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360 Notre Dame St. Box 89 Belle River ON N0R 1A0
Phone (519) 728-3366 Fax (519) 728-2646
info@activelivingchiro.ca www.activelivingchiro.ca

Short Leg Syndrome Has Far Reaching Consequences
By: Dr. Stephen O'Neil

Not all legs are created equal. The most common "normal" skeletal variant is leg length inequality. Many of us walk around every day having one leg shorter than the other. This may not seem important, but when we consider how many steps we take on a daily basis, even slight changes in biomechanics can have far reaching consequences.

Differences in leg lengths can be either structural or functional in nature. Structural causes for leg length inequality include fractures, deformities, lesions, unequal growth rates and degeneration. Along with structural abnormalities causing leg length inequality, functional problems are an even more common cause of shot leg syndrome. These are generally caused from physiological responses secondary to biomechanical stresses along the kinetic chain. In other words, there is something wrong with a link in the kinetic chain (feet, ankles, knees, hips, pelvis, spine, neck). When this happens, the musculoskeletal system struggles to compensate for the inequalities. About 90% of all leg length inequalities fall into the functional category. The most common cause being excessive pronation of the feet. This is commonly referred to as dropped arches. When this occurs more on one side than the other, a functional leg length inequality results. The hips and pelvis must then compensate and the low back takes the brunt of the stress. Other causes or co-existing conditions include pelvic subluxations in which the hips rotate or tilt more to one side. Muscle contractures and sacral misalignments with a decreased range of motion in the hips can also play a role. Because discrepancies in leg length can affect the entire kinetic chain, symptoms can manifest anywhere along the chain. Common symptoms include: chronic or recurrent sciatic pain; hip pain, arthritis or other hip problems; low back pain, scoliosis, uneven hip heights; and pain in the thigh. Symptoms may also present up the kinetic chain causing headaches and neck pain. These symptoms are generally worse after walking or standing all day. Symptoms are decreased in the morning after recumbent rest. Athletes are more prone to theses symptoms and they will vary with activity level.

Treatment of patients with changes in leg length depends on severity and duration of symptoms as well as activity level and age of the patient. Since changes and adaptation have likely occurred throughout the kinetic chain, the entire spine and its soft tissues must be addressed. Correction of the problem must be gradual so that symptoms are not aggravated or worsened.

Most commonly, treatment includes custom fit orthotics to normalize the arches of the feet and restore a stable base for the rest of the kinetic chain. In more severe cases, a heel lift may also be required to compensate for difference in length. Specific stretches and exercises tailored to the patient's symptoms and imbalances should also be initiated. The exercises will help retrain and coordinate the postural support muscles and encourage spinal mobility by stretching tight fascia and connective tissues. A full chiropractic evaluation and treatment plan can correct leg length inequality and allow patients to become symptom free and walking tall again.