



Gonstead chiropractic management of Iliotibial Band Syndrome: A case report

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Abstract: This case study presents the Gonstead chiropractic management of a long distance runner suffering from diagnosed iliotibial (ITB) syndrome and the achievement of a positive outcome with resolution timing considered shorter than typical expectations. This case report highlights the efficacy of Gonstead chiropractic care as the management modality of choice for this condition.

Indexing Terms: chiropractic; Iliotibial band; ITB; Sacroiliac joint; Running; Knee pain; Pelvis; Subluxation.

Introduction

I liotibial band syndrome (ITBS) is the most common cause of lateral knee pain in runners. It is typically viewed as an overuse injury that results from repetitive friction of the iliotibial band (ITB) over the lateral femoral epicondyle of the knee. It has been purported that training factors causal to this injury include excessive running in the same direction on a track, greater-than-normal weekly mileage and downhill running.

Studies to date have also demonstrated that weakness or inhibition of the lateral *gluteal* muscles is a causative factor in this injury. When these muscles do not fire properly throughout the support phase of the running cycle, there is a decreased ability to stabilise the pelvis and eccentrically control femoral abduction. As a result, other muscles must compensate, often leading to excessive soft tissue tightness and myofascial restrictions.

My intention was to investigate whether an aberrant myofascial innervation, secondary to an underlying sacroiliac joint subluxation, was the instigator of this condition. Initial treatment had been focused on activity modification, therapeutic

modalities to decrease local inflammation, non-steroidal anti- inflammatory medication, and in severe cases, a corticosteroid injection. Further to this, stretching exercises and identifying and

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eliminating myofascial restrictions represented the standard physical therapy program and preceded strengthening and muscle re-education.

With this comprehensive treatment approach, most patients are expected to fully recover by 6 weeks, however, it may be possible that this recovery period to be shortened by the intervening practitioner having a 'corrective' rather than a 'therapeutic' focus.

Case History

A 43y Caucasian male runner presented to my private practice with a 2y history of right lateral thigh and knee pain, believed to be related to distance running. He had undergone physical therapy of the *iliotibial band*, which despite offering short-term relief, necessitated seemingly longer and longer periods abstaining from running.

Clinical Findings/Assessments

Chiropractic examination of the posterior aspect of the sacroiliac joints revealed marked hypomobility, swelling and point tenderness on the right side, the side ipsilateral to the ITB syndrome. The L5 spinous process was prominent, consistent with a *pars interarticularis* defect with possible *spondylolisthesis*. On standing postural examination the right hip, and gluteal fold were lower than the left, with the iliac crests level. The right buttock was narrowed, with gluteal bunching, the left being flattened. The right foot was in-toed slightly.

Radiographic examination

Full spinal and pelvic x-rays were taken and are presented. Of particular interest was confirmation of the positional dyskinesia identified on static and motion palpation of the right sacroiliac joint. The lateral lumbosacral radiograph demonstrated a grade 2 isthmic *spondylolisthesis* of L5 on the sacral base with an associated pars defect and chronic (approximately 15+ years) D6 disc at L5/S1 whereby the entire disc spacing was greatly diminished, being from two-thirds to totally reduced. The remainder of the lumbar discs were unremarkable.

The AP lumbopelvic x-ray revealed a pelvic asymmetry whereby the right hemipelvis has adopted a right PI_1EX_3 Gonstead listing with confirmatory asymmetry in the appearance of the obturator foramina and ilium widths.

A mild leg length inequality was evident, the right having an measured deficiency of 7mm with an actual deficiency when factoring in the pelvic subluxation subscripts, according to the 5:2 rule devised by C.S. Gonstead, was 5mm. The hip joints were of normal appearance with mild bilateral superior acetabular sclerosis seen typically in distance runners.

Chiropractic Diagnosis

The working diagnosis for this case was a chronic mild to moderate ITB syndrome secondary to a right sacroiliac joint subluxation (PIEX) and associated myofascial dysfunction and postural compensation.

Treatment

Treatment involved specific adjustment/correction of the subluxated right sacroiliac joint with the patient in the sidelying position on the Gonstead pelvic bench. The high velocity, low amplitude thrust was delivered to the posterior, inferolateral aspect of the right sacroiliac joint with a set and hold pattern. A deep audible setting was achieved.

The patient was advised to abstain from running for 3 weeks, and to avoid all physical therapy interventions for that period.

Ice was consistently applied to the right sacroiliac joint daily for the first 2 weeks. The patient was also advised to take at least one 15 to 30 minute walk each day.

