INTRODUCTION OF NEW NOMENCLATURE

In 2003, the International Society for the Study of Vulvovaginal Disease (ISSVD) defined vulvodynia as ‘vulvar discomfort, most often described as burning pain, occurring in the absence of relevant visible findings or a specific, clinically identifiable, neurologic disorder’. This terminology served to acknowledge vulvar pain as a real disorder but fell short of classifying the syndrome as anything more than idiopathic pain. At that time, little was known about the pathophysiologic mechanisms that cause vulvodynia and treatment options were limited. Over the past decade, researchers have identified several causes of vulvodynia as well as associated factors/impairments. This identification resulted in the need to develop a new classification system to guide physicians toward better diagnosis and treatment. Last year the ISSVD, the International Society for the Study of Women’s Sexual Health, and the International Pelvic Pain Society came together to review the evidence and publish the 2015 Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia. Individuals from the American College of Obstetrics and Gynecology, American Society for Colposcopy and Cervical Pathology, and the National Vulvodynia Society also participated.1
The 3 societies reviewed the evidence and determined that persistent vulvar pain caused by a specific disorder can be categorized into 7 different groups, with vulvodynia as a distinct separate entity of vulvar pain not caused by a specific disorder (Box 1). In addition, 8 factors/impairments were shown to be associated with vulvodynia, though the research does not yet support if these factors are a cause or an effect (Box 2). The final consensus and conclusion was that “vulvodynia is not one disease but a constellation of symptoms of several (sometimes overlapping) disease processes, which will benefit best from a range of treatments based on individual presentations.” Although each case of vulvodynia is different, there is one underlying common component in these women that can cause significant pain and functional limitations: the pelvic floor muscles, which are the focus of this article.

PREVALENCE OF MUSCULOSKELETAL IMPAIRMENTS IN WOMEN WITH VULVODYNIA

When clinicians think of pelvic floor disorders, low-tone disorders associated with stress urinary incontinence, pelvic organ prolapse, the peripartum period, and menopause often come to mind. The treatment solution is often saying do your Kegels. Over the past 2 decades, numerous, repeated studies have concluded that high-tone or hypertonic pelvic floor muscles are associated with pelvic pain disorders and dyspareunia, including vulvodynia.2–5 Although it may be less common to think of high-tone or overactive pelvic floor disorders, these disorders affect roughly 16% of women. Currently it is estimated that 10 million women have chronic pelvic pain; less than 70% will receive a proper diagnosis, and 61% will remain undiagnosed.5 Reissing and colleagues6 reported that 90% of women diagnosed with provoked vestibulodynia demonstrated pelvic floor dysfunction. In 2015, Witzeman and colleagues7–9 conducted a proof-of-concept study to determine mucosal versus muscle pain sensitivity in women with provoked vestibulodynia. They concluded mucosal measures alone may not sufficiently capture the spectrum of the clinical pain report.

**Box 1**

**2015 Consensus terminology and classification of persistent vulvar pain and vulvodynia**

<table>
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<th>Category</th>
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| A. Vulvar pain caused by a specific disordera | - Infectious (eg, recurrent candidiasis, herpes)  
- Inflammatory (eg, lichen sclerosis, lichen planus, immunobullous disorders)  
- Neoplastic (eg, Paget disease, squamous cell carcinoma)  
- Neurologic (eg, postherpetic neuralgia, nerve compression or nerve injury, neuroma)  
- Iatrogenic (eg, postoperative, chemotherapy, radiation)  
- Hormonal deficiencies (eg, genitourinary syndrome of menopause [vulvovaginal atrophy], lactational amenorrhea) |
| B. Vulvodynia: vulvar pain of at least 3 months’ duration, without a clear identifiable cause, which may have potential associated factors; The following are the descriptors: | - Localized (eg, vestibulodynia, clitorodynia) or generalized or mixed (localized and generalized)  
- Provoked (eg, insertional, contact) or spontaneous or mixed (provoked and spontaneous)  
- Onset (primary or secondary)  
- Temporal pattern (intermittent, persistent, constant, immediate, delayed) |

