding of the feet on the hard, flat surfaces of modern life. Many foot health experts believe that the combination of putting very young feet in structured footwear combined with the consistently hard, flat surfaces of modern life restricts the feet from moving through a broad range of motion and inhibits the strengthening of the muscles within the foot, thereby causing the majority of people in the developed world to over-pronate to various degrees. Interestingly, studies have shown that people in the undeveloped world who walk a natural, unpaved terrain and who do not wear structured shoes do not tend to have the foot, joint and back problems that people in the paved, structured shoe wearing parts of the world suffer

The problem with Over-Pronation

The feet are the foundation of the body. And, like any good foundation, alignment matters. In a building, a crooked foundation

leads to cracked walls, windows and doors that don't open and close properly, a leaky roof, etc. in short, a poor foundation leads to a more rapid deterioration of the structure above.

The same is true for human bodies. If the feet are crooked, as happens with over-pronation and over-supination (excessive outward rolling of the feet and ankles caused by a lack of flexibility in the feet) the ankles, knees, hips, spine...the entire skeletal structure will also become misaligned. This can lead to deterioration of the joints, overuse and injury to various muscles, tendons and ligaments, painful nerve problems (such as neuroma and sciatica) causing a variety of issues including shin splints, ankle, knee, hip, back and neck pain, osteoarthritis, joint replacement surgery, runner's knee (patellofemoral pain syndrome), IT band syndrome and more.

In the feet and ankles, over-pronation causes misalignment of the foot and ankle bones and excessive stretching of muscles, tendons and ligaments which can cause heel and arch pain, metatarsalgia, plantar fasciitis, heel spurs, bunions, hammer toes, neuroma, hallux rigidus, sesamoiditis, Achilles tendonitis, bone spurs, posterior tibial tendonitis and more.

One of the problems with over-pronation is that it doesn't cause immediate pain. Though even some children experience problems resulting from over-pronation, most often it takes years of walking on over-pronating feet for the damage to result in pain -- the body's way of communicating something is wrong.

If caught early, over-pronation can be managed by restoring alignment and proper foot function and, thereby preventing many of the painful conditions that can result (many of which are often miscredited as just being a natural part of old age).

Many times, people experiencing knee, hip or back pain assume they have a knee, hip or back problem. And, while the pain in these are a symptom, often the underlying problem is poor foot alignment and poor foot function leading to excessive wear and tear further up the body.

Because foot alignment is seldom taught in medical schools, many doctors fail to make the connection between foot alignment and problems further up the kinetic chain. Thus, often they never address the root cause of the problem. A trained podiatrist who understands foot mechanics and alignment and the ailments affected by the feet can be a critical ally to both patients and their doctors in identifying the role (if any) the feet may play in the development of symptoms in the body above.

Treatment and Prevention

Though heredity and the conveniences of modern life (paving, structured shoes, etc.) play an important role in determining over-pronation, there are some simple but important things you can do to reduce (or even eliminate) the negative consequences of over-pronation.

- First, have your feet assessed by a trained pedorthist who can identify over-pronation and guide you to appropriate footwear and arch supports.
- Wear an appropriate arch support (orthotic) for your arch shape and height. Most over-the-counter arch supports offer surprisingly little actual arch support. The reason for this is simple. Feet come in many different shapes and sizes. OTC arch support manufacturers err on the safe side and sell relatively low arch supports, even the ones with fancy machines designed to pick what is right for you. This way, there is little risk of putting a high arch support under a low arch foot (which could cause serious injury including a very badly sprained ankle or worse). Custom arch supports made by a trained pedorthist are the ideal solution. Custom arch supports are made to perfectly support the unique size, shape and flexibility of each foot with the specific types of shoes to be worn included as a part of the design process. A trained pedorthist can make custom arch supports to fit sandals, open-backed clogs and even dressy high heels. Additionally, there are good quality over-the-counter arch supports with more support/height in the arch area available for those who choose not to go the custom route. They are typically only sold where a trained professional can fit you. They can be an appropriate option for many people but proper fitting is important.
- Wear shoes that are firm at the back of the shoe (the heel counter), especially when wearing athletic shoes or when wearing shoes without arch supports inside. If you can push down the back of the shoe with your thumb, it will do little to help support your foot and ankle from rolling inward.
- Inspect your shoes for wear and tear and replace them when they become excessively worn or misshapen or fail to hold the heel firmly at the back of the shoe.

- Minimize the amount of time you are barefoot while on hard, flat surfaces. Save bare feet for tickling your toes in the grass or walking in the surf at the beach.
- If you are pregnant, be fitted for a good quality arch support and shoes as early in the pregnancy as possible. The pregnancy hormones that relax the pelvic muscles in preparation for childbirth affect all the muscles, tendons and ligaments in the body including the feet. This combined with the sudden increased body weight is why pregnant women's feet get larger. If you are fitted with appropriate arch supports and proper shoes, the pre-pregnancy foot shape can be supported, the risk of foot and ankle swelling can be reduced and, if worn throughout pregnancy and post-partum, the feet can very often stay the same size after pregnancy as they were before

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