

[IMAGE]

It All Starts With Your Feet

By Brian Jensen, DC

Protect Your Foundation

Imagine you are a building. The architectural structure of the building is important because it determines if the building will hold up to stress. The same is true for the human body. A balanced structure means a reduced chance of injury and increased endurance. An improvement in your overall structure also improves your athletic performance. It's clear how important it is to take care of your structure - especially your feet.

Your feet are the foundation for your entire body. They must be able to properly support your body; allow you to stand, walk, run, and jump; and absorb damaging shock that enters your body every time your heel hits the ground. Every athlete deals with structural defects, many of which start in the feet.

Man dunking a basketball. - Copyright © Stock Photo / Register Mark Pain tells you to consult your doctor, team physician or trainer. But foot imbalance or dysfunction does not always cause pain just in your feet - the pain may transfer to your lower legs, knees, hips or spine instead. Why? Your body is like a large, interconnected chain; movement at one of your joints affects movement at other joints. If your feet have imbalances or weaknesses, they travel all the way up your body.

If you don't think you have any foot imbalances, think again. Eighty percent of people develop some type of foot imbalance by the age of 20, and virtually everyone has foot imbalances by the age of 40. After years of standing, walking, and wearing shoes, the arches of your feet gradually weaken and are not able to provide the necessary support for your body.

A person standing one-footed on the hands of another person. - Copyright © Stock Photo / Register Mark

Pronation, Supination and Proprioception

Pronation (inward rolling of the foot, particularly the heel and arch, as the heel contacts the ground) and *supination* (the opposite of pronation - outward rolling of the foot as the heel hits the ground) are normal foot movements that occur during walking and running. But when your foot excessively pronates or supinates, it puts the stability of your entire body at risk. These conditions can lead to other forms of an

unstable posture, including uneven shoulder heights, one leg that is shorter than the other, and tilting in your hips.

Your athletic performance is directly determined by the status and coordination of your *proprioception* system. Proprioception is defined as "sensing the motion and position of the body." Special nerve endings in the tissues surrounding your muscles and bones interact with your nervous system - the center for all of your mental activity - to coordinate your body's movements, posture and balance. Three regions of the body contain the most proprioceptive nerve endings: your feet, your spine and your neck.

If you have weaknesses or imbalances in any one of these areas, you cannot function at your best. It's important to take care of your feet and your spine because interference in these areas can negatively affect the coordination of your proprioception system. Your athletic performance depends a great deal on this system - how smoothly and quickly your body can respond to position, speed and balance changes.

Structural Management

Doctors of chiropractic can provide you with *structural management*. What's that? Structural management evaluates the weaknesses and imbalances in your body so that your doctor can develop a program to address them. Most sports injuries are mechanical or structural in nature, so it makes sense to evaluate and manage your body's structure.

Every individual's body is unique. Every individual also has structural defects. A structural defect is a fault or flaw in your body's structure. If you are an athlete, you have probably had a prior injury or have hereditary weaknesses, conditioning problems, physical and emotional stresses, dietary problems, or equipment deficiencies - all of which contribute to structural defects.

In order to effectively manage your structure, your chiropractor must first examine your structure. They will probably visually evaluate you first, making note of important information about your posture, such as your shoulder and hip heights, internal and external rotations of your knees, and abnormal spinal curves. Then they will examine all the arches of your feet. Your doctor also will conduct range-of-motion tests on all of your joints, muscle tests, leg-length measurements, and a standing X-ray of your overall body structure.

From examining your structure, your chiropractor learns important information that will be used to educate you about your specific imbalances and weaknesses. Because structural imbalances and weaknesses can increase your risk of injury, they should be addressed immediately with treatment, support and exercises.

Your Doctor Recommends ...

Once your doctor has evaluated your body's structure and identified any imbalances or weaknesses, they can correct the problems by developing a program that combines specific chiropractic adjustments, custom-made orthotics and a personalized conditioning program. This program usually will be based on three things: your individual needs, your fitness goals, and how well you progress with the exercises your doctor has recommended.

Chiropractic adjustments of the spine and extremities have a direct and immediate effect on optimizing your body's proprioceptive responses. Adjustments will help improve your body's overall balance and coordination. They can help keep your body correctly aligned, improving your posture. They also can help relieve pain. The purpose of adjustments is to re-educate the joints and other supportive areas of your body. This will enhance the mobility of your joints and increase the amount of stress your body can tolerate before an injury occurs.

If your doctor determines that you have specific structural defects, you should be fitted for flexible, custom-made orthotics. What are orthotics? Essentially, they're shoe inserts - made specifically with your feet in mind. By supporting and balancing all three of your foot's natural arches, orthotics work with your chiropractic care to help stabilize your spine and hold your adjustments longer. They support, move and protect your body from the damaging shock that occurs when your heel strikes the ground with each step. Orthotics help control the angle and timing of pronation or supination, but do not restrict or eliminate your normal foot motion. By controlling movement in your feet, flexible orthotics encourage normal reactions all the way up your body.

Custom-made orthotics can benefit any athlete. Many studies have shown that flexible orthotics help reduce fatigue and have a positive effect on stride length and hip rotation. They help properly position your body to improve its balance and proprioceptive abilities, helping to enhance your athletic performance.

This unique approach to troubleshooting problems before an injury occurs is what separates doctors of chiropractic from all of the other sports medicine providers who treat only the injured athlete. Chiropractors can help predict certain injuries and correct structural defects, giving athletes new and exciting possibilities for success in the sports world.

Brian Jensen, DC, is a graduate of the University of Nebraska and Palmer College of Chiropractic. He specializes in structural biomechanics and has been in practice for 17 years.

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