*aWomen may have both a specific disorder (eg, lichen sclerosis) and vulvodynia.  
in woman with provoked vestibulodynia, which is consistent with the success of physical therapy in this population. Although it is not routine for a gynecology examination to include a screening of the pelvic floor muscles, tissues, and nerves, a simple screening can be a useful tool and is described in this article. Identifying musculoskeletal dysfunction will enable gynecologists to determine if their patients are good candidates for pelvic floor physical therapy. Additionally, this article describes the components of physical therapy evaluation and reviews the evidence for physical therapy treatment.

**PELVIC FLOOR ANATOMY AND PHYSIOLOGY**

The pelvic floor muscles are grouped as superficial or deep. The superficial muscles, also known as the urogenital diaphragm, include the bulbospongiosus, ischiocavernosus, the superficial transverse perineal muscles, and the urethral and anal sphincter muscles. These muscles, shown in Fig. 1, are more commonly associated with vulvar pain syndromes. The deep layer consists of the levator ani muscle group and the coccygeus. Additionally, the obturator internus and piriformis muscles play a role in pelvic floor muscle function. The pelvic floor has unique innervation and is never completely at rest, which helps us maintain continence but also comes with certain consequences in the face of dysfunction and treatment.

The pelvic floor muscles are innervated by sacral nerve roots, the pudendal nerve, and the levator ani nerve. There is slight controversy over specific innervation of the pelvic floor muscles, and naturally anatomic variance exists. For the sake of this article, the author discusses the anatomy in a manner that is clinically relevant. The pudendal nerve arises from S2 to 4 nerve roots and is responsible for sensation for part of the vulva and vestibule, distal portion of the urethra and rectum, anal sphincter, perineum, vaginal mucosa, and pelvic floor muscles. It is a unique, mixed nerve with autonomic fibers in addition to its sensory and motor components. Pudendal neuralgia can be a cause and/or effect of pelvic floor dysfunction and vulvodynia and must be considered for an accurate differential diagnosis. Additionally, branches of the genitofemoral, ilioinguinal, iliohypogastric, and posterior femoral cutaneous nerves are other important nerves for genital pain because of their sensory distribution (Fig. 2).
Fig. 1. Superficial muscles of the urogenital diaphragm. (From Prendergast SA, Rummer EH. Pelvic pain 101. In: Prendergast SA, Rummer EH, editors. Pelvic pain explained: what everyone needs to know. Lanham (MD): Rowman & Littlefield Publishers; 2016. p. 4; with permission.)

Fig. 2. Peripheral pelvic nerves. (From Jacobs D. Dermo neuro modulating: manual treatment for peripheral nerves and especially cutaneous nerves. 2016; with permission.)
The muscles of the pelvic floor and their fascia are responsible for urinary, bowel, and sexual function as well as support of the pelvic viscera. When these muscles become hypertonic, the symptoms that result are as numerous as their normal functions and manifest in a variety of combinations (Box 3).

The pelvic floor muscles and nerves can become impaired in several ways; the first step to understanding how patients developed pelvic pain is to begin with their history.

Although we know pelvic floor dysfunction is associated with vulvodynia, the pathophysiological processes are not fully understood. It is suspected that musculoskeletal dysfunction could arise via several different mechanisms (Box 4).

PATIENT HISTORY

As previously mentioned, multiple triggers of vulvodynia have been identified. The history is the perfect time to try to identify specific contributing factors to the development of vulvodynia in a symptomatic person. Box 5 lists the general categories of questions that are often included in a physical therapy evaluation. In addition to mechanistic questions, the physical therapy evaluation also includes a screening for central nervous system hypersensitivity/central sensitization. All pathophysiologic factors, whether a trigger of vulvodynia or a consequence of it, need to be taken into account to formulate an individualized assessment and successful multimodal treatment plan.

