

HOW FOOT ABNORMALITIES CONTRIBUTE TO LOW BACK PAIN

Most chronic, low back pain is a result of some form of structural weakness or failure.¹ The cause of long-standing, lower back pain is micro-trauma, which is produced by conditions such as: biomechanical errors, structural abnormalities, tissue weaknesses and excessive external loads. The source of these conditions must be recognized and addressed in order to prevent further break-down which is manifested as arthritis. The type of arthritis we're speaking of in our spine due to the changes/degeneration of the cartilage is essentially like rubbing 2 pieces of sand paper together. Unfortunately, the worse the arthritis, the lower the grit and the greater the grind of the sand paper (i.e. the arthritic joint).

Often the source of the conditions noted above is an imbalance in 1 or both of the feet. The feet are the foundation of the body. While 99 percent of all feet are normal at birth; 8 percent develop troubles by the first year of age; 41 percent by the age of 5 and 80 percent by age 20.² At age 40, nearly everyone has a foot condition of some sort. Many foot conditions eventually contribute to the health concerns further up the kinetic chain; especially, the generalized condition of "back pain." Therefore, it is in our best interest to spot potential, low back problems that originate in our foot/feet before it is something that affects our health and/or our lifestyle. The following list is a sampling of conditions in which the feet and lower extremities can have a major impact on the lumbar spine function: metatarsalgia, excessive pronation and/or arch collapse (flat feet) or a fixed supination and/or high-arched feet, heel pad atrophy, heel spurs and leg length inequality.

The condition we see most often is a single or both feet flat footedness. When this condition is present, a torque forces produce internal rotation stresses to the leg, hip, pelvis and lower back. The result is an increased amount of biomechanical pressure throughout the lower back which affects the muscle and ligaments about the lumbar spine and sacroiliac joints. Having flat feet over a long enough period of time can even cause outer thigh pain (often what people notice when they lay on their side at night and after a little while, their thigh becomes painful and numb) and even outer side calf pain.

A significant factor in reducing excessive biomechanical forces on the lumbar spine is the use of orthotics (supports put in your shoes) to decrease external forces. Custom-made orthotics are highly recommended for most individuals which are used to align and support the foot/ankle in a more near-normal physiological position for a weight bearing foot, to prevent dysfunction and/or improve function of the movable parts of the lower back and lower extremity. A properly

¹ Sychewask M, Oberg T, Karlsson D. Segmental movements of the spine during treadmill walking with normal speed. Clin Biomech 1999; 14:384-388.

² Katoh Y, et al, Biomechanical analysis of foot function during gait and clinical applications. Clin Orthop Rel Res 1983; 177:23-33.

designed and custom-fitted orthotics will provide corrections throughout the day and during all weight-bearing activities.

Although, a generic small, medium and large, less expensive shoe insert can be utilized and will be recommended to some patients by the doctor under certain circumstances, a custom-fitted orthotics will usually be considered more appropriate. Realize... that the primary goal is for us to help you reduce your pain; but secondarily, we also want to eliminate its return. To reduce your reoccurrence of pain and to make your future health care as cost-effective as possible, stabilizing the foundation of your entire body is obviously extremely important.

Please note in Figure 1, the 5 “red flags” utilized in assessing your foot for the potential of needing orthotics. Most people already know that they have excessive, outer, and corner shoe wear which is a classic example of the long-term effects of your weight-bearing change when walking which is indicative of your need for orthotics.

As always... we greatly appreciate your trust in allowing us to participate in improving your health.

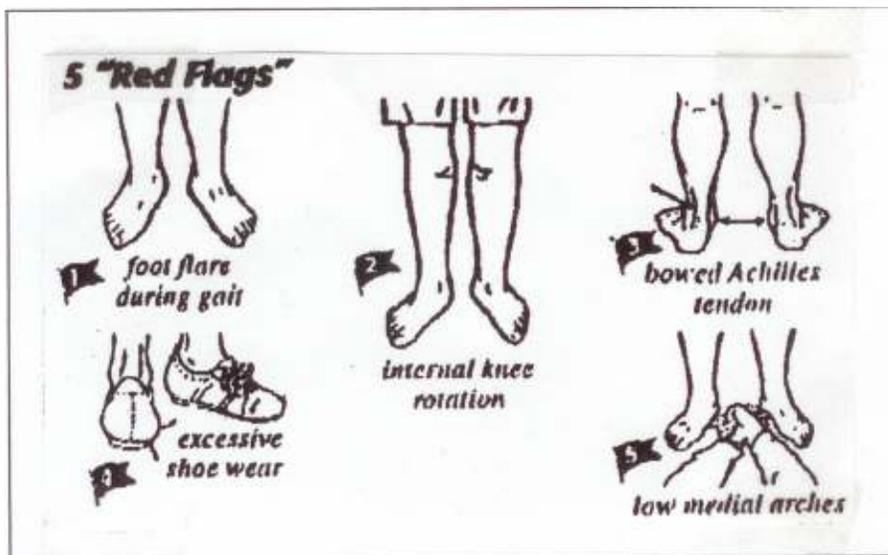


Figure 1 Five Red Flags

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