

THREE CASE STUDIES:

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CASE 1.

DOWNSLIP ILIUM WITH PARADOXICAL UPSLIP ILIUM APPEARANCE

Upslip and Downslip Ilium are patterns of sacroiliac joint (SIJ) dysfunction (SIJD) that are commonly described in the literature.¹ They are opposite dysfunctions in which the ilium moves up or down and remains fixated in a position that produces pain, strain and movement dysfunction, until passively corrected. A case is presented in which an adolescent presented with severe low back pain and occasional abdominal pain with a bizarre gait pattern. Extensive medical workup was non productive. A clinician diagnosed Ilium Upslip on the basis of appearance only, and treated him making him worse. The case illustrated the paradoxical presentation in which Ilium Upslip is misdiagnosed on the basis of appearance, when the actual mechanical dysfunction is its opposite; Ilium Downslip. The muscle guarding of the quadratus lumborum and external oblique muscles seem to occur as an ineffective strategy to stabilize the symptomatic side. Palpation of the sacrotuberous ligament revealed hypertonicity, and *Hesch Springing with Awareness*^{2, 3} demonstrated that inferior spring to the posterior iliac shelf enhanced pain with discernable hypermobility, and superior spring to the ischial tuberosity indicated blocked mobility. Treatment utilized low-load long duration creep, the force being maintained for five minutes, in a position that approximated the combined planes of the joint. Resolution was realized in two visits and the client was asymptomatic for nine months. This case is posted on www.YouTube.com as *Downslip Ilium That Looks Like Upslip: Parts I-III*. The use of visual diagnosis is discouraged on the basis of a false positive conclusion, whereas tests that have a greater utility and reliability are encouraged, such as *Hesch Springing with Awareness* and ligament palpation.⁴ Posting videos on Www.YouTube.com is a very economical way of sharing novel interventions with the medical community.

CASE 2:

SYMPHYSIS PUBIS AND SACROILIAC JOINT MOBILIZATION: INFLUENCE ON PUDENDAL NEUROPATHY WITH INTERSTITIAL CYSTITIS AND BLADDER DYSFUNCTION

This case is an unusual form of pudendal neuropathy (PN) with coexisting sacroiliac joint (SIJ) dysfunction (SIJD). The pudendal nerves traverse the greater and lesser sciatic notches and are therefore vulnerable to mechanical insult in the presence of mechanical dysfunction of the SIJ, symphysis pubis, coccyx, hip joint, and related soft tissues (see figs. 1, 2). The client was undergoing pelvic floor rehabilitation with a Physical Therapy Women's Health Specialist, and was referred for Hesch Method Advanced Manual Therapy SIJ evaluation and treatment. The SIJ and symphysis pubis presentation was atypical and has not been described in the literature, but is described in the Hesch Method Advanced Distance Learning Course.⁵ Mechanical SIJD was concomitant to pelvic floor dysfunction, with severe and constant neuropathic itch in the pubic and anal regions, and severe disabling urge incontinence of sudden onset. Findings on exam using *Hesch Method Springing with Awareness*⁶ and advanced palpatory tests revealed that she had a very complex presentation, which underwent several permutations in the process of resolution. Hence, initial pathomechanical diagnosis is only a starting point, and reassessment is an ongoing process. This included depression of the symphysis pubis fibrocartilage, left Upslip Ilium fixation and right Downslip Ilium fixation with resultant apparent leg length discrepancy. The client habitually placed 80 pounds more weight on her right leg than left during her normal stance, per bilateral integrated digital scale. She also had a posterior glide fixation of the sacrum, transverse plane rotation of the pelvis, hip, and trunk. Her presentation also included treatable restriction of right hip extension, Anterior Rotation of the Right Pubic Bone, and a pattern named Lower Pelvic Wind Swept Pelvis. The Wind Swept Lower Pelvis pattern consisted of several components named Left Lateral Ischium, Right Medial Ischium, External Rotation of the Right Lower Hemipelvis, and Internal Rotation of the Left Lower Hemipelvis. This seemingly paradoxical pattern is detailed in the www.YouTube.com video titled: *Sacroiliac Pelvis Lower Half*.