PHYSICAL THERAPY EXAMINATION

The information gathered from the history will help guide the physical therapy examination. A primary focus of this article is the pelvic floor muscles, and this component of the physical therapy examination can be replicated by the general gynecologist. In addition to the pelvic floor examination, physical therapy evaluations also include other relevant external static and dynamic components to identify specific impairments. Box 6 lists common components of the external physical therapy examination while the next section describes the internal examination in more detail.

The external musculoskeletal system can cause as much havoc on the vulva as the pelvic floor muscles, tissue, and nerves. Connective tissue restrictions can lead to local and referred pain, decreased blood flow, underlying muscle dysfunction, and tissue hypersensitivity. Myofascial trigger points can also cause local and referred pain, proprioceptive dysfunction, and central sensitization. The role and existence of myofascial trigger points are currently being debated in the medical community though numerous studies have suggested they play a significant role in pain syndromes. A myofascial trigger point is defined as a hyperirritable group of muscles

<table>
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<td>Common symptoms of hypertonic pelvic floor muscles</td>
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- Urinary urgency, frequency, hesitancy, pain
- Constipation, difficulty and/or painful bowel movements
- Dyspareunia
- Pain with sitting
- Vulvar, perineal, anal and/or clitoral itching, pain or burning
- Anorgasmia or pain with orgasm
- Clothing and exercise intolerance
fibers that remain in a contracted state at rest. They typically occur at the motor end plate of peripheral nerves. They can be identified by palpation, needle electromyogram (EMG), and possibly by 3-dimensional ultrasound imaging. Neural irritation can stem from mechanical compromise including connective tissue and muscle dysfunction; it can be a cause of tissue and muscle dysfunction and can independently cause pain anywhere in its distribution. Nerves can also be sensitized by repetitive infections or other metabolic processes. Research has also shown a correlation between sacroiliac joint dysfunction, labral tears, and pelvic pain; therefore, these areas also need to be screened. The next component of the physical therapy is the skin inspection of the vulva and transvaginal examination, which is described with more detail.

### Box 4
**Possible causes of pelvic floor musculoskeletal dysfunction**

1. Higher muscle tension as a reflexive protective response to pain of different origins (neuropathic, infectious, and so forth)
2. Higher muscle tension in general (genetic predisposition)
3. Volitional and/or subconscious pelvic floor guarding in response to stress and/or pain
4. Biomechanical origins (labral tear, sacroiliac joint dysfunction, motor discoordination, overuse, repetitive strain, chronic constipation/straining/labor or compression injuries)
5. Viscerosomatic reflex (gynecologic disease, irritable bowel syndrome, vaginal or urinary tract infections)
6. Inflammation of peripheral nerves
7. Central nervous system hypersensitivity/overactivity

### Box 5
**Evaluation questions: general categories**

1. General lifestyle and timing: When did your symptoms start and what do you think caused it? What makes it better and what makes it worse? Have you had pain from first vaginal insertion or did this develop over time? Where is the location of this pain and other body pains?
2. Urologic: Do you have a history of urinary tract infections? How many times in a day and at night do you void? Is it difficult to start your stream? Do you have pain before, during, or after voiding and if so, where? How long do the symptoms last? Do you ever leak urine?
3. Gynecologic: Do you have a history of vaginal infections? How many culture-proven infections have you had in the past year? Do you have a history of other venereal or gynecologic diseases? Do you have a history of pregnancies, deliveries, or surgeries? What is your menstrual history and frequency? What is your oral contraceptive history?
4. Gastrointestinal: Do you experience abdominal pain, bloating, constipation, hemorrhoids, fissures, or anal pain or itching?
5. Sexual: Do you have pain with intercourse or arousal? Is it superficial or deep? Do you have clitoral pain? Are you able to orgasm? Do you experience genital swelling with stimulation or bleeding or itching?
6. Central sensitization screening
7. What is your past surgical and medical history?
SKIN INSPECTION AND INTERNAL EXAMINATION

Skin Inspection

- Vulva skin coloring, atrophic or dermatologic changes, fissures
  - This inspection is important to determine if patients need a referral to a vulvo-vaginal dermatologist and further workup or treatment as described in other articles.

