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Pelvic Pain and Dysfunction, Fibromyalgia, and Trigger Points

The Pelvis: A Problem Area for Men and Women, Young and Old

Picture your lower trunk as a bowl, with the top of the bowl covered by your breathing diaphragm and the bottom created by a multilayered pelvic floor. Complex musculature surrounds and supports the movement of the spine in the back, and many layers of abdominal wall compose the front. The many organs inside aren't neatly displayed in the one-dimensional layout you see in basic anatomy books. It's a complex three-dimensional world held together by connecting fascia, with organs and other tissues (including muscles) nested and layered.

There are some basic differences between the male pelvis and the female pelvis: the reproductive organs. A lot of potential causes of chronic pelvic pain and dysfunction (CPPD) reside here. The pelvis is part of your core, the center of your musculature uniting the upper and lower part of your body. It holds you up. When any part of the core hurts, it can get you down fast, both figuratively and literally.

The term "CPPD" isn't a diagnosis. It's just a description for any pelvic symptoms lasting at least six months. It doesn't indicate the cause of those symptoms. "Dysfunction" means something isn't working correctly. In the pelvis, this can include anything affecting the gastrointestinal, urinary, and genital systems or the tissues surrounding them. Any pelvic dysfunction can affect numerous body systems, even breathing. (Chaitow 2007)

People tend to hold tension in the pelvic muscles, and these structures respond to abnormal tension in different ways. Abnormal pelvic tension can begin during toilet training or be caused by inadequate toilet access during childhood. By adolescence, tight pelvic floor muscles are common. As we age, we tend to recruit pelvic floor muscles to compensate for any weakness in the urethral or anal sphincter. Doing so can cause more weakness, adding to incontinence and prolapse.

Different forms of CPPD may make specific demands. For example, a woman may need to plan her life around severe menstrual pain knowing that she'll be incapacitated, or at least miserable, before, during, and after. Aches can begin in the back and run down the thighs, and it is sometimes possible to feel the endometrium uterine lining sloughing off in specific areas, leaving a raw feeling inside. Menstruation may be accompanied by abdominal cramps and irritable bowel syndrome (IBS).

For a man, chronic prostatitis may rule your life. You might have to get up frequently at night to urinate, and you may feel pain radiating down your leg to the point where you may limp. When you do venture out, you may decide your seating based on access to the bathroom so that you can get there fast, only to be unable to urinate at all.

Both sexes and all ages may be haunted by IBS and/or bladder irritability. You spend break time between classes or work in the bathroom. CPPD may mean loss of sexual intercourse or desire, deleting an important form of stress relief and joy from your life. It can mean interference with digestion or elimination. It may include lost time at school or work. It can mean difficulty sitting for any length of time, or even the inability to leave the house. It can truly be life-altering.

Possible causes of pelvic pain and dysfunction are many, and they can be serious. They include ovarian cysts, prostatitis, ectopic pregnancy, cancer, infections, or gastrointestinal inflammations such as Crohn's disease or diverticulitis. Thus, illness must be ruled out. A laparoscopy performed to discover the cause can actually perpetuate CPPD, and still not discover the initial cause. (Jarrell 2010) Too often, the patient is labeled with CPPD, and the symptoms are treated. It's one thing if the cause is unknown to medical science. When the cause and treatment have been known for a long time, but aren't yet known to the practitioner, that's something else entirely.

Up to 40% of laparoscopies don't find a visceral reason for pelvic pain because it's most often caused by myofascial trigger points (TrPs). (Jarrell 2004) Even TrPs in scars in the back and abdomen can cause pelvic pain that is very treatable manually. (Valouchova et al. 2009) Scars from abdominal surgery, especially in the vaginal cuff

after a hysterectomy or appendectomy can cause pain that mimics menstrual cramps, bladder spasms, or lightning-jolts of lancing pain. Non-myofascial TrPs can lurk in fatty tumors called lipomas and in the fat layers over the sacroiliac area. More about TrPs later.

