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Down under, top relevant: pelvic floor dysfunction problems in patients with coccygeal, hip and low back pain

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Abstract

The pelvic floor muscles (PFMs) play an important role in maintaining continence, supporting the bladder, bowel and uterus, enjoying a satisfying sex life, and providing functional stability to the core and pelvis. The unique skills of pelvic floor physiotherapists mean that they are the most appropriate specialists to diagnose and treat both male and female patients who exhibit the most frequently occurring symptoms of PFM dysfunction. Generally, patients with coccygeal, hip and low back pain (LBP) are not referred to a specialist pelvic floor physiotherapist, and are typically only seen by a musculoskeletal, manual or sports physiotherapist. The usual care given is solely focused on the symptoms discussed during the subjective assessment, which hardly ever, or never, includes questions about the patient's bladder, bowels and sex life. Consequently, important factors are missed, and such individuals can suffer from chronic pain. These patients become a burden to themselves and society, and incur greater healthcare costs. Musculoskeletal physiotherapists are often unaware of the roles played by the PFMs and intra-abdominal pressure. The aim of this paper is to encourage pelvic floor physiotherapists to motivate and educate their colleagues who work in other physiotherapy specialities in order to increase their awareness of and ability to recognize pelvic floor problems in individuals with coccygeal, hip and LBP, and refer appropriate patients for a specialized assessment.

Keywords: coccydynia, intra-abdominal pressure, low back pain, pelvic floor muscles.

Introduction

The pelvic floor muscles (PFMs) play an important role in: maintaining continence; supporting the bladder, bowel and uterus; enjoying a satisfying sex life; and providing functional stability to the core and pelvis. The present paper focuses on increasing the awareness of and ability to recognize pelvic floor dysfunction as a limiting factor in patients with coccygeal, hip and low back pain (LBP).

The role of the pelvic floor muscles (PFMs) has been described in patients with bladder, bowel and sexual dysfunction, and also in those with pelvic organ prolapse and pelvic pain. In general, most treatment options focus on training

the PFMs with the aim of strengthening the musculature. Very few studies have described these training methods in detail; however, a standard training regimen with no progressive increase in intensity is usually used throughout the whole treatment protocol.

The unique skills of pelvic floor physiotherapists mean that they are the most appropriate specialists to diagnose and treat both male and female patients who exhibit the most frequently occurring symptoms of PFM dysfunction. The present author discusses other problems that may also be relevant to the work of pelvic floor physiotherapists, ones that should give them cause to consider making a referral for specialist assessment; for example, peripartum pelvic instability, and pelvic, coccygeal, hip and LBP.

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Low back pain

Low back pain is one of the most common conditions affecting all populations worldwide, with 70–80% of people experiencing at least one episode during their lifetime (Ehrlich 2003). The role of PFM dysfunction has been related to the development of lumbopelvic pain (Sapsford & Hodges 2001; Sapsford 2004). The PFMs are generally accepted as part of the trunk stability mechanism. It is also hypothesized that PFM dysfunction causes a deficit in force-closure mechanisms, resulting in impaired load transfer and pain in the lumbopelvic area (Pool-Goudzwaard *et al.* 2004, 2005).

In pregnancy-related pelvic pain, a difference in PFM tone has been identified with three-dimensional ultrasound imaging (Stuge *et al.* 2013). Links between urinary incontinence and LBP have also been demonstrated (Eliasson *et al.* 2008).

However, many published studies have limitations. For example, in some, assessments were performed in order to diagnose PFM weakness, but no consideration was given to basic muscle tone. Movement of the urethra was measured with transabdominal ultrasound; however, most of the researchers taking the measurements did not have specific training in pelvic floor physiotherapy. The assessments did not include any questions about bladder and bowel dysfunction, prolapse symptoms, or sexual disorders such as dyspareunia.

Hip pain

Although the symptoms of hip dysfunction with groin pain in the running athlete have been described, and related to osteoarthritis, piriformis syndrome or shortening of the iliopsoas, Franken-Osterman (2014) suggested that it is seldom recognized that there may be a relationship between hip pain, and either the iliotibial band or faecal urgency.

Coccydynia

Coccydynia is a painful condition that is localized in the coccygeal region. Although some patients with coccydynia cannot remember undergoing any trauma, most describe some form of injury in their history. For example, coccygeal pain can result from a fall or the delivery of a child (Aggarwal *et al.* 2013). Coccydynia can also be the result of the referral of pain from the viscera (e.g. rectal disorders or urogenital problems).

The symptoms of coccydynia include pain after prolonged sitting, standing up and cycling. Sitting is often only possible asymmetrically. A combination of dyspareunia and piriformis syndrome is frequently presented, often with associated painful defecation or constipation. These symptoms are mostly associated with high tone in the levator ani musculature, and the condition has been given a number of different names, such as overactivity, stiffness or shortening of the PFMs.

The coccyx contains between three and five vertebrae, and is between 1.8 and 8.2 cm shorter in women than in men (Lirette *et al.* 2014). The levator ani, coccygeus, anal sphincter and gluteus maximus muscles are responsible for the movement of the coccyx. Forming part of the triangle with the ischial tuberosity, the function of the coccyx is to distribute the weight and support the anus (Lirette *et al.* 2014). It also optimizes the function of the pelvic floor.

The therapeutic options for coccydynia include the use of special cushions, pain medication and local neural blocks, but there is no “gold standard” treatment. Manipulations are only described internally. Surgical coccygectomy may result in variable outcomes.

The role of the PFMs in coccydynia has seldom been described. Pelvic floor physiotherapists recognize that these muscles may have a higher tone as a result of coccygeal pain. Non-invasive mobilization of the coccyx (NIMOC), a new technique developed by Veldman & Röst (2012) and modified by Lohof-Venema (2014), has produced positive clinical results. Performed while

the patient is sitting down and relaxed, NIMOC involves moving the whole of the upper body in the frontal and horizontal planes in the direction of the coccyx. The massage bench is the fixed point in this powerful form of mobilization.

Anderson *et al.* (2011) described a soft-tissue mobilization technique combined with trigger point release for the known movement chains that are affected by the coccydynia. Although research studies need to be performed, the clinical evidence is remarkable, and the outlook for the future is very hopeful. This is a very simple and gentle mobilization technique that is easy for pelvic floor physiotherapists to learn.

Intra-abdominal pressure

Many studies describe the contribution of intra-abdominal pressure to incontinence and pelvic organ prolapse (Slieker-ten Hove *et al.* 2008). Unfortunately, few general or sports physiotherapists are aware of or using this knowledge when training their patients and athletes. The Continence Foundation of Australia (www.pelvicfloorfirst.org.au) and the ProFundum Institute in the Netherlands (<https://bekkenbodemeerst.nl>) have begun new initiatives using pelvic floor physiotherapists as advocates to motivate physiotherapists in other specialities to understand the associated risks to athletes.

Conclusion

Pelvic floor physiotherapists need to educate their colleagues who specialize in musculoskeletal, manual and sports physiotherapy in order to increase their awareness of and ability to recognize possible PFM dysfunction manifesting as symptoms of coccydynia, hip or LBP, rather than the more frequently recognized complaints of incontinence or prolapse.

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