- Mobility of clitoral hood, size of clitoris
  - The clitoris should be the size of the head of a Q-tip; the clitoral hood should move easily, without pain, to expose the organ. Reduction in the size of the head of the clitoris can indicate hormonal insufficiencies from oral contraceptive pill use, hormonal suppressive therapies, or menopause. Issues with mobility of the clitoral hood can stem from dermatologic diseases, infection, or connective tissue issues.

- Perineal movement with concentric contraction (squeeze) and Valsalva movement (push)
  - Pelvic floor muscles of normal length should shorten with an attempted contraction and relax or let go at a similar speed. If the muscles do not shorten, it could be because they are already in a shortened position because of a contracture or because patients lack motor control. Impaired muscles show little movement, and they may not relax after contracted or they may relax slowly.
  - If no movement occurs during the Valsalva or push motion, patients may have impaired pelvic floor motor control. It is not common that muscles in a nulliparous woman with pain are at normal or overlengthened positions, though this can occur in women with chronic constipation, vaginal deliveries, and advanced age.

- Vestibule inspection and Q-tip test
  - The inspector notes erythema and the integrity of the tissues. The Q-tip test is done by lightly touching the vestibule and documenting the location and severity of pain levels. This test is often painful for patients and can sensitize them for the remainder of the examination. If you notice severe redness and they have unprovoked pain, it may make sense to limit the number of areas touched or skip the Q-tip test because it is obvious they have pain.

- Reflex testing: anal wink, clitoral

Internal Pelvic Floor Muscle Examination

- Note: If the vestibule is erythematous and/or very painful on the Q-tip test, it is helpful to be cognizant of this area and avoid unnecessary pressure on this
region while accessing the pelvic floor muscles and nerves. If it has already been observed that there is little movement during the requested voluntary movement and the vestibule is erythematos and/or very tender, it is likely that a pelvic floor disorder is contributing to the patients’ pain and a physical therapy evaluation is warranted. Therefore, it may be reasonable to stop the examination there. If you think patients can tolerate further examination, the next steps can be performed to gather more information about the musculoskeletal system.

**General considerations for the pelvic floor examination**

During the digital internal examination, a single gloved, lubricated finger is used. The amount of pressure used is enough to whiten the nail bed when pressing on a table. For the sake of a gynecologic screening of pelvic floor muscles, the examiner is feeling for tone and elasticity while also asking for reports of tenderness and pain. Healthy muscles do not hurt when they are palpated. Repetitive palpation of numerous patients will afford the examiner the knowledge to be able to distinguish tight from normal by touch. Generally speaking, tight muscles are often painful; subjective reports from patients can help guide the interpretation of what the examiner is feeling. We are also examining for motor control. Can patients contract the muscles? Are they already contracted in a state and unable to be volitionally relaxed? Are patients able to Valsalva and move the pelvic floor into a lengthened position if they cannot volitionally relax the muscles? These factors are all factors to keep in mind as the examiner palpates the different pelvic floor muscles listed later. It may be easiest to use the right index finger when examining the muscles and nerves of patients’ right pelvis and the left index finger when examining the left.

