

Report on Chronic Pelvic Pain Syndrome

The following is a report on an article related to Chronic Pelvic Pain Syndrome. It represents the author's interpretation of what is written therein, as of this date, in light of reference to anatomy texts and other information in the scientific literature.

Anatomical Basis of Chronic Pelvic Pain Syndrome: The Ischial Spine and Pudendal Nerve Entrapment

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Symptoms of prostatitis-like pain occur in 11% of American men, but 95% of those men do not have evidence attributable to infection (Robert et al, 1997). It is thought that much of this population may be suffering from chronic pelvic pain; one of the causes is attributed to pudendal nerve entrapment (PNE). This pain typically is aggravated by prolonged sitting, squatting, lifting in a squat position and standing from a squat position. "Treatment response is better in men who receive an early diagnosis and who meticulously avoid traumatic activities" (Antolak et al, 2001). Frequently, in men who exhibit pudendal neuropathy (signs of compression) the ischial spine has become elongated and orientated posteriorly (backward) (Roberts et al, 1997).

The striking features in all patients discussed in this report is that flexion activities of the hip (sitting, climbing, squatting, cycling and exercising) induce or aggravate the chronic pelvic pain or prostatitis-like pain. When detailed histories were taken, many of the men reported playing high-level sports as teenagers and young adults. Hypertrophy (enlargement) of muscles and stresses to the growing skeleton are two common occurrences in adolescent sport. Enlargement of one particular muscle (piriformis) may cause compression of the pudendal nerve between two of the key ligaments of the pelvis (sacrospinous and sacrotuberous ligaments) which attach to the ischial tuberosity (your 'sitting bone') below the sciatic notch (Williams & Wilkins (1986).

For the skeleton, this is a critical period of development for male adolescents, as the ossification centre of the ischial spine develops (13-15 years) and ossification of the ischial spines occurs between the ages of 23-25 years. Increased stress on bony developing sites (as occurs with heavy athletic endeavours, such as squatting in weight lifting, football, wrestling, is known to cause enlargement of ossification centres and chronic pain syndromes, such as Osgood-Schlatter disease, Sinding-Larsen-Johansson syndrome, and apophysitis of ischial tuberosity (Anderson et al, 1998; Bruckner & Kahn, 1993). Such syndromes are often attributed to overuse or repeated microtrauma in sport and in some cases can lead to avulsion injuries of growth centres (Anderson et al, 1998). Antolak et al (2001) agree, and comment that this critical period of development of ossification is when youth are heavily involved with athletic activities that induce hypertrophy of pelvic

floor muscles and the large extensors and rotators of the hip (including gluteal muscles and hamstrings). They argue that in these young athletes, anatomical changes are established that may lead to future chronic pelvic pain syndrome.

Athletic activities, over time, are known to have similar effects in women. Antolak et al (2001) report abnormal ischial spines in a female dancer and dance instructor, resulting in pelvic pain. Her abnormalities were attributed to years of repetitive flexion and extension of the hip, along with strong repeated pelvic floor muscle contractions.

In conclusion, chronic pelvic pain is often caused by compression of the pudendal nerve. This is often associated with bony abnormalities and/or hypertrophy of the related musculature, thus reducing the anatomical space in the sciatic notch and causing compression of the nerve in the narrowed space occupied by large ligaments and muscles. The long ischial spine also increases the distance over which the pudendal nerve may be stretched, causing repetitive microtrauma to the nerve (Antolak et al, 2001)..

What does this mean for the patient?

The recommended conservative treatment for these patients is to avoid those activities that aggravate their symptoms – squatting, lifting in the squat position, athletic activities that involve the squat position, etc. Sitting often aggravates their symptoms, so the person is encouraged to minimise the time sitting, taking frequent breaks, and to adopt a position in sitting which relieves pressure on the ischial spines. These patients report relief of symptoms with standing or lying down.

It may therefore be reasonable to assume that a patient who has a known chronic pelvic pain syndrome (as a result of bony abnormalities or hypertrophic musculature) will not tolerate sitting on a standard saddle seat, whether one-piece or divided (as with Salli seat). They certainly would not tolerate a racing bicycle seat, as the forward flexed position required for cycling would increase pressure in the region of the groin and potentially increase compression of the pudendal nerve.

It may be that the newly designed “Bambach Executive Saddle Seat” would be acceptable to patients with chronic pelvic pain syndrome (CPPS), as it was designed for those who have lost joint mobility and has specifically designed features to answer those problems; it may be shown to be comfortable for CPPS who have bony abnormalities and/or muscle hypertrophy.

Case studies on hand may answer this question; if there are no known case studies on file at present, further research should be undertaken with clients with known pudendal nerve entrapment problems to assess their tolerance to the modified seating position offered by the “Bambach Executive saddle Seat”..

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