

[IMAGE]

Your Foot Bone's Connected to Your Spine Bone

Spinal Stabilization: Your First Step Toward Lifelong Spinal Health

By Dr. Brian Jensen

Stabilizing your spine plays a vital role in your overall health. Your spinal cord contains the nervous system, the center for all your mental activity. Misalignments in your spine can prevent your nervous system from functioning normally, causing you pain and discomfort. It even can weaken your immune system, making it easier for you to get sick.

Athletic woman with illustrated bone structure. - Copyright © Stock Photo / Register Mark Many factors can contribute to misalignments in your spine. Poor posture, excess weight, injuries, heavy lifting, an unhealthy diet and improper sleeping positions are just a few causes. Something you might not know is that the majority of spinal problems start at your feet.

If you have pain in your neck, back, hips or knees - check your feet. Why? In the old song favorite, it's because "Your foot bone's connected to your leg bone, your leg bone's connected to your hip bone," and so on. By age 20, an estimated 80 percent of people develop some type of foot imbalance. By age 40, foot imbalances plague virtually everyone.

Your feet are the foundation for your entire body; they allow you to stand, walk and run. Every day we expect our feet to take us where we want to go, support our weight and act as our body's main shock absorbers. Your feet contain one-quarter of your body's bones. Each foot has 26 bones and 19 muscles. If that foundation is not solid and balanced, your entire body is affected.

Chiropractors have long known what some other health care professionals are just discovering: There is a cause-and-effect relationship between your foot and your spine. Movement at one joint affects movement at other joints, and every time your foot hits the ground to take a step, you're passing that imbalance all the way up your skeletal structure. Over time, your body tries to compensate and this imbalance can cause pain in any number of places, such as your knees, hips, pelvis, low back and neck. Every time your feet hit the ground, a shock wave travels all the way through your body. If your feet are balanced, they can absorb much of that shock. But if they're not in balance, the shock can cause your body additional strain, and eventually

pain. Surprisingly, most of the time, your feet don't hurt!

When you walk, your feet go through a three-phase process known as the gait cycle. Phase one is when your foot hits the ground (heel-strike); phase two is when your whole foot is on the ground (mid-stance); and phase three is when you start to take the next step (toe-off). Research has proven that during the gait cycle, there are small movements in your spine. If there is a problem with your gait cycle, it eventually will create problems in your spine.

Inadequate or unbalanced support from your feet puts abnormal stresses on your spine. Excessive shock, unequal leg lengths, or poor joint function in the feet or ankles all can affect your spine. The most common foot problem is pronation, or collapsed arches, which can seriously affect your body's ability to absorb shock.

Flexible, custom-made orthotics are designed specifically for spinal stabilization. They help your foot maintain its normal position and control foot function. This only can be accomplished by supporting all three of the foot's natural arches. A gradual weakening of the arches often occurs naturally after years of standing, walking and wearing shoes. The goal of stabilization is to control - not restrict - motion within your foot structure. Flexible, custom-made orthotics can enhance the structure and performance of your foot's three functions, as described in the sidebar at right.

The most effective stabilization is based on two principal considerations: the amount of imbalance in your weight-bearing foot, and the degree of physical stress created by your occupation or lifestyle. Evaluating both of these factors allows your chiropractor to prescribe the stabilizing support level that will most effectively address your individual needs.

Pair of work boots standing at work site. - Copyright © Stock Photo / Register Mark If you are experiencing a loss of spinal stabilization, your imbalances can easily be corrected using orthotics that are custom-made for each of your feet. A weight-bearing cast or digital scan provides the most accurate image of your foot for prescribing a stabilizing, custom-made orthotic. Your body's movements and forces on your musculoskeletal system can only be observed in a standing position. If your body is evaluated in a non-weight-bearing position, vital information regarding your foot function is lost. A flexible orthotic, made from a weight-bearing cast or scan, allows your foot to be supported, not "crutched." The resulting foot balance allows your body movements to function properly.

Your doctor can assist you in determining the extent of your imbalance (in your foot, pelvis and/or spine) and physical stress levels. If you are experiencing a loss of spinal stabilization, your imbalances can easily be corrected using orthotics that are custom-made for each of your feet. Sore or tight muscles; muscle or joint pain in the back, neck or extremities; poor foot function; and sore or tired feet are just some of the indications of loss of spinal stabilization. Ask your doctor to examine your feet if you are experiencing these or similar problems.

Your feet are foundational to the functioning of your entire musculoskeletal system. Spinal stabilization is the first step in spinal health. Your doctor can provide additional information specific to your needs.

1. Support. Over time, the effects of gravity upon a normal weight-bearing position will weaken the tissues and stress joints in your feet. Custom-made orthotics help reduce body-weight stress and strain by supporting proper joint position and reducing excessive motion.

2. Locomotion. When your foot hits the ground during the normal gait cycle, a series of responses occurs along your body's kinetic chain. Excessive pronation due to structural or functional abnormalities is responsible for more chronic postural problems than any other foot disorder. Flexible orthotics can control both the degree and duration of pronation.

3. Shock absorption. Heel-strike shock generates forces reaching five to seven times your body weight. Normal pronation relaxes the foot to absorb some heel-strike shock directly, and decreases the angle between the bones at your knee joint to help protect your spinal/pelvic structures from extreme shock. When you have excessive pronation, this protective mechanism breaks down, resulting in excess shock transmission to your spine. By controlling pronation, custom-made orthotics enhance your body's natural shock absorbers.

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