



Dynamic Chiropractic – July 1, 2002, Vol. 20, Issue 14

Complementing the Adjustment with Orthotics

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For well over 20 years I have recommended custom-made, flexible foot orthotics for hundreds of my patients. I have determined that there are several categories of benefits that I can expect. Sometimes it's foot or knee symptoms that I'm trying to address; other patients need orthotic support to help treat sacroiliac, disc or spinal problems. When there's a short leg, most patients require an orthotic, while others also need a heel lift. Often, the lack of support from the lower extremity is only noticed with a thorough examination and an index of suspicion. The following is a list (with explanations) of the reasons I find it so helpful and necessary to complement my chiropractic adjustments with orthotics in some patients.

Lower Extremities

By providing support for the three arches in the foot, decreasing prolonged pronation, and reducing excessive internal leg rotation, orthotics can help treat many lower-extremity conditions. Whether due to sports injuries, recreational overuse, or just a gradual buildup of biomechanical stress, many foot, ankle, and knee problems will need custom-fitted orthotics, in addition to the extremity and spinal adjustments and exercises we provide.

Foot or ankle - It's not surprising that abnormal biomechanics of the foot and ankle can cause symptoms that need support from an orthotic. Many complaints in this region will respond much better with a combination treatment of orthotics and adjustments. The problems seen most commonly in my years of practice include: plantar fasciitis; *hallux valgus*; pain under the metatarsal joints; interdigital neuroma; heel spur; arch collapse; Achilles tendinitis; recurrent ankle sprain; and shin splints (strain of the anterior or posterior tibialis muscle).

Many times, patients seek treatment for spinal problems, and their foot or ankle symptoms are mentioned only in passing. Once they have experienced relief of their lower extremity conditions (which have often been quite chronic) with adjustments and orthotics, they understand better the whole-body treatment

philosophy of chiropractic.

Knee - Many patients with anterior knee pain (whether it is called patello-femoral pain, chondromalacia patellae, or retropatellar arthralgia) report almost immediate relief from a combination of adjustments and custom-fitted orthotics. That's because the orthotics reduce the extent of foot pronation, thereby decreasing internal rotation of the tibia and improving the tracking of the patella in the femoral groove. Correction of excessive pronation is necessary for a complete response, especially when there is a high Q-angle. Other knee conditions, such as iliotibial band syndrome in runners, popliteus tendinitis, and recurring fibular head subluxations indicate the need for orthotic support during the gait cycle.

Hip - When a patient presents with a trochanteric bursitis, or evidence of hip joint degeneration, casting for orthotic support has become almost automatic. The hip joint develops symptoms only when there is a biomechanical asymmetry of the lower extremity. A strain or chronic tightness of the *tensor fascia lata*; recurrent groin pulls in an athlete; or a piriformis syndrome all require close evaluation of the need for custom foot support.

Pelvis and Spine

Although the connection is less obvious, supportive foot orthotics play a vital role in the proper treatment of several conditions of the pelvis and spine. This is where the attentive and careful chiropractor can really shine. Since the pelvis and spine are at the end of a closed kinetic chain from the lower extremities, abnormal biomechanical forces are transmitted in both directions - upward and downward. Fortunately, the use of well-designed foot orthotics can significantly reduce the effects of the feet and legs on the spine.

Sacroiliac joints - When each foot pronates during the stance phase of the gait cycle, there is a normal inward (medial) rotation of the entire limb and pelvis on that side. In persons with excessive pronation, this twisting movement is accentuated (on one or both sides), and is transmitted to the pelvis, especially the sacroiliac joints. A chronic sacroiliac irritation develops, which can only be treated with a combination of chiropractic adjustments and orthotics. Particularly when a patient describes the pain in the region of the sacroiliac joint as being made worse with standing, walking, and/or running, the need for orthotics must be considered. When a strenuous sport or recreational activity is also reported, I immediately look to the lower extremities for the source of biomechanical stress.

Pelvis or short leg - The pelvis is the structural foundation for the spine. If there is leg asymmetry anywhere from the feet to the femurs, the pelvis and the spine will suffer. Anterior tilting, rotations, and lateral tilts of the pelvis all interfere with chiropractic spinal care, and must be addressed. All of these pelvic distortions are frequently caused by foot and leg imbalances that require orthotics or heel lifts.

In the case of a structural short leg, whether it's due to anatomical or functional causes, orthotics are almost always needed. When there is an anatomical difference in leg length, any permanent buildup should be attached to an orthotic to ensure balanced foot and ankle function. If the discrepancy is functional, it will most commonly be caused by a lower arch on one foot, producing a lowering of the femur head during standing and walking (positions of function). To treat the current spinal problems, and to prevent the development of secondary compensations in the spine, orthotics should be fitted immediately upon determination of either type of structural short leg.

Spine or disc degeneration - When there is a lack of proper support from the lower extremities or a significant asymmetry, the spine develops a lateral curvature or recurrent rotations. When I see a spinal scoliosis, especially one that begins in the lumbar region, I always check to see if there is a lower extremity problem. The source of many recurring rotary and lateral tilt subluxations is a functional leg asymmetry during standing and walking. This effect will continue for many years, eventually becoming a permanent deformity if not identified by a chiropractor and treated with orthotics.

The long-term result of the micro-trauma caused by poor structural support from the lower extremities is degeneration of the spinal discs. Of course, frank trauma and a history of overuse can also damage the intervertebral discs. Once this has occurred, reducing the forces transmitted to the less elastic and less flexible joints is necessary. I find that foot orthotics constructed with extra shock-absorbing materials are often the only way to provide long-lasting relief for patients with disc or sciatica symptoms. A significant decrease in the pounding stress on the joints from the feet to the knees, hips, pelvis, and spine during walking and exercising can be a blessing to many patients, especially the elderly. I always include flexible, shock-absorbing orthotics as part of my treatment recommendation when x-rays demonstrate substantial joint degeneration.

Conclusion

When chiropractic patients report lower extremity symptoms, or when their spinal problems are chronic and become worse with standing and walking, I always look carefully at the feet and ankles. If not addressed, excessive pronation or supination will interfere with my chiropractic care. Degenerated joints will magnify the forces transmitted to the spine during normal activities. Identifying those patients who need custom-made, flexible orthotics or shock-absorption right from the beginning, and providing the appropriate supports in the early stages of chiropractic care, gives my adjustments the best chance for success.

Remember that from a chiropractic point of view, the need for orthotics is most critical for patients with lower extremity asymmetries that impact on their pelvis and spine. Waiting for a patient to complain of foot symptoms is often much too late. With a brief exam and an index of suspicion, doctors of chiropractic can easily identify those patients who are candidates for orthotic support. Patients appreciate the doctor who works with them to address the underlying problem, and thereby prevent the frequent complaint of adjustments that last only a week or so. The use of orthotics will often complement and improve the chiropractic adjustment, while assisting the body to return to an improved state of function and health.

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