- **Internal pelvic floor palpation**
  - Obturator internus and Tinel sign for pudendal nerve irritability: The obturator internus is an external rotator of the hip. This muscle is easily identified by placing a finger in the vagina to a depth just roughly past the second knuckle at 3 or 9 o’clock on the patients’ right or left side, respectively, using the ventral aspect of a flat finger. The external hand can be placed on patients’ outer knee, asking patients to lightly press into your hand. When patients move in this manner, the obturator internus will contract under your finger, confirming you are on the muscle. This muscle often causes pain at the ischial tuberosities and tailbone as well as contributes to generalized pelvic floor hypertonus. Importantly, the pudendal nerve travels through Alcock canal, which is partially composed of the aponeurosis of the obturator internus. This nerve can be examined for irritability by performing Tinel sign. This test is done by lightly palpating the nerve in the canal. This nerve should feel like a funny bone palpation in normal cases; if light palpation causes sharp, shooting, stabbing pain or burning, the Tinel sign is considered to be positive in this location. If this test is positive, the pudendal nerve can be a factor in patients’ vestibulodynia and pelvic pain (Fig. 3).
  - Urogenital diaphragm: The urogenital diaphragm contains the bulbospongiosus, ischiocavernosus, and superficial transverse perineum. Reissing and colleagues found this superficial layer displayed in a considerably higher resting tone in patients with provoked vestibulodynia. These muscles can be palpated using a pincer grasp by lightly using the index finger internally and the thumb of the same hand externally up and down the length of the bulbospongiousus, ischiocavernosus, and superficial transverse perineum (see Fig. 1). These muscles can be activated by asking patients to do a quick cough or quick flick.
muscle contraction. They are also involved in orgasm and are often tender and tight in women with painful or absent orgasm. These muscles are considered impaired if they are painful and/or cannot contract or relax.

- Levator ani muscle group: The pubococcygeus can be found about 1 in into the vagina between 7 and 11 o’clock on the left and 1 and 5 o’clock on the right. The puborectalis can be palpated going slightly deeper and straight down toward the table as it swings around the rectum, at 6 o’clock. The ischio-coccygeus can be palpated by going slightly further into the vagina between 4 and 8 o’clock. The overall coordination of this muscle group can be tested by asking patients to squeeze or do a Kegel exercise. The muscles are considered impaired if palpation is painful, if they cannot contract, or if the muscles do not relax after a concentric contraction.

A physical therapy internal examination also includes examination of the vulvar and periurethral connective tissue, palpation of all pudendal nerve branches, the coccygeus, and a more involved investigation of patients’ motor control, muscle length, and strength and endurance. Impaired motor control, hypertonus, and tight/short muscles are often the cause of pelvic pain and dysfunction. Physical therapy aims to normalize patients’ specific impairments through various treatment techniques described later in this article.

**PHYSICAL THERAPY ASSESSMENT AND TREATMENT PLAN**

Following the history and the physical examination, a physical therapy assessment and treatment plan is formulated. During this segment of the evaluation, the physical therapist will link the objective findings to specific symptoms and devise a treatment plan to normalize the impairments and to eliminate patients’ symptoms. The physical therapist will also discuss short- and long-term goals with patients and create a rough timeline of what to expect. The treatment timeline will vary based on the severity,
chronicity, and comorbidities patients present with. In an ideal world, physical therapy appointments occur 1 to 2 times per week for 1 hour for 8 to 12 weeks initially. The constraints of managed care have forced treatment times and duration to often be shorter in many clinical settings than the syndrome requires, so many patients choose to go to an out-of-network provider for longer treatment times and durations.

More often than not, women with vulvodynia have multiple pathophysiologic factors that led to the development of their syndrome. It is critical for their doctors and physical therapist to formulate a differential diagnosis and collaborate on an interdisciplinary treatment plan. This point is best illustrated by case examples and a multimodal treatment algorithm.

**CASE EXAMPLES**

1. Leah is 30 years old. When she found a new sexual partner last year she developed multiple urinary tract infections that were appropriately treated with antibiotics but unfortunately led to several yeast infections. On evaluation, she presented with high-tone pelvic floor dysfunction; her treatment plan included manual therapy and home exercises to loosen her tight muscles. Leah also consulted with a naturopathic doctor to get to the underlying cause of the repetitive infections. She developed candida in her gut as a result of long-term and repetitive antibiotic use that led to vaginal yeast infections. These infections irritated her tissues and led to persisting muscle hypertonus, which caused further pain. The musculoskeletal dysfunction, inflammation, and the systemic infections were primary causes of Leah’s vulvar pain. Her symptoms were successfully treated with manual physical therapy and a pelvic floor down-training home exercise program, a low-sugar and antifungal diet, and a low-dose tricyclic antidepressant.