Initiating Causes of CPPD

When CPPD appears, the care provider needs to take a good history. What happened before the first instance of pelvic pain and/or dysfunction began? Is there any disease process that might be involved? Was there a long bike or horseback ride, a sport or dance accident, or a long or troublesome childbirth? Was there a pelvic inflammation or infection (including yeast), or any medical procedures? Was there antibiotic use that caused diarrhea? Was there sexual abuse? A history of constipation? A job or home with little access to bathroom facilities? What about other areas that might hold TrPs, or any possible perpetuating factors? Is there any co-existing hip, low spine, or sacroiliac joint dysfunction? Are there any metabolic perpetuating factors? What is the patient's posture sitting, standing, or at work?

Pelvic pain comes with a wide variety of symptoms. There is also an impressive list of alternative names for CPPD. (See sidebar below.) They are all descriptions, yet they are often treated as diagnoses, given medical codes and adequate labels, and (erroneously) considered sufficient according to the school of cookbook medicine. If you stick a name on it; that's enough, right? Not if there is a well-known, treatable cause.

Some Common Descriptions of Pelvic Pain and Dysfunction

urological pelvic pain syndrome, chronic abacterial prostatitis, coccygodynia, coccyx spasms, dyspareunia, erectile dysfunction, menstrual pain, levator spasm, levator ani syndrome, pelvic instability, pudendal neuralgia, proctodynia, pelvic floor dyssynergia, pelvic pain syndrome, tight pelvic floor, prostatodynia, tension myalgia of the pelvic floor, urgency-frequency syndrome, vulvodynia, and irritable bowel syndrome

Fibromyalgia and CPPD

The human nervous system is composed of the central nervous system (CNS) and the peripheral nervous system (everything else). Fibromyalgia (FM) has its origins primarily in the CNS: the brain and spinal cord. Chronic widespread pain in FM is initiated by peripheral pain generators such as trigger points or osteoarthritis (OA), and once this pain begins, these peripheral pain generators maintain chronic pain. (Staud 2011)

FM does not cause local pain or other local symptoms. It doesn't *cause* pain at all. It's an *amplifier* of pain and other symptoms caused by other conditions. In FM, the central nervous system (CNS) is hypersensitized. As a result, pain caused by other conditions is magnified, and sensations that usually aren't painful do cause pain. To adequately treat FM, it's critical to identify pain generators and treat them to stop them from bombarding the CNS with stimuli so it can calm down.

Although pelvic activity is controlled by neurotransmitters, and some neurotransmitters are out of balance in FM, healthy pelvic function is based on healthy muscle tension. The vast majority of FM/CPPD research (even articles on FM and sexual dysfunction) fail to take into consideration co-existing TrPs that are probably generating the symptoms. Since TrPs occur in patients with FM, and the patients usually are not assessed for TrPs that cause sexual dysfunction, it is reasonable to suspect that at least the majority of these symptoms could be caused by TrPs.

FM does not cause CPPD, either. It amplifies CPPD caused by other conditions. In FM, the central nervous system is like a junkyard dog that has been teased one too many times. No matter what initially irritated the CNS, TrPs often poke sticks at it by sending pain stimuli at it again and again and keeping it – and you – on edge.

IBS has a central sensitization component, and, just like FM, is a central sensitization state. Central sensitization states are often maintained by TrPs. Because of TrPs, muscles, organs, and other tissues may not be working together as they must to maintain healthy function.

Trigger Points (TrPs)

TrPs are a common cause of CPPD in women (Samraj et al.) and men. (Anderson et al. 2011a) TrPs are hyperirritable, localized, contraction

nodules (knots) found in taut bands. Myofascial TrPs are those TrPs that exist in muscle fascia. The knots can be small or large depending on a number of variables, including how many TrPs make up the knots and fluid accumulation.

