ORTHOTICS CASE STUDY

Recurrent Ankle Sprains

FOOT LEVELERS

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HISTORY AND PRESENTING SYMPTOMS

The patient is a 38-year-old male, who plays soccer in an adult league on weekends. He describes recurring episodes of pain and swelling along the outside of his right ankle for the past several years. He presents for treatment of his lower extremity biomechanical faults, and wants to prevent future problems and improve his athletic performance with chiropractic care.

EXAM FINDINGS

Vitals. This athletic male weighs 160 lbs, which at 5’10” results in a BMI of 23. He is a non-smoker, and in general good health with a moderately active lifestyle. Additionally, his vitals included; oral temperature of 98.10F, resting blood pressure of 118/90 mmHg, a pulse rate of 60 bpm, and respiratory rate of 12 cpm.

Posture and gait. Standing postural evaluation finds generally good alignment, with intact non-pathologic spinal curves, but a slightly lower iliac crest (1/4”) on the right,

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which is confirmed by a lower right greater trochanter. He also demonstrates a mild right calcaneal eversion and a low medial arch (hyperpronation). A tendency to

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toe out (foot flare) on the right is noted during gait screening, with no additional aberrant patterns of gait.

Chiropractic evaluation. Motion palpation identifies a mild limitation in right flexion and extension sacroiliac motion, with moderate tenderness and loss of end range mobility. Several compensatory rotatory and flexion restrictions are identified throughout the lumbar region. All orthopedic and neurological testing is negative or unremarkable.

Lower extremities. Examination of his right foot and ankle reveals slight general swelling of his ankle, which is moderately tender to palpation along the outer aspect near the lateral malleolus. All active right ankle ranges of motion are full and pain-free, except inversion, which is limited by tightness and localized pain along the lateral foot and ankle. Manual muscle testing finds mild weakness (4/5) in the right fibularis muscles, when compared to the left side.

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IMAGING

No x-rays or other forms of musculoskeletal imaging were deemed medically necessary at the initial visit.

CLINICAL IMPRESSION

History of recurrent inversion ankle sprains associated with hyperpronation and foot instability. This is accompanied by sacroiliac joint motion restriction and compensatory lumbar biomechanical restrictions.

TREATMENT PLAN

Adjustments. Specific, corrective manipulations for the SI joints and lumbar region were provided as needed. The right navicular bone was adjusted superiorly.

Stabilization. Custom-made, flexible stabilizing orthotics were provided to support the arches and decrease calcaneal eversion, and to reduce the asymmetrical biomechanical forces being transmitted to the spine and pelvis. Two pairs of stabilizing orthotics were ordered, one designed for his soccer shoes and the other for everyday shoe wear.

Rehabilitation. He was initially instructed in daily self-mobilization and strengthening procedures, which included marble pick-up and towel-scrunching exercises. After two weeks, daily strengthening of eversion and external rotation was introduced, using elastic exercise bands.

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RESPONSE TO CARE

The spinal and pelvic adjustments were well-tolerated, and this active athlete required minimal manipulations following his course of acute care. His compliance with the stabilization and exercise recommendations was good, since he was quite motivated to improve his performance and to prevent future injuries to his ankle. He adapted to and wore the orthotics without difficulty. He faithfully filled out and brought in his exercise log at every visit, which provided an excellent opportunity to support his home-based efforts.

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Within two weeks of receiving his orthotics, he completed several strenuous soccer practices without symptoms or swelling in the ankle. He described a noticeable improvement overall in his athletic performance, saying that he felt "more stable." He was released from acute care to a self-directed maintenance program after a total of ten visits over two months.

DISCUSSION

Interestingly, this athlete had been to several doctors before this encounter. He was very frustrated by the lack of answers and recommendations. His frequent and recurring inversion sprains occur in a foot and ankle that has poor medial support (a low medial longitudinal arch) and an everted calcaneus. Biomechanical analysis found his right foot to be overflexible and unstable.

As is often found in these types of cases, the combination of specific manipulations, custom-made orthotic support, and strengthening of the lateral ankle support musculature brought about an excellent response. This middle-aged athlete was very motivated to improve his sports performance, and he persisted with the recommended exercises. •

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Jennefir Illes is a dynamic communicator who brings 15 years of combined clinical and academic experience. She is a graduate of New York Chiropractic College. Her experience includes treating professional athletes with sports-related injuries. She is an expert on extremity adjusting and is passionate about educating healthcare physicians. Dr. Illes currently serves as an associate professor at Keiser University's College of Chiropractic Medicine in West Palm Beach, FL.