

Sacroiliac Joint Injury and Dysfunction:

An overlooked cause of Low Back and Buttock Pain

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The sacroiliac joint can be the cause of debilitating low back and buttock pain. It can additionally be the culprit of pseudo-sciatica, which was described by Smith-Peterson in 1926. Unfortunately, in as much as muscles are the “orphan organ” in the diagnosis of chronic pain, the sacroiliac joint is the “orphan joint” in the differential diagnosis of spinal disorders and low back pain. What is more disturbing is that in order to effectively treat SIJ injury and dysfunction, one must have an understanding of both myofascial and joint dysfunction. This could easily explain the controversy in evaluation, diagnosis and treatment. Fortunately, studies in the last decade have validated that the SIJ may be the primary pain generator in up to 30% of patients reporting low back pain below the level of L5 –S1 (Schwarzer, A et. al). Other studies and physicians treating SIJ have supported this conclusion as well.

The sacroiliac joint is complex. It has the characteristics of a synovial joint with hyaline cartilage lining the sacral side of the joint, and fibrocartilage lining the ilial side of the joint. It is also defined as a synarthrosis and amphiarthrosis. It has more mobility early in life, and generally between 40-50 years of age, degenerative changes take place, and the joint stiffens in men and women. Although the actual amount of movement in the SIJ has been a source of controversy, up to 4 degrees of rotation and 1.6 mm of translation is expected in young adults (Vleeming et. al.). Investigational studies of SIJ movement have demonstrated that symptomatic patients have more rotation and translation than non-symptomatic patients. (Sturesson, B et. al 1989 and Jacob et. al. 1995)

Every practitioner treating low back and buttock pain should consider that an injury to the SIJ or dysfunction could be the cause of their patient’s complaints. SIJ dysfunction is frequently seen, and successfully treated, by manual therapists and practitioners of all types. What becomes confusing is the patient with severe symptoms that are only temporarily resolved, resistant, or made worse by manual therapy techniques. One of the historical presentations of this patient population, is they have usually seen many physicians and therapists and no one has successfully diagnosed or treated them. Being able to recognize a typical history, etiology, and presentation of patients with SIJ injury and dysfunction could alleviate that patient of unnecessary suffering, mis-diagnosis, and inappropriate testing and procedures.

The current diagnostic test used to confirm a clinician’s suspected diagnosis of SIJ dysfunction is a SIJ arthrogram and block. Imaging studies (MR, CT, X-ray, and Bone Scan) will not show SIJ dysfunction. When SIJ is the primary pain generator, these tests will all be negative. However, these tests have significant clinical value in ruling out other pathology. SIJ dysfunction, as the cause of disabling and intractable pain, is a diagnosis of exclusion. Proper methods of

differential diagnosis must be followed to avoid overlooking other serious causes of low back and buttock pain including cancer, disc injuries, spinal stenosis, hip disease and fractures.

When the SIJ is the pain generator, the patient's pain complaint will always include buttock pain, specifically at the area of the SIJ sulcus. They may also complain of low back pain, groin pain, posterior thigh pain, sciatica, and foot pain on the affected side. If the problem is long standing, they probably will have been thoroughly "worked up" and report that everything is negative. Additionally, they may have been through one to more series of physical therapy, massage, chiropractic and/or Osteopathic manipulation, acupuncture, therapeutic injections and blocks. Many have been referred to pain management, undiagnosed, as a result of negative imaging studies. In the event that they had a finding on MRI or CT, they may have undergone surgery for which they report no relief of their pain complaints. This is most unfortunate for the patient, and at the least, frustrating for the physician trying to alleviate their pain.

The following list shows many possible etiologies of pain patterns similar to Symptomatic SIJ Dysfunction, findings associated with differential diagnosis, and