TrPs in the pelvis are often different than most skeletal muscle TrPs because there may be no palpable knots, even though the taut bands are there–and painful. TrPs in each muscle cause pain in a recognizable referral pattern. Such patterns look a bit like blueprints and show where pain (and/or other symptoms such as numbness, itch or burning) are located in the body, along with their size and configuration. (See illustrations below.) The referral patterns are like shadows cast by the TrPs. Sometimes these shadows are large or far away from the source.

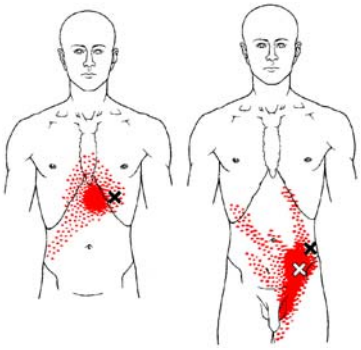
Single specific TrP patterns are generally similar and identifiable from patient to patient. If the pattern of pain can be described, the location of the TrP generating that pain can be found. Sometimes those patterns are in the area of the TrP, and sometimes they aren't. The referral patterns may include several muscles and may or may not cause pain locally.

Tricky TrPs can refer pain and other symptoms elsewhere, and they can alter sensations. For example, TrPs in the back can cause abdominal pain. Or, imagine a constant itch you can't scratch because you can't find the source. TrPs can also cause muscle weakness and altered sensations. It is important to know the patterns to be able to find the TrPs that cause the symptoms, because you have to treat the cause and not the symptom. For example, if a TrP in the groin is causing knee pain, you need to put ice on the groin to help pain in the knee.

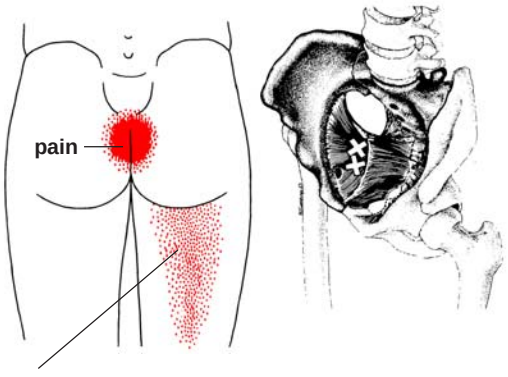
As was noted above, it is always necessary to rule out the possibility that a disease or injury in the pelvis is causing CPPD. That being written, TrPs can be the sole cause of CPPD. (Doggweiler-Wiygul et al. 2002) You might have had a visceral disease, such as appendicitis and had the appendix removed, yet the pain remains because the TrPs activated by the appendicitis and the subsequent surgery haven't been treated. Myofascial TrPs must always be taken into account when addressing chronic pelvic pain even when there are other causes, including disease, because TrPs are common and treatable. (Jarrell et al. 2005) Treating them can significantly reduce the pain burden. There can be TrPs in adhesions and scars. TrPs can generate pain a bewildering number of symptoms including urinary urgency, incontinence, pain on defecation, nausea, bloating, gut

Sample Views of Trigger Points in Muscles of the Pelvic Region

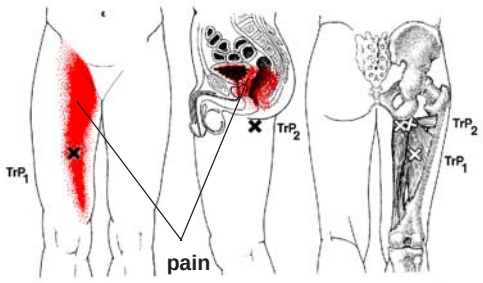
Trigger points are denoted by X's (locations are approximate) while referred pain patterns are shown in red – solid for essential pain and stippled to show spillover pain pattern



Trigger points & referred pain patterns in external abdominal oblique muscle



Referred pain pattern from trigger points in the obturator internus muscle



Adductor magnus muscles in male, from various angles, containing trigger points with referred pain patterns

cramps, and sexual dysfunction. Muscle weakness from TrPs can even contribute to prolapse.

