

Physical Therapy for Pelvic Floor Dysfunction

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Although the field of physical therapy began during the polio epidemic, the sub-discipline of Women's Health Physical Therapy¹ is only approximately 30 years old. Until recently, specialized training in women's health for physical therapists was available only on a post-graduate level. The American Physical Association sanctioned Board certification² for the first time in 2009. Those who pass the exam will be deemed to have professional expertise in the management of urinary incontinence, pelvic pain, pregnancy-related pain, lymphedema that occurs following surgery for breast cancer, and pelvic pain.³

Pelvic floor muscle dysfunction or chronic pelvic pain are not normal consequences of the aging process. For example, vaginismus may occur in the teen years when girls attempt to use tampons and/or during their initial gynecological examination. Pregnancy may be accompanied by bowel and/or bladder problems as hormonal changes result in support dysfunction or muscle weakness. These changes may also occur along the aging continuum as a consequence of decreased muscle use and decreased activity levels. This article will discuss the physical therapy management of women who present with pelvic floor dysfunction or pelvic pain.

There are two main findings during a physical therapy examination for women with pelvic floor muscle disorders: supportive dysfunction and hypertonus dysfunction. Supportive dysfunctions occur as a result of the loss of nerve, muscle, ligament, or fascial integrity of the pelvic floor muscles resulting in weakness and laxity. Weak supportive dysfunctions could be caused by injury incurred during childbearing or gynecologic surgery, chronic constipation, chronic coughing, obesity, or hormonal changes. A hypertonus dysfunction can cause symptoms of pain in the abdominal area, back, or vulvar region. Patients may report burning, itching, dyspareunia, urinary urgency and leakage, or constipation. Interestingly, both supportive and hypertonus dysfunction contribute

to bowel and bladder incontinence, pelvic pain or pressure, and back pain.

EVALUATION OF PELVIC FLOOR MUSCLE DISORDERS

When a patient is referred to physical therapy, the typical management process includes examination, evaluation, diagnosis of impairments, and determination of prognosis and interventional plan of care.⁴ Impairments may include weakness, pain, decreased range of motion, and functional limitations. Interventions may include therapeutic exercises⁵ for strengthening, education of behavioral changes, orthotics, biofeedback and electrical stimulation.

A physical therapist will complete a thorough examination before designing an interventional plan. Patient history will include general demographics including primary language and race/ethnicity so that there is no language barrier that can impede treatment⁶ and all verbal and written instruction will be appropriate for the patient. An understanding of ethnic beliefs and traditions may alter the treatment approach and dictate the education component. In some cultures, discussion of female pelvic anatomy is limited, even taboo. The patient's occupation may indicate the need for behavioral modifications. For example, jobs that require prolonged standing or sitting require postural awareness, particularly with patients with chronic pelvic pain. Functional status, activity level, ability and willingness to participate and to be compliant are important to note when setting patient goals. An elder's living environment⁷ may be a cause of incontinence if functional mobility or the need for an assistive device such as a walker impedes toileting. Impaired mobility, combined with urinary urgency and frequency, are safety concerns. A bedside commode at night can enhance safety and promote continence.

Determination of variables such as the onset of the current condition, what prompted the patient to seek medical consultation, past interventions or surger-

ies, as well as the expectations or goals of the patient, will guide the plan of care. A review of all medications is necessary. For example, diuretic use by the patient needs to be considered in the behavioral management of urinary incontinence, particularly in timing activities and overall outcome expectations. A review of all laboratory and diagnostic testing (e.g. urodynamics, cystoscopy, defecogram, MRI) are important as well as bowel, bladder, nutrition and hydration diaries. The patient's medical history, as well as current medical status, are required to understand the connection of pre-existing conditions and outcome. An underlying neurological condition may dictate a course of management rather than a resolution of the urinary concern. A patient's perception of her general health; psychological issues including anxiety, depression, impaired memory; and habits including smoking and exercise all are considered in forming a physical therapy plan of care.

Following history and systems review, additional PT tests and measurements are completed. These may include assessment of the pelvic floor⁸ with external observation for anomalies, skin integrity, palpation for tender points or trigger points, pain location, neurological tests, strength grading by manual muscle test of superficial and deep muscles. Examination also includes the evaluation of endurance, relaxation, and contraction speed of the pelvic muscles. **Surface electromyography (EMG)** is used to assess the muscle tone. The patient's breathing pattern at rest and during activity would be observed. Breathing dysfunction is commonly seen with pelvic floor dysfunction; the increased intra-abdominal pressure and straining contribute to the pelvic floor dysfunction. More tests⁹ may include musculoskeletal assessment of posture, spinal flexibility, abdominal and back strength/stability, as well as assessment of lower extremity strength, range of motion and length. A relatively new technique, real time ultrasound, is used to observe muscle function during ac-

tivities, as well as a means to provide biofeedback as a treatment.¹⁰ As examination progresses, identification of additional impairments would require referral to other medical practitioners. The physical therapy plan of care will outline a specific physical therapy diagnosis.

TREATMENT OF PELVIC FLOOR MUSCLE DISORDERS

Direct interventions prescribed by physical therapists are evidence-based and include the following elements: coordination of care, communication and documentation, patient education and direct intervention. The primary intervention prescribed by physical therapists has always been therapeutic exercise.¹¹ These include core strengthening of abdominal muscles, postural and pelvic floor muscles. Breathing and relaxation exercises are typical key components for every patient. Relaxation involves the quieting of the autonomic nervous system and includes visualization,¹² soft tissue mobilization, heat modalities and positioning. Scar management (abdominal or perineal) includes soft tissue mobilization, application of heat or cold, and therapeutic ultrasound. Manual therapy techniques include myofascial release, trigger point release, soft tissue mobilization and massage.¹³ Active stretching and specific tissue stretching may be completed with vaginal dilators.

Methods of strengthening may include electrical stimulation, muscle re-education using biofeedback techniques, or instruction in the use of vaginal weights.¹⁴ Biofeedback involves the use of external or internal sensors that record levels of muscle activity that are displayed on a computer as the patient performs exercises. This visual technique can provide motivational support as it increases the awareness of correct muscle contractions in various positions. Electrical stimulation is used to correct incoordination. In the treatment of overactive bladder electrical stimulation is used to inhibit and decrease unstable detrusor contractions. Electrical stimulation is contraindicated for patients for whom there is urinary retention or post void residual volume > 200 cc. Electrical stimulation is also contraindicated for women during pregnancy and may not be effective with patients who are obese.

SUMMARY

This article has summarized the assessment of a woman with pelvic floor muscle dysfunction or pain complaints and has briefly described the interventions used to treat women with these concerns. The American Physical Therapy Association explains: "As a woman in today's world, you enjoy a life of many choices. The choices we make will determine the way we use our body through the decades. A physical therapist will be there for you as you progress through all stages of your life."

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