## The Role of Pelvic Floor Physical Therapy for the Female Patient



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#### **KEYWORDS**

- Pelvic floor Pelvic pain Physical therapy Incontinence Dyspareunia
- Pelvic evaluation

### **KEY POINTS**

- As the understanding of female pelvic floor dysfunction expands, both in a general sense and as it relates to pregnancy, there is an ever-growing need to recognize the important role that physical therapists can play in the support of regular obstetric and gynecologic care.
- Physical therapy has many benefits and is a less-invasive and well-tolerated supplement to traditional medical interventions for obstetric and gynecologic patients.
- Understanding the role that these practitioners can play in the recovery and treatment process can be a valuable addition to the patient's team of allies. Prevention and early intervention through a physical therapist can be effective in reducing the patient's risk for many of the diagnoses discussed.

#### INTRODUCTION

As the understanding of female pelvic floor dysfunction expands, both in a general sense and as it relates to pregnancy, there is an ever-growing need to recognize the important role that physical therapists (PTs) can play in the support of regular obstetric and gynecologic care. The purpose of this article is to impart a deeper understanding and awareness of the bony and pelvic floor muscle (PFM) anatomy, the physical therapy examination of the PFM, and commonly seen diagnoses that can be helped by physical therapy.

#### ANATOMY

The bones of the pelvis consist of the sacrum, coccyx, and 2 innominate bones.<sup>1</sup> The innominate is formed by the joining of the ilium, ischium, and pubis with the central

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fusion point being the acetabulum. The bony anatomy of the pelvis creates the framework for the support and function of the muscular pelvic floor and abdomen. Within the pelvis, there is an inherent stability secondary to the structural formation of the sacroiliac joint and the pubic symphysis. The structure here helps to establish the form closure of these joints creating a solid platform on which to build.

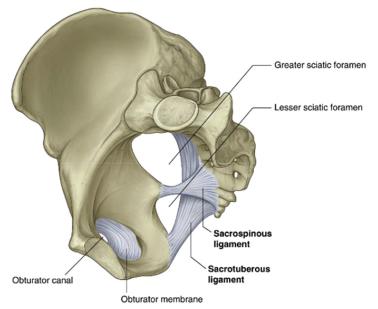
The ligamentous support of the lumbopelvic-hip complex is vast and serves to create even further stability. Although there are many significant ligaments in this region, the sacrotuberous<sup>2</sup> and sacrospinous<sup>3</sup> ligaments are the 2 most commonly associated with pain, limitations, and neural dysfunction (Fig. 1).

The PFMs are divided into 3 layers and are discussed from the most superficial to the deepest. Within layer 1 will be found the bulbocavernosus (also called bulbospongiosus), ischiocavernosus, superficial transverse perineal, and external anal sphincter muscles<sup>1</sup> (Fig. 2).

Layer 2 is commonly associated with layer 1 because it underlies the first layer in a very similar arrangement. Here, the deep transverse perineal, sphincter urethrovaginalis, compressor urethra, and external urethral sphincter muscles are located within the perineal membrane<sup>1</sup> (Fig. 3). The first 2 layers are commonly considered to be the "closer" muscles, and the primary function is sphincteric control for continence and sexual appreciation.<sup>3</sup>

Within layer 3 are found the levator ani group (pubococcygeus and iliococcygeus muscles) and the coccygeus muscles (**Fig. 4**). This layer is considered the "lifter" muscles, and the primary function of layer 3 is support of the internal pelvic organs, vagina,<sup>4</sup> and rectum.

Although not directly part of the PFM, the obturator internus (OI) and piriformis muscles are associated with PFM function and dysfunction. The OI forms the anterolateral wall of the pelvis, and the iliococcygeus of the levator ani attaches to it laterally via the



**Fig. 1.** Location of sacrospinous and sacrotuberous ligaments with associated foraminal openings. (*From* Drake RL, VogI AW, Mitchell A. Pelvis and perineum. In: Gray's anatomy for students. 3rd edition. Elsevier: Philadelphia; 2015. p. 450; with permission.)

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