Not only can TrPs cause symptoms mimicking diseases of the gall bladder, gastrointestinal system, genitourinary system, cardiac system, and spine, they can also interact with true organ illnesses as well. TrPs can aggravate organ disease by restricting microcirculation by entrapping blood and lymph vessels, and/or can also entrap nerves that regulate the organ.

Pain caused by an organ can also initiate TrPs. Was there an illness in the past that has been successfully treated, only to have the pain recur? Was there an infection anywhere that required a course of antibiotics that caused a bout of IBS that became chronic? Are there scars in the area? Is there any TrP perpetuating factor such as being overweight, or having poor posture or a metabolic dysfunction? Any kind of twisting or kicking such as in sports injuries or modern dance? Trauma from childbirth or sexual abuse can initiate pelvic TrPs, too. So can pressure from a chair combined with poor posture.

I was once asked what is built on the pelvic floor. I answered, "Why the abdominal walls, of course." Remember, the pelvic floor is the base of the abdominal cavity, and the base of your trunk. A short, tight pelvic floor in the body is often the cause of being unable to sit for any length of time. When you have to shift around to endure sitting, think TrPs. Stress incontinence (another description) includes leaking urine when you cough, sneeze, or lift a heavy object. Think TrPs.

Some pelvic floor muscles refer pain to the crease area in-between the buttocks, but the symptoms that can be caused by pelvic TrPs are many and varied. TrPs can cause premature ejaculation, post-urinary dribbling, vulvodynia, or the inability to urinate or defecate smoothly unless you are increasing abdominal pressure by blowing your nose or straining.

Abdominal pain may be caused by cutaneous nerve entrapment. Abdominal wall and muscle TrPs can cause diarrhea, constipation, vomiting, anorexia, nausea and urinary problems, and they are responsible for much menstrual pain. TrPs can cause or contribute to erectile dysfunction, vulvar or anal itching and burning, and the feeling of a foreign body in the rectum. Urinary or bowel urgency can be started by attempts to relieve TrP pressure and pain. (Doggweiler-Wiygul 2004) If you try to relieve pressure by sitting to the side and placing one leg under the pelvis, this posture causes pressure and TrPs to develop in other area muscles.

Treatments

If you manage to push CPPD under the FM umbrella of associated health conditions, you can legally "treat" it with one of the newest, expensive FM medications. Yes, they may block some of the pain sensations, but they do not treat the cause of the pain. Research indicates "assessment and treatment of concurrent TrPs in FMS should be systematically performed before any specific fibromyalgia therapy is undertaken." (Giamberardino et al. 2011) New research suggests that FM pain is largely caused by trigger points. (Ge 2010) The presence of FM plus TrPs (the symptom generator) means enhanced pain and other symptoms will take more to control, and some treatments may need modification.

Myofascial TrPs are the most common cause of pelvic floor pain. (Itza et al. 2010) In the previously referenced article, the authors state "Nowadays, we have diagnostic and therapeutic tools that allow us to treat this disabling syndrome with good results." This is true. It's also not happening very often. Most patients with myofascial TrPs are undiagnosed, misdiagnosed, untreated, and/or mistreated. Too many CPPD patients wind up on expensive medications and/or in operating rooms.

Even pediatric and adolescent pelvic pain is often myofascial in origin, and surgery is seldom useful unless a true surgical cause can be identified. (Schroeder et al. 2000) CPPD has been successfully treated with TrP therapies. (Wise et al. 2008; Fitzgerald et al. 2003) If the muscles are short due to TrPs, the muscles must be lengthened. Muscles that have TrPs are contractured, even if the contracture is too small to be palpable. TrPs, even latent ones, can cause muscle weakness, and repetitive exercises to strengthen TrP-laden muscles can worsen symptoms.