Etiology	Presentation of Pain	Imaging Studies	Clinical Evaluation	Expected Outcome
Herniated Nucleus Pulposus	Buttock, Radicular Pain	+ MRI	+ Neurological Eval.	Resolves with time, Select Nerve Root Block or Surgery
Spinal Stenosis	Low Back, Buttock, Radicular Pain	+ MRI, X-Rays	Spine Functionally Forward Flexed	PT, ESI or surgery helps
Spinal Instability	Positional Provoked Low Back/ Radicular	+ X-Ray, +/- MRI + Discogram	+/- Neurological Eval.	Relief achieved by Stabilization (PT/ Surgery)
Spondylolisthesis	Low Back and Radicular	+ X-Ray, +/- MRI	+/- Neurological Eval.	Relief achieved by Reduction & Stabilization (PT/ Surgery)
Facet Arthropathy	Low Back, Positional, and Anterior Hip	+ X-Ray, CT	Pain Increase with Rotation and Side bending	Relief with Facet Block
Hip Disease	Groin, Anterior Thigh	+ X-Ray, MRI	Reduced and Painful ROM	Relief with Appropriated Tx, Rx
Piriformis Syndrome	Buttock and Radicular	All Neg.	+/- Decrease Hip ROM, Palpation Positive	Trigger Point Injection, Botox Neuromuscular Re-Ed
SIJ Inflammation	Buttock	All Neg. Inc. Sed Rate	No Positional Relief	NSAIDS provide Relief
Pelvic Cancer	Local, Radicular	+ X-Ray, MRI	Painful Bone Palpation	Oncology Tx, Rare Remission
Gyne. Disease	Low Back, Buttock, Pelvic, Groin, Thigh	+ Pelvic MRI, Ultra Sound	Palpation, Cycle dependent, + Endoscopy	Intervention Dependent
Myofascial Pain	Low Back, Buttock, Groin, Pelvic, Thigh, Leg,	All Neg.	Active and Latent Trigger Pts, Perpetuating Factors	Complete Relief and return to function
Hip/Femur Dysfunction	Buttock, LB, Groin, Anterior Thigh, Hip	+/- X-ray, MRI	Decrease Passive and Active ROM	Complete Relief and return to function
SIJ Subluxation	Low Back, Buttock	All Negative	Joint Fixation + Supine to Sit and Forward Bend Test	Relief with Mobilization and Corrective Exercise
Joint dysfunction	Low Back, Buttock, Hip, Groin	All Negative	Hypo/ Hypermobility SIJ + Upslip, Downslip	Relief with Mobilization/ Stabilization Corrective Exercise
Symptomatic SIJ	Buttock, LB, Groin, Thigh, Leg, Psuedo Radicular	All Negative	- neuro, + Patricks, +Thrust, + Sulcus Pain, +/- One Leg Stance, + Sitting Position	SIJ Block Relieves Pain, Modify Lifestyle, Palliative Intervention Surgical Arthrodesis

likely response to therapeutic intervention.

From this list, one would hope practitioners would acknowledge the possibility of concomitant injuries or pathologies and seek appropriate differential diagnosis. It is not unreasonable that trauma sufficient to damage a disc could damage other nearby structures. Because disc and SI joint pathology so closely mimic each other, both must be clearly evaluated.

Patients will often report a traumatic event or specific event that precedes the onset of symptoms. However some patients will report vague and slow onset, in which case the practitioner has to get a thorough life history to detect previous life events.

Trauma	Non Traumatic	Other Considerations
Motor vehicle accident	Lifting while Twisting	Previous Spine Surgery
Slip and Fall	Gynecological Surgery	Repetitive Strain/Stress
Being Dropped	Labor and Delivery	Biomechanically Compromised
Direct Blow to the SIJ	Pregnancy	Chronic Muscle Imbalance
Pelvic Fracture	Rheumatoid Arthritis	Intense Athletic Activities

Patients with symptomatic, unresolved SIJ will typically report the following when asked about their activities:

Exacerbates Pain	Alleviates Pain	Avoids
Walking	Resting	Places they have to Sit
Sitting	Sitting on opposite buttock	Climbing Stairs
Turning over in Bed	Heat on Gluteal Muscles	Walking long distances
Climbing Stairs	Treating Myofascial Trigger Points	Sudden Movements
Emotional Stress	Relaxation Therapy Methods	Emotional Stress

The following is a list of clinical tests practitioners can use to determine if failure to respond to appropriate treatment is due to undiagnosed SIJ syndrome and to incorporate into the practitioners current methods for evaluating low back and buttock pain.

Test	Normal	SIJ Syndrome	Herniated Disk	Myofascial Pain Syndrome
Sitting	Even Weight	Uneven, avoids sitting on affected side, Hip Hikes	Even	Even, May Avoid, May have Pain
Standing	Even Weight	Uneven, Toe touching on affected side, Hip Hikes	Uneven Weight	Can be +/- for symptoms
One Leg Stand	Negative Trendelenburg Not Hesitant	Hesitant, May reports Knee gives out on affected side.	Hesitant, Painful	Can be +/- for symptoms
SLR	90 Degrees	Normal with passive lift	Reduced	Normal
FABER	Full ROM, No pain	Painful at SIJ Sulcus	Negative	Usually Normal
Thrust	No Pain	Painful at SIJ	Negative	No pain

Sulcus Palpation	No Pain	Profound Pain	Negative	+/- For pain
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