



The Wellness Family

Dr. Gray Keeps You Informed

Feet, Gait and Chiropractic

Almost everyone you ask understands that a chiropractor takes care of the spine which is made up of vertebra (or bones) connected by ligaments. The skeleton as a whole is made up of bones and joints also connected by ligaments. Just as a spine can be misaligned, so can any of the other bones and joints that make up the skeleton. This is why your feet and gait are important to your Family Wellness Chiropractor.

What is Gait?

The medical definition of gait is a manner or way of walking. An average gait may be described as placing one foot in front of the other and moving from heel to ball of the foot; which is too simplistic of a description as there are so many other variables.

Whether it is an illness, injury or even misalignments in the knees or pelvis, abnormalities in gait typically can't be controlled. Most walking problems are due to some kind of a physical condition. The following are some typical gait abnormalities:

- Propulsive gait: a stooped, stiff posture with the head and neck bent forward
- Scissors gait: legs flexed slightly at the hips and knees like crouching, with the knees and thighs hitting or crossing in a scissors-like movement
- Spastic gait: a stiff, foot-dragging walk caused by a long muscle contraction on one side
- Steppage gait: foot drop where the foot hangs with the toes pointing down, causing the toes to scrape the ground while walking, requiring someone to lift the leg higher than normal when walking
- Waddling gait: a duck-like walk that may appear in childhood or later in life

These would be the more obvious gait issues; however, there are some that may not be as noticeable.

Foot and Knee Misalignments

It is not unrealistic to consider misalignments in the feet since that's where a quarter of all of the bones in the body are located. The knees are joints which can easily become misaligned as well and even a slight misalignment in the foot or the knees may cause gait issues.

The process of walking requires movement of the legs from the hips, a bending of the knees, and then a concerted movement between the feet and ankles. If any misalignments exist then the gait is affected.



The spine is the foundation of health, but the foundation of an upright body is the feet.

First Shoes

The most unique and possibly definitive effect on the development of gait is shoes. Children need to be able to push off at the balls of their feet in order to learn or develop a proper gait so they should not wear shoes of any kind until they are walking well. This is typically around 15 months to 2 years of age. In the meantime, socks should be worn for protection of the feet and warmth.

When ready for shoes, they should have soft, flexible soles so that the child is still able to push off the balls of the feet correctly and walk with a proper gait. Remember that most toddlers will grow an average of half a shoe size every four months and starting around the age of three they will grow half a shoe size every six months. Be sure that their shoes are always properly fitting in order to promote a healthy gait.

Proper Shoes for All Ages

There are many popular brands and designs of shoes that will negatively affect gait which may have long term effects on the body including the spine. UGGs and flip flops (due to their flat, thin soles) are examples of such brands and designs.

UGGs have little to no arch support and are very loose-fitting, meaning that people slog around in them. Their ankles will roll inward and arches and tendons will collapse with each step or, in order to avoid the previous stated effects, wearers will drag their feet making that irritating foot-dragging sound called the "UGG shuffle" by the Urban Dictionary. Flip-flops similarly affect the gait because the wearer takes

shorter steps and grips the shoe with their toes. Whether loafers, business shoes or some form of athletic shoe (running shoes, tennis shoes, etc.) the best shoes require good arch support, ankle support, and a shock absorbing sole and heel.

Benefits of Inserts

Research has shown that one possible cause of back pain is abnormal body biomechanics; an improper gait can actually affect the rotation of the bones in the legs and hips which, especially after long distances, can result in back pain or discomfort.

A pilot study in 2011 showed that it is feasible for the use of shoe orthotics to reduce low back pain and discomfort. In one biomechanical study, customized shoe orthotics immediately improved the amount of work required to walk (or the economy of the gait) and maintained it for 4 weeks.

If an improper gait is the result of illness or injury then be sure to speak with a professional before looking into inserts. However, if you would like to improve your gait then ask your Family Wellness Chiropractor to recommend a reputable source of custom-made shoe orthotics or inserts.

The Pros and Cons of Being Barefoot

Just as it is best for children to learn to walk without shoes, going barefoot is not a bad thing. In fact two different studies from 2007 and 2012 have proposed that walking barefoot has incredible benefits. Since the Earth is negatively charged, walking barefoot results in the body absorbing electrons and it is suggested that this is one of the most potent antioxidants available and may have an anti-inflammatory effect as well.

In addition, it's been determined that typical running shoes encourage the foot to land heel to toe putting most of the pressure on and expecting most of the shock to be

absorbed through the heel when walking. Versus those walking barefoot will have a tendency to land on the ball of the feet or walk toe first having the majority of the shock absorbed through the arch of the foot which is definitely better.

However, when changing from wearing shoes to a primarily barefoot lifestyle there is the risk of increased edema between the bones and joints in the foot due to the decrease of shock absorbing material between the ground and the foot; so when choosing to transition to a more barefoot lifestyle, be sure to spend the majority of the time barefoot on softer surfaces.

The Chiropractic Factor

The spine is the foundation of health, but the foundation of an upright body is the feet. If the feet or knees are out of alignment this can affect the gait and an improper gait has been shown to negatively affect the spine.

It is possible to do a little bit of self-monitoring in this area. First, check your shoes. They should be worn evenly in the heel. If they are worn more to the inside or the outside of the heel then there may be a problem either with your feet or your gait. Be sure to show your shoes to your Family Wellness Chiropractor if you believe there is a concern.

Second, check your walk. When out for a stroll do your arms swing smoothly, do your legs move smoothly? If not, there may be a problem which can be discussed with your Family Wellness Chiropractor.

Finally, is there pain? If you aren't much of a walker and are typically more sedentary it's going to be normal for an abnormal amount of walking to cause discomfort in your feet or ankles, knees, thighs or even hips but not your back. If walking causes lower back pain, be sure to mention it to your Family Wellness Chiropractor.



*Dear Patient,
Dr. Gray is dedicated to providing you with the absolute best in family wellness care. So take a moment today to discuss with your Family Wellness Chiropractor any concerns you may have regarding your family's overall health and wellness.*

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