All fixations were mobilized successfully within a total of three visits utilizing prolonged viscoelastic creep after which, the ligament tone was rendered symmetrical, and joint spring tests were WNL. When symmetry of position, mobility, and stability was achieved, the client experienced a significant and lasting reduction in symptoms. A rating of the itch intensity reduced from a 6/10 to a 3/10. The client reported resolution of mild interstitial cystitis symptoms, specifically; no pain, greater bladder capacity, and reduced frequency of voiding. The client reported that bladder function was better than it had been for the prior 25 years. It is theorized that the treatment enhanced normative 3-dimensional space within the greater and lesser sciatic notch bilaterally, and may have reduced tension along the pathway of the sacral nerve roots and the pudendal nerve, (see figs. 1, 2) and also may have enhanced balance of tone of the pelvic floor. Perhaps restoration of normative anterior positioning of the sacrum reduced tension or compression of the sacral nerve roots which was also enhanced by the Tarlov Cysts, perhaps acting as a sacral Double Crush injury.¹ This may have also reduced direct tension on the bladder via relaxation of the pubococcygeus portion of the pelvic floor, which does envelope the bladder.

Sometime later MR Neurography revealed Tarlov Cysts (7.0mm left, 26mm right) in the sacral canal impinging on the S2 nerve roots, and bilateral irritation of the pudendal nerve beginning above the

level of the ischial spine, right greater than left, markedly asymmetric pelvic floor musculature, with the right side demonstrating thickening and flattening compared to the left, and a bipartite piriformis muscle bilaterally, hypertrophied on the right, therefore compromising the space in the greater sciatic notch. The pudendal nerve per the MR neurography was described as being “irritated”. This may also explain the finding of right sided atrophy of the gluteus maximus muscle. Current medical thought is that the Tarlov Cysts and the purported pudendal entrapment/irritation both contribute to her residual symptoms. This case is presented on www.YouTube.com as: *Pudendal Neuropathy, Interstitial Cystitis, Lower S-I & Symphysis Pubis* Parts 1-6. The client is now 8 months post treatment and is continuing to pursue a work up and treatment options with hopes of fully resolving the neuropathic itch. This case demonstrates the intersection of mechanical dysfunction with actual pathology and how treating the former can be helpful with the latter. It also shows the value of evaluating and treating patterns of sacroiliac and symphysis pubis joint dysfunction that are not described in the traditional literature, and reinforces the value of social media such as You Tube in sharing unique case studies. Furthermore, it reinforces the value of a team approach in complex presentation, and the fact that brief manual therapy intervention of three visits can have lasting benefit.

CASE 3.

NEW TEST FOR INTRA-INGUINAL PERIPHERAL NEUROPATHY

This case describes a novel internal sensory evaluation of three intra/para-inguinal* nerves, in order to screen for painful, traumatic, peripheral neuropathies (PN). Although rare, a few peripheral sensory nerves innervate both superficial and deep regions of the body and are accessible digitally. This case describes severe, progressive, traumatic para-inguinal PN. Pain in the inguinal region has frequently been described as a component of sacroiliac joint dysfunction (SIJD). Perhaps the earliest reference is the description of Baer's point (early 1900's). Baer's point is a tender point in the lower abdominal wall, which is a location of pain referral, perhaps from the anterior capsule of the SIJ, or the iliopsoas muscle. Clinician's should be mindful of other medical conditions that share myotomal, dermatomal and peripheral nerve sensory regions, with SIJD referred pain. For example, McBurney's point is oftentimes contrasted with Baer's point, the former indicative of gall bladder disease. Other medical conditions with lower abdominal/inguinal pain are: inguinal hernia, psoas abscess, micro or macro tears of the external oblique abdominal tendon, iliopsoas injury, traumatic PN, osteitis pubis, sportsman's hernia, referred hip pain, etc., among others. The overlapping dermatomes and sensory nerves makes for considerable complexity, further complicated by the fact that this region has contributions from the T12, L1, L2, L3 levels, and medially; the S2-3-4 levels from the pudendal nerve distribution.

In response to a very painful digital exam to rule out inguinal hernia, this author was astonished to recognize immediately and empirically, that the problem was one of a traumatic deep and superficial PN, involving the ilioinguinal, iliohypogastric and genitofemoral nerves (see Fig 3, 4). This insight was antithetical to a long held belief, perhaps reinforced by inadequate diagnostic work up and failed treatment of 32 years duration. Attempts at self treatment were equally vexatious, and part of the sensory interpretation was that of SIJ and symphysis pubis instability. It seemed that the injury was a non-treatable damage to the sacral plexus, or ganglion (see fig 5), with both deep and superficial expression. However, the internal hernia screen defined a very specifically localized tangible, tactile-available, intra-inguinal PN pathology. This serendipitous discovery greatly enhanced the author's optimism for recovery. The condition had worsened over time in response to several traumatic events and removal of bone from the anterior ilium proximal to the ASIS, which has been reported to contribute to a lateral sensory branch ilioinguinal neuropathy.⁷ Diagnosis had been elusive, in spite of consultation with many clinicians and specialists over the course of 32 years. These nerves are formed in very close proximity of the psoas muscle and biomechanical dysfunction of the pelvis and SIJ, enhanced the pain. For a period of time, addressing the movement dysfunctions of the pelvis and SIJ helped to reduce PN pain, though over time it became progressively worse, and ultimately became non-responsive to conservative care. This pain is profound due to the significant sensitivity of the region, which innervates the inguinal ligament, spermatic cord, symphysis pubis and proximal skin, and partial innervation of the testicle. Furthermore, there is no motion that does not involve the abdominal wall, thus pain is unyielding. Even turning in bed would awaken one, thus interfering with restorative sleep.