Patient X-ray series







Figure 1: The left iliotibial band, Left is viewed from the posterior, right is 34 front view. From Complete Anatomy.



Results

At 3 weeks following adjustment of the right hemipelvis to normalise right sacroiliac function, the patient resumed normal running, progressively building up to a 21 kilometre run at 5 weeks. No sign of lateral thigh pain or lateral knee pain was noticed. His running was unencumbered.

I monitored the progress of the patient's right sacroiliac joint for evidence of relative fixation, swelling and tenderness, and to date, although the swelling and tenderness seemed to dissipate slowly over a matter of weeks, no further correction has been deemed necessary, choosing not to interrupt the healing process as long as the swelling was dissipating.

Discussion

The *lliotibial band* is a thick band of fibrous tissue that originates at the iliac crest of the pelvis, runs down the lateral thigh, and crosses the knee joint to insert into the tibial epicondyle just below the knee (Figure 1). The band is crucial to stabilising the knee during running, as it moves from behind the lateral femoral condyle to the front of the condyle during flexion and extension of the knee.

Symptoms of ITB issues range from a stinging or burning sensation just above the knee joint, to swelling or thickening of the tissue in the area where the band moves over the lateral femoral. The stinging sensation just above the knee joint is felt on the outside of the knee or along the entire length of the *iliotibial band*.

Pain may not occur immediately during activity, but may intensify over time. Pain is most commonly felt when the foot strikes the ground, and pain might persist after activity. Pain may also be present above and below the knee, where the ITB attaches to the tibia.

According to Gonstead, clinically, the sacroiliac joint subluxation tends to compromise the parasympathetic component of the autonomic nervous system, leading to an altered parasympathetic innervation of muscles and tendons of the buttocks and lower limb. The effect of which would be hypertonicity of these structures, resulting in an overburdening of these muscles and tendons, potentially leading to tightness, strain, friction, impingement etc., the hallmarks of ITB syndrome.

Interestingly, conditions such as gluteal tendinopathy, *trochanteric bursitis*, snapping hip syndrome and others may have a common aetiology in the sacroiliac joint for this reason.

In building a case for the sacroiliac joint being the underlying cause, a study of Gonstead's seminar notes and a inquisition of those patients determined to show the presence of sacroiliac subluxation, some consistencies have become evident; sacroiliac joint subluxation tends to become more symptomatic when the patient is:

- walking
- lying for prolonged periods
- walking up stairs/steps

Sacroiliac joint subluxation tends to become less symptomatic when the patient is:

- running (sufferers tend to become symptomatic when they stop and cool down)
- sitting

These characteristics are most likely related to dysfunction and resultant swelling of the sacroiliac joint. The greater the functional demand on the sacroiliac joint, the more swelling is dissipated from the joint however, the joint dysfunction perpetuates a sprain/strain of the joint, which will again swell when the joint is at rest or at least sedentary. Interestingly, a review of biomechanical studies has shown that faster-paced running is less likely to aggravate ITB syndrome and faster strides are initially recommended over a slower jogging pace, perhaps highlighting a common aetiology.

Further studies are recommended with a much larger sample group to determine:

whether sacroiliac subluxation is present is all patients suffering ITB syndrome

- of those demonstrating sacroiliac subluxation, what is the most common 'listing' predisposing patients to ITB syndrome.
- which muscles are deemed hypertonic and through reciprocal inhibition, which are deemed to be hypotonic
- what are the relative prognoses of ITB syndrome managed with:
 - rest
 - anti-inflammatory medication
 - physical therapy
 - chiropractic correction
 - myofascial release surgery.

Conclusion

It is often said that Gonstead chiropractic is the study of CAUSE. In private chiropractic practice, the question I most often ask is '*why*?'. A patient presents with what another health practitioner has described to them as an '*overuse*' condition. My usual response is, '*Perhaps you should phone elite tennis player Roger Federer and ask him if he has an overuse condition.*'

I follow this with the statement, '*It's not how much you use it, it's whether it works properly.*' A subluxated sacroiliac joint is a joint which is not working properly, and when significant functional demands are placed on it, the joint may demonstrate sequelae such as postural compensation, segmental spinal and pelvic compensation, changes in muscle tone, excessive friction or creep, bursitis, avulsion fracture, tendon rupture and a plethora of others.

Of paramount importance to the practitioner is finding the underlying cause, so as to improve the likelihood of a achieving a prompt return to normal activity and permanent remission of the condition.

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About

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