The key to diagnosis and treatment of TrPs is being familiar with the complete TrP referral patterns of every muscle and their initiating and perpetuating factors. Care providers attempting pelvic exams on patients with CPPD must use extreme care and gentleness. A single digit is sufficient to explore tender areas, as gentle pressure on taut bands will reproduce the pattern of severe discomfort recognizable to the patient as the source of pain. (Jarrell 2004)

Tennis ball pressure can help relieve some TrPs, although it can hurt a lot when you press on the TrP. It does help flush out toxic biochemicals in the area of the TrP, so if you exercise daily with the tennis ball, it will help prevent further build-up of these materials. If you lie on your stomach on the floor with a tennis ball pressing on the pubic area, rolling on the ball may find many area "ouch" points. Tennis ball pressure against a wall on the sides of your back and hip may reveal other TrPs. You can learn to use a tennis ball when you sit to apply pressure intermittently to self-treat those TrPs with pressure therapy. Avoid pressing on nerve areas or sustaining pressure for any length of time. Keep that ball rolling.

TrP injections must be done with adherence to proper technique, including stretching of tissues afterward. "Stretching after the trigger point injection is the most integral part of the treatment. Not stretching after injection or needling is the same as receiving no treatment at all. Relief is usually long-lasting, but only when mechanical and systemic perpetuating factors are corrected." (Doggweiler-Wiygul 2004) The use of a local topical anesthetic may be helpful for easily reached mucosal TrPs and for vaginal exams and may allow deeper interior work. The practitioner may be able to feel layers of criss-crossed taut bands in the vagina. Diazepam suppositories can be a helpful accessory treatment for tight pelvic floor muscles. (Rogalski et al. 2010) Therapy for men is accessed through the anal area, using the same stretches and topical anesthetics and relaxants.

Breaking the cycle of TrPs can include physical interventions such as stretching, myofascial release techniques, acupressure, injections, galvanic stimulation, frequency specific microcurrent, ultrasound, and/or spray and stretch. It must include education of the patient and a home self-treatment program. Recently, a pelvic wand has been developed for use in self-treatment of internal TrPs. (Anderson et al. 2011b.) The pelvic wand has so far been used mostly for men, accessing through the anal area. It does require that patients have care providers who are trained to diagnose and map the TrPs and can train the patients in the use of the wand. A training video is available. There are far too few pelvic care clinics. In general, pelvic therapists lack TrP training. Urologists and some well-trained fascial workers can help men find their TrPs and teach self-treatment.

It is critical that all perpetuating factors such as slumped posture hunching over a desk or computer, pressure overload such as during a long and hard childbirth or prolonged bicycling or horseback riding, chronic hemorrhoids, chronic inflammatory conditions, infections, and adhesions and/or disc pathology be brought under control.

Postural control may include an ergonomic review of work stations and home furniture, including adequate foot support for those with under-thigh compression. Compression by body weight as you sit is a common perpetuating factor for pelvic TrPs. This can be worsened by chairs that are too high, proportionally short lower legs, and short stature. Your hand should be able to slip easily between your thigh and the bottom of the chair. Otherwise, you are compressing the blood flow in the thigh, decreasing oxygen to the area muscles, and creating the perfect set-up for the formation of TrPs.