A very successful surgical intervention was performed; a triple neurectomy. This was superficial and it was performed proximally to Baer's point, where the 3 para-inguinal nerves enter the lesser opening of the inguinal canal. The three year post-operative status boasts continued significant improvement with no regrets, and with occasional mild, proximal deep abdominal discomfort only, and occasional peripheral paraesthesia in the distribution of the femoral portion of the genitofemoral nerve. Noteworthy is the fact that the denervation is not a hinderance to ADL's, or normative function. The

pelvic and SIJD is now much more manageable with respect to movement dysfunction, pain, and stability.

Muscle guarding associated with a para-inguinal PN can mimic SIJD with a symptomatic Baer's Point. Clinicians are encouraged to consider other proximal causes when screening for SIJD, and to consider screening the superficial and deep para-inguinal nerves when in the presence of the apparent pelvic, symphysis pubis and SIJD; in which pain control of the inguinal region is vexaciously elusive. It is hoped that this novel diagnostic tool will prevent protracted suffering, as successful surgical techniques are indeed available, yet not commonly appreciated by many medical practitioners. It is also hoped that the www.YouTube.com video titled: *Ilioinguinal Iliohypogastric and Genitofemoral Nerve Eval*, will assist in these goals. The author scoured the literature and a major textbook on hernias to determine whether or not the novel test was already in use. Communication with a well published expert on hernia surgery and para-inguinal neurectomy supported the novel nature of the test, stating "To my knowledge there is no scientific publication in the surgical literature regarding your approach."⁸ This author ponders whether or not deep somatic representation on a pain drawing would more readily communicate these types of pathologies. To that end work is being conducted to develop a 3-dimensional pain drawing; to be announced.

*Sometimes the genital portion of the genitofemoral nerve bypasses the inguinal canal, other times it accompanies the pathway of the ilioinguinal and iliohypogastric nerves throughout the inguinal canal. Much variation within these three nerves is the norm. If a peripheral neuropathy of these nerves lies proximal and external to the inguinal canal, it is appropriately referred to as para-inguinal, otherwise referred to as intra-inguinal.

¹Greenman PE. *Principles of Manual Medicine*. Baltimore, MD: Williams & Wilkins; 1989:225-270.

² Hesch J. Course workbook: The Hesch Method of Treating Sacroiliac Joint Dysfunction: Integrating the SI, Symphysis Pubis, Pelvis, Hip, and Lumbar Spine. Hesch Institute, Henderson, NV USA 2010.

³ Hesch J. Evaluating Sacroiliac Joint Play with Spring Tests. *J ObGyn PT*. 1996;20:3 4-7.

⁴ Olson L. Effects from the Hesch Method Pelvic Mobilization on Lumbar flexion, Straight Leg Raise Performance, and Standing Pelvic Inclination Angles in Patients With Low Back Pain. Chicago, IL: Finch University of Health Sciences/The Chicago Medical School; 1998, Thesis.

⁵ Hesch J. The Hesch Method Advanced Course: Distance Learning. Hesch institute 2010 Henderson, Nevada, USA.

⁶ Hesch J. Evaluation and Treatment of the Most Common Pattern of Sacroiliac Joint Dysfunction: In: *Movement, Stability & Low Back Pain: The Essential Role of the Pelvis*. Vleeming A, Mooney V, Dorman T, Snijders C, Stoeckart R, eds. London:Churchill Livingstone 1997: chap. 42; 535-552.

⁷ http://erikdalton.com/article_LowBack_Piriformis_SIjointpain.htm

⁸ Swenson MR, Rothrock JF. Ilioinguinal neuropathy after iliac crest biopsy. *Mayo Clin Proc*. 1986 Jul;61(7):604.

⁹Parviz K.Amid, FACS, FRCS. Personal communication, February 28, 2009.

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