2. Michelle is 30 years old. Her vulvovaginal pain developed after she was in a car accident. During the car accident, her knees hit the dashboard, causing sacroiliac joint dysfunction. Because of the close relationship between the sacroiliac joint ligaments and the pudendal nerve, she subsequently developed pudendal nerve irritation, which in turn caused a high-tone pelvic floor and constant vulvar burning. Because of the pudendal nerve irritation, Michelle could not initially tolerate physical therapy. She consulted with a pain management physician who prescribed duloxetine (Cymbalta) and performed a pudendal nerve block (peripheral neuropathic treatment), and then she resumed physical therapy. Her physical therapy treatment plan included manual therapy as well as orthopedic treatment strategies of joint mobilization and neuromuscular reeducation for her sacroiliac joint, which was a driving factor in Michelle’s case.

3. Gwen is 49 years old and a triathlete. Her vulvar pain started 2 weeks after she started an exercise regime called CrossFit. She noticed the pain when she attempted to have intercourse. On examination, she did not have pelvic floor dysfunction or muscle tenderness, which can be associated with changes in exercise regimes and injuries. Instead, her periods have been irregular and she is in perimenopause. On inspection, her vulvar tissues were thin and atrophic. Her musculoskeletal structures were totally normal. The vulvar pain with intercourse coincided with a change in her exercise routine, but it also coincided with resuming intercourse after a period of inactivity and perimenopause. Her treatment consisted of topical hormonal cream, and she did not need physical therapy.

4. Michelle, who is 24 years old, always had painful periods and was prescribed oral contraceptives at 16 years of age to ease her painful periods. She had a boyfriend from 19 to 21 years of age and was able to enjoy pleasurable intercourse. At 21
years of age, she began using isotretinoin (Accutane) for skin issues. She was still taking oral contraceptives. Subsequently, she began to experience vulvar pain with tampon use; for 2 years she experienced vulvar pain during sex that was becoming increasingly problematic. She then developed a Bartholin cyst that was surgically removed. Following this procedure, she felt daily unprovoked pain at the incision site. On physical examination, she presented with scar tissue at the surgical incision site and also had other identified musculoskeletal findings that likely contributed to her provoked pain. It is plausible that androgen insufficiency from oral contraceptives and Accutane was a contributing cause to the provoked vulvar pain that developed with insertion and that a neuroma secondary to surgery was contributing to the daily unprovoked pain. She was likely a poor surgical candidate because the hormonally sensitive vestibular tissue was compromised from her oral contraceptive pill (OCP) and Accutane use. Her treatment involved cessation of the birth control pill, use of topical and systemic hormonal therapy, surgical excision of the neuroma, and physical therapy. Her case was hormonal, genetic, peripheral neuropathic, and musculoskeletal.

5. Barb is 53 years old and the mother of 2 children, aged 25 and 27 years, delivered vaginally. She underwent a complete hysterectomy and anterior vaginal wall repair for uterine and bladder prolapse. Mesh was used in this repair. Following surgery, Barb developed severe and debilitating vulvar pain. Her pain was caused by peripheral nerve irritation from the mesh, and it was eventually removed. Following the removal of the mesh, she underwent pharmacologic therapy for central nervous system (CNS) hypersensitivity, pudendal nerve blocks, and physical therapy, which resulted in resolution of her symptoms.

ASSESSMENT AND TREATMENT

As shown in the case examples, it is common for patients with similar symptoms to require completely different treatment plans. In order to effectively devise an initial treatment plan, a differential diagnosis and assessment is required. These principles are best highlighted with an interdisciplinary treatment algorithm (Fig. 4).

Physical therapists are well positioned to serve as a case manager for patients because of the length of time and repetitive visits over time that they are afforded with patients. It is important that a treatment plan is well coordinated with all of the treating doctors and providers as patients often initially fail or do not tolerate needed treatments. Success lies in the ability to troubleshoot through treatment plan hiccups and find a plan that is tolerated and effective.

