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The Hidden Dangers of Walking

WALKING HAS BEEN described as one of the best forms of exercise. It is cheap and easy to do. You don't need any special equipment or training, just a pair of shoes. Walking is the second most common motion of our body, besides breathing. The average person takes about 15,000 to 20,000 steps a day. People who are overweight, diabetic, or suffer with high cholesterol and heart disease are told to walk. Walking increases the metabolism, which aids in the loss of weight which lowers the blood pressure and blood sugar. However, even though there are countless benefits of walking there are also many hidden dangers.

When our feet are in-alignment no problem, but, when our feet are even just slightly out-of-alignment, excessive motion will occur. This excessive motion multiplied 15,000 times a day over, say 15 to 20 years, results in a multitude of neuromuscloskeletal deformities. That is why by the time we reach middle age all of a sudden we develop problems to our feet, knees, hips, back, etc. Just like a rubber band, you can stretch it hundreds of times without a problem, but eventually, it will loose its elasticity and snap.

Pronation is a normal motion of the foot and excessive pronation is termed hyperpronation. To put things in perspective, a 180 pound person has four to five times their body weight going through each foot. This means that with every step taken there's up to 810 pounds of force traveling throughout the foot. When the foot is in-alignment the foot easily accepts those forces and transfers them back to the ground. However, with hyper-pronation excessive motion/deviation of those forces are abnormally transferred to other parts of the foot. These excessive forces will then lead to damage to the soft tissues of the foot and ankle, resulting in abnormal bone deviations.

Abnormal bone deviation leads to excessive joint motion. Excessive joint motion leads to more pulling and stretching of the soft tissue attachments on the bone, producing the formation of bone spurs. Excessive joint motion leads to inflammation of the joint. Chronic inflammation of the joint means that there are various cells present in the joint that will degenerate the cartilage of the joint. Disintegration of the cartilage is what most medical people call arthritis. This leads to further pain and anti-inflammatory medications are given. These pills only mask the symptoms, meanwhile the underlying excessive motion is still present, more damage occurs with every step taken. Various medicines may be injected into the joint to decrease the inflammation or increase the lubrication in the joint space. Even with joint replacement procedures, the same underlying deformity is still present. The "new" joint is vulnerable to wear and tear and will have to be replaced with another implant, and so on.

Hyper-pronation of the foot has been blamed for the majority of musculoskeletal disorders of the body. In a quick review, hyper-pronation makes the ankle bone turn down and in, causing the ankle to also turn in and the foot then will turn out. Turning in

of the ankle then causes a twisting of the tibia (leg bone) on the femur (thigh bone). Twisting of the knee with every single step taken causes an over-stretching of the soft tissues of the knee leading to the majority of knee problems. The leg muscles have to work harder to lift up the foot with every step taken leading to cramping and overworking of the leg muscles. The turning in of the ankle then leads to the femur being pulled out of the hip joint. The excessive hip motion leads to arthritic hip problems, sciatica, etc. The tilting of the pelvis, as well as, down and inward motion of the ankle bone causes a "leg-length discrepancy". An unstable hip causes tilting of the pelvis which is connected to the spine. This leads to unnatural forces to the vertebrae and the cushion in-between the vertebrae. Excessive force placed on the disc will cause it to bulge on one side of the other. Ligaments are pulling abnormally on the vertebrae, bone spur formation begins and spinal stenosis is the end result along with "pinched" nerves. A curvature begins in the lower back possibly leading to further curvature up the back that can lead to one shoulder higher than the other. Having a "tilted" shoulder leads to abnormal soft tissue strain, formation of bone spurs and the spurs cause further damage to the soft tissue resulting in rotator cuff problems. Tilted shoulders lead to excessive strain on the neck and can cause vertebral problems there resulting in excessive muscle strain. Just like the lower back, the very strong muscles along the spine try to keep the neck and back in-alignment, however they have to work extra hard to realign the spine and eventually cramp. Many headaches are caused by strain on the neck muscles. A tilted neck leads to a tilted head. When the head is not straight this will then place abnormal forces on the mandible. One side of the mandible becomes displaced and the muscles of the mandible will tighten and cause symptoms otherwise know as TMJ syndrome.

