Physician Alert

THE REJUVENATION CENTER™

Case Report

68 Year old female with left ischial tendonitis and left hammer toe pain

ABSTRACT

CQ is a 68 year old female with a 20 year history of developing foot deformity that during the last year had developed into a painful hammer toe condition and also left ischial tendonitis. The left ischial seat/proximal hamstring pain was constant and had an initial pain rating of 7-8/10 and the pain across the dorsum of her left second toe was also constant with a pain rating of 8/10. After custom fabrication of PRI Orthotics and 4 Postural Restoration therapy sessions, her left buttock and hamstring pain had decreased to 0/10 and her left second toe pain had decreased to 0-1/10 and her tolerance to standing had improved from only 6-8 minutes to an unrestricted 4-5 hours before noting any symptoms in either location. This allowed a full return to playing tennis without any pain or problems. Her experience confirmed that The Rejuvenation Center is a very positive treatment alternative to help referring providers successfully deal with difficult lower extremity and foot pain patients.

(detail study on back)

TESTIMONIAL

I am 100% satisfied with my treatment at The Rejuvenation Center. I no longer have any pain in my left hamstring and I can run and play tennis again without any problem. The pain in my left foot is virtually gone with my new orthotics and I feel like I'm walking a lot straighter. The exercises have really helped me feel more and more balanced.

CQ

History

CQ is a 68 year old active female with a 20 year history of developing foot deformity that during the last year had developed into both left buttock/hamstring pain and a painful hammer toe condition. **The left ischial seat/proximal hamstring pain was constant and had an initial pain rating of 7-8/10 and the pain across the dorsum of her left foot was also constant with a pain rating of 8/10.** The degree of left hallux valgus (outward angulation of great toe) and the amount of elevation of her hyperflexed left second toe (hammer toe) required that she cut the top out of the toe box above the second toe to allow her to wear shoes. She had a lesser degree of hallux valgus on the right side and no right hammer toe. Her tolerance to any static standing activities was only 6-8 minutes before elevated left buttock and left foot pain required that she sit down. Any attempts at exercise (especially her favorite activity tennis) caused too much pain across her left foot and exacerbated her left ischial tendonitis.

Examination

Patient's biomechanical lumbopelvic, hip, and rib cage assessment was as follows:

	Right	Left
Hip Add (mod Ober)	Full	**Limited**
Hip Ext (mod Thomas)	Full	Full
Hip IR (seated)	28	**18**
Hip ER (seated)	**34**	40
Trunk Rot (hooklying)	Full	**Limited**

These measures suggest an anteriorly tilted and forwardly rotated left hemi-pelvis with associated sacral and spinal orientation toward the right.[1] The forward rotation of the left half of the pelvis had lengthened the left hamstrings and was a direct contribution to the left proximal hamstring and ischial tendonitis pain she was experiencing.

An assessment of foot/ankle neutrality (neutralizing the subtalar joint) vs. the plane of the floor in an unsupported prone state indicated a significant difference in the resting neutral position of the right foot and the resting neutral position of the left foot; the right foot demonstrated a higher degree of varum with the subtalar joint palpated neutral. This is significant because when the patient is transfered from prone to standing the left calcaneus appeared everted and the right calcaneus appeared inverted even though the subtalar joints were maximally pronated on both sides.[2]

This pronated and relative everted state on the left had lengthened the flexor hallicus longus tendon and held it pinned into the floor, yielding a greater amount of hallux limitus on that side when great toe extension was assessed in standing. The inability to extend the great toe during gait had translated into a higher degree of hallux valgus (outward angulation) as the great toe pulled laterally because it could not properly extend during late stance and push off. This higher degree of left great toe outward angulation had further displaced, crowded and hyperflexed the second toe into the very painful and prominent hammer toe position.

Intervention

The obvious foot and ankle asymmetry and instability indicated a need to custom fabricate orthotics on her initial evaluation. The asymmetrical lumbopelvic and hip assessment measures indicated a need to schedule 4 Postural Restoration exercise sessions to reposition and properly stabilize her faulty pelvic and hip position.

She started wearing the PRI Orthotics in supported stable shoes on the first therapy visit conducted 2 weeks after the evaluation. Her 5 total visits were conducted over an 8 week period and included the development of a specialized home exercise program, which she performed 1-2x/day.

Outcomes

Following the 4 scheduled Postural Restoration therapy sessions patient reported the following:

- **100% improvement in left ischial seat/hamstring pain**
- **95% improvement in left hammer toe pain**
- **Pain had decreased to 0-1/10**
- **Improved standing tolerance from 6-8 minutes to 4-5 hours**
- **Ability to wear normal shoes with her orthotics and return to playing tennis without any pain or problem.**

At the end of her treatments CQ's biomechanical lumbopelvic and hip re-assessment was as follows:

	Right	Left
Hip Add (mod Ober)	Full	**Full**
Hip Ext (mod Thomas)	Full	**Full**
Hip IR (seated)	35	36
Hip ER (seated)	**43**	41
Trunk Rot (hooklying)	Full	**Full**

Discussion

The asymmetrical resting position of her feet and ankles in stance and the relative differences between the right and left sides indicated a need for custom molding and fabrication of PRI (Postural Restoration Institute™) Orthotics. This unique type of orthotic uses semi-rigid materials to support neutral mid-range joint positions while allowing tri-planer foot and ankle motion during gait.

Normal pronation of the subtalar joint unlocks the midtarsal and MTP joints, making the foot a flexible shock absorber from heel strike to midstance. From midstance to toe off the subtalar joint should resupinate which will lock the midtarsal and MTP joints creating both stability and leverage for push off. Prior to getting her new orthotics, CQ remained in a pronated position throughout the entire stance phase of gait and was unable to establish adequate foot and ankle stability for push off leverage during late stance. The hallux valgus and hammer toe indicated functional adaptation of both bone and joint for stability to push off through the distal joints of the foot.[2]

The faulty foot and ankle position and distal joint restriction was dramatically reduced and properly maintained with the PRI Orthotics. The Postural Restoration corrective exercise sessions and the outlined home program were designed to retrain balanced pelvic and hip control over the now neutrally positioned and stable foot and ankle.

The biomechanical evaluation and treatment provided at The Rejuvenation Center in Omaha, NE is focused on full correction of both lumbopelvic imbalance and provisions for lack of proper foot position and functional control. This type of comprehensive therapy is commonly required to fully address the needs of the chronic pain patient.

References

1. Hruska, RJ. *Myokinematic Restoration—An integrated approach to the treatment of patterned lumbpelvic pathomechanics*, Postural Restoration Institute, Lincoln, Nebraska, 2007.
2. Coffin, DPM, Paul D. "Its Not Posterior Tibial Dysfunction". Podiatry Management September 2006: 137-144.