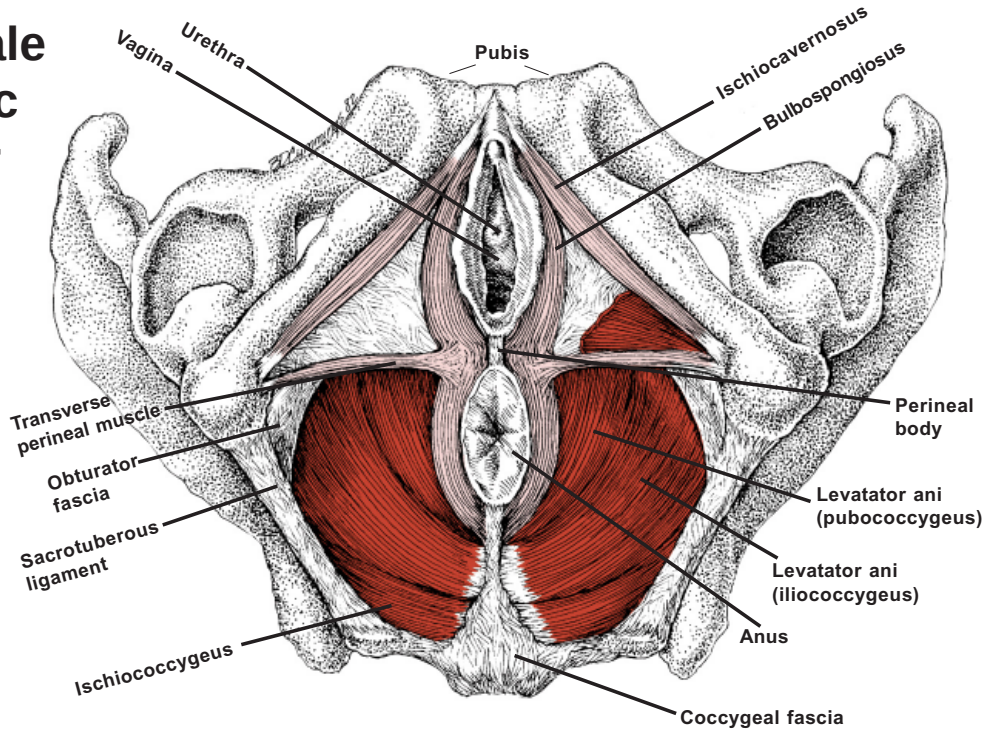
Self therapy includes the use of moist heat, stretching, good elimination habits, healthy diet with adequate hydration, good posture, and tennis ball pressure on area muscles. Avoid perpetuating factors such as prolonged sitting, bike riding, or horseback riding and other sources of compression, and learn how to sit properly. Place weight on the bones, rather than on the pelvic floor.

Internal manual work can provide significant relief, but it may be difficult finding a qualified professional nearby. Ask people in your local support group, check your phone book, and try the internet and Facebook. Educate your local gynecologists, and check in with your local hospitals. Nurse practitioners sometime specialize in this, but make sure they know TrPs. Also make sure that they use topical anesthetics. This is a chance to educate.

If fibromyalgia is already present, extra care must be taken during therapy to ensure that pain levels are kept under control so that no further sensitization results. Any new therapy must be tried gently and slowly for a brief time at first to see how it is tolerated. Treatment cannot be rushed. It has taken a long time for tension to build up in these muscles. Give yourself time to release it. The first step in healing is the identification of the sources of the pain and dysfunction and the knowledge that they can be treated successfully. >>>

Learn about the trigger point – FM connection at: www.sover.net/~devstar, or visit Facebook group: "Fibromyalgia, Myofascial Pain and Dysfunction."

Female Pelvic Floor



This is but one of a multilayer pelvic floor. Trigger points can form in any layer of any muscle.

A Closer Look

Unless otherwise specified, information given here on pelvic trigger points is from a superb book, *A Headache in the Pelvis*. (Wise et al. 2003) The entire book is on CPPD and is a must for patients with CPPD and care providers who treat them.

The abdominal wall and the back are composed of many layers of intertwining muscles, and like other area tissues, they can contain TrPs that contribute to pelvic pain. There are also many layers of muscle, fascia, and other tissues that make up the pelvic floor, and TrPs can occur everywhere. The above figure shows only one layer, and is female, but both sexes have enough in common for this one figure to help you visualize the location of some common TrPs.

It's important to be familiar with areas that are holding your tension and generating pain. TrPs can refer pain to other areas in a specific pattern, so to find the source you need to learn those referral patterns.

On top of the layer you see in the above figure, the thick perineal body covers the space between the genitalia and the anus. The perineal tissue includes the transverse perineal muscle. In other layers of the pelvic floor, there is a deep and a superficial transverse perineal muscle. The perineum is a common location to which other TrPs refer pain. TrPs in the superficial transverse perineal muscle can cause a poorly localized ache in the low back, hip, tail bone, anus, and/or posterior pelvic floor. A common perineal TrP close to the vaginal opening on the perineal body is often misdiagnosed, because it can get red and sore enough to prevent sexual intercourse. (Jarrell 2003) This TrP responds to 1–2 cc of 1% Xylocaine injected into the perineal body. Perineal TrPs in general cause pain in the area of the TrP and also refer pain into the rectum.