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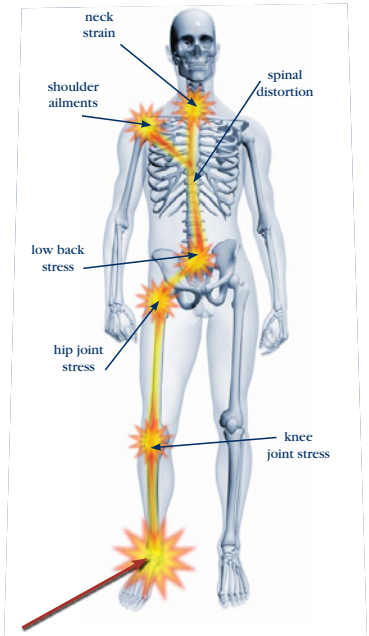


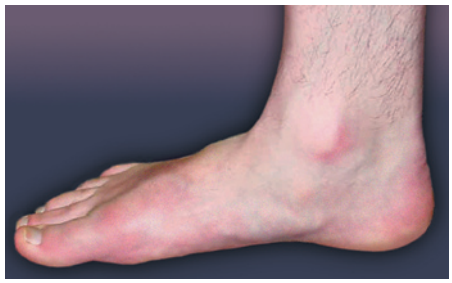
It all Starts and Ends Here!

A hypronating foot can lead to problems to the entire muscular skeletal chain

BEFORE

AFTER

BEFORE



AFTER

People who have the normal mechanics to their feet don't suffer when they walk and just take it for granted. They have a higher metabolism and therefore are overall much healthier, that is, less likely to suffer with heart disease, diabetes, etc. If there are normal mechanics to the feet the muscles are more efficient and therefore these people are more athletic. People with out-of-aligned feet have a lower metabolism and are more likely to suffer with the ill-effects of heart disease, obesity, diabetes, etc. Their muscles have to work a lot harder and walking is more strenuous. The leg muscles work four to five times harder and walking a mile results in the leg muscles walking four to five miles.

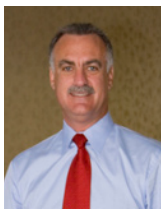
What are the treatment options for people who are out-of-alignment? The most common form of treatment is a "corrective" arch support. The purpose of these is to try to prevent the "collapse" of the arch. An arch support works on the bottom of the foot and cannot prevent hyper-pronation.

If arch supports were ineffective in treating the excessive foot motion the next option would be reconstructive surgery. Usually, this was just too aggressive a solution for the deformity. There are many potential complications in performing this procedure, it has a long recovery, and the results are unpredictable. This modality is usually reserved for very severe foot deformities.

There now exists a better alternative. The problem is abnormal hyper-pronation or downward and turning in of the ankle bone. Now a stent can be placed in the foot to stop the abnormal motion of the ankle bone. The stent takes the negative space within the ankle bone and turns it into a positive space. The stent prevents the abnormal motion while the normal motion of the foot is restored. The stent can be placed in patients from five years and older. The oldest patient known who had the placement of the stent is 91 years old. The placement of the stent takes about fifteen minutes. Patients are back into tennis shoes with an ankle brace immediately after surgery. The procedure to insert the stent is called subtalar arthroeresis and is completely reversible. The stents are composed of medical grade titanium and will last a life time.

Hyper-pronation should be treated early. The stent is a terrific solution that can be used on most people. Diagnosis should be made by a certified specialist regarding this procedure. Clinical and radiographic findings, as well as, a gait analysis are performed to confirm suitability. If the hyper-pronation is not treated early, there will exist a greater possibility of irreversible damage to the rest of the body. Sometimes there is so much of a deformity of the foot that an implant cannot be used and more aggressive surgery would be needed to realign the foot and the rest of the body.

Even though walking is the best form of exercise for the average person, there are many hidden dangers. If the feet are out-of-alignment, repetitive damage is caused to the neuromusculoskeletal system that can further lead to obesity, heart disease, diabetes, depression, etc. Abnormal hyper-pronation is responsible for the misalignment of the feet and the rest of the body. Alignment of the feet is the key to a healthy body.



Ivar E. Roth DPM/MPH is the only Podiatrist in Southern California to have been master certified for this subtalar arthoeresis procedure. Dr. Roth is located at 351 Hospital Road Suite #407 in Tower One of the Newport Lido Medical Bldg. Call 949-650-1147 for an appointment. Courtesy Valet parking is provided to all his patients. OCH

Check out our online Foot Care Health Center at www.OC-Health.com