In addition to the case management role, the physical therapy treatment plan consists of various combinations of treatment strategies listed in Box 7.

EVIDENCE FOR PHYSICAL THERAPY TREATMENT

Physical therapy treatment of vulvodynia is recommended by the American College of Obstetrics and Gynecology.14 Because of the heterogeneity of the syndrome and the multitude of physical therapy treatment options, the literature often addresses combination approaches to treatment versus individual techniques. This article highlights a few diverse studies.

In 2009, FitzGerald and colleagues15 published a randomized feasibility trial of 2 methods of manual therapy in patients with chronic pelvic pain. Forty-eight subjects were recruited and randomized to receive either skilled, myofascial physical therapy or global Swedish massage. Each group received 10 weekly 1-hour treatments. Therapist adherence to the treatment protocols was excellent. The global response
Fig. 4. Vulvar pain and vestibulodynia, a diagnostic and treatment algorithm. CAG, CAG nucleotides; HX, history; PGP, neuron specific protein; QHS, every bedtime; SQ, subcutaneous; SSRIs, selective serotonin reuptake inhibitors. (Modified from King M, Rubin R, Goldstein AT. Current uses of surgery in the treatment of genital pain. Curr Sex Health Rep 2014;6(4):253; with permission.)
assessment rate was 57% in the myofascial physical therapy group was significantly higher than the rate of 21% in the global therapeutic massage treatment group ($P = 0.03$).\textsuperscript{15}

In another study, Gentilcore-Saulnier and colleagues\textsuperscript{16} determined that women with provoked vestibulodynia had higher tonic surface EMG activity in their superficial pelvic floor muscles compared with a control group and a heightened response to painful stimuli when these muscles were subjected to pressure. Physical therapy treatment resulted in less pelvic floor muscle responsiveness to pain, less pelvic floor muscle tone, improved vaginal flexibility, and improved pelvic floor muscle capacity.\textsuperscript{16}

In a multimodal study, Goldfinger and colleagues\textsuperscript{17} compared the effects of cognitive behavioral therapy (CBT) and physical therapy on pain and psychosocial outcomes in women with provoked vestibulodynia. Twenty women were randomized to receive CBT or physical therapy. Both treatment groups demonstrated significant decreases in vulvar pain during sexual intercourse, with 70% and 80% of the women demonstrating a moderate clinically important decrease in pain (>30%) after treatment.

**SUMMARY**

Vulvar pain affects up to 20% of women at some point in their lives, and most women with vulvar pain have associated pelvic floor impairments. It is suggested that these impairments are a cause of vulvodynia in some cases, whereas, in other cases, they may be an effect. A quick screening of the pelvic floor muscles can be performed in the gynecology office and should be used when patients report symptoms of pelvic pain. Because of the heterogeneity of the syndrome, successful treatment plans are multimodal and include physical therapy.

**HOW TO FIND A PELVIC FLOOR PHYSICAL THERAPIST**

Pelvic floor physical therapists can be found through the American Physical Therapy Association’s section on women’s health (http://www.womenshealthapta.org/pt-locator/) or through the International Pelvic Pain Society’s Web site (http://pelvicpain.org/patients/find-a-medical-provider.aspx).

**Box 7**

**Physical therapy treatment options**

1. Manual therapy techniques
   a. Connective tissue manipulation
   b. Myofascial release and myofascial trigger point release
   c. Neural mobilizations
   d. Joint mobilizations

2. Pelvic floor and girdle neuromuscular reeducation

3. Pain physiology education

4. Behavioral and lifestyle modifications to reduce fear/avoidance and catastrophization

5. Peripheral and CNS desensitization strategies

6. Home exercise program development to supplement in-office treatments
   a. Foam rolling
   b. Pelvic floor muscle relaxation exercises (pelvic floor drop)
   c. Stretching when appropriate, strengthening if weak
REFERENCES