The inferior cluneal nerves provide sensations to the skin and related areas of the superficial lower buttocks. Entrapment of these nerves can cause burning in the lateral anal margin of the perineum, scrotum or labia majorae, medial buttock, and upper thigh. (Darnis et al.2008) TrPs in the area of the pubis can cause groin pain, but so can many others.

The levator ani helps support the pelvic floor and assists the anal and urethral sphincters in controlling bowel movement and urination. TrPs here (includes ischiococcygeus) are common causes of

CPPD. They cause poorly localized aches in the low back, hip, tail bone, anus, and/or posterior pelvic floor. In men, TrPs in part of this muscle cause pain to the tip and/or shaft of the penis, bladder and/or urethra, often coupled with a feeling of prostate fullness. The puborectalis anterior inferior is one of the most important TrP muscles in men, causing pain and pressure to the perineum, the base of the penis and the prostate. The levator prostate refers pain and pressure to the base of the penis, the prostate, bladder and/or pelvis, with urinary frequency and/or urgency. The illiococcygeus TrPs cause pain in the lateral pelvic wall, perineum, anterior levators, prostate and anal sphincter, and can cause a feeling of prostate fullness.

In women, anterior inferior levator ani TrPs cause pain in the vagina, bladder, urethra, clitoris, and/or mons pubis, and cause bladder and urethral discomfort and urgency. In both sexes, the pubococcygeus contracts during orgasm. If its muscle is already contractured due to TrPs, this can be exceedingly painful. Contraction of this muscle also helps empty the urethra after urination, but when it is chronically contractured by TrPs, there may be urinary incontinence, stress incontinence, and/or premature ejaculation. These TrPs can also cause constant contraction of the testicles, holding them close to body heat, lowering sperm count.

TrPs in the sphincter ani, the external band of circular muscle around the anus, are a common source of perineal pain too. They cause tremendous discomfort when you sit, becoming worse when you lie on your back. You just can't get comfortable. This pain may become much worse during a bowel movement, and you may need to use a topical anesthetic to release this muscle enough to allow normal function.

Sphincter ani TrPs also cause pain in the back of the pelvic floor and vagina, poorly localized aching pain in the low back, hip, tail bone, perineum, anus, and/or posterior pelvic floor. Straining during defecation, weight-lifting, coughing, laughing, or even speaking can aggravate these TrPs.

TrPs in the ischiocavernosus in men cause pain to the perineum and adjacent urogenital structures, especially the base of the penis beneath the scrotum. They can contribute to erectile or ejaculatory dysfunction and post-urination dribble. In females, these TrPs refer aching pain to the perineum and adjacent urogenital structures. They cause dyspareunia (painful intercourse), particularly during entry.

TrPs in the bulbospongiosus in women also cause dyspareunia, especially during entry, and can also cause general vaginal pain. In males, they refer pain behind the scrotum and/or base of the penis and cause discomfort during sitting. They may contribute to erectile and ejaculatory dysfunction and post-urination dribble. TrPs at the junction of the bulbocavernosus and superficial transverse perineal muscle can cause a urethral urgency in both sexes. In men they cause a stabbing pain at the opening of the penis.

TrPs in the coccygeus (tail bone area) cause local pain and/or pain in the gluteus maximus, the anal area (especially before and during a bowel movement), and often are responsible for low back pain late in pregnancy. Pain in the lower abdomen and uterine area near the cervix can be due to vaginal TrPs, and may be described as bladder spasm, dysmenorrhea, or cramps. Vaginal wall TrPs can be felt as taut bands during a pelvic exam and refer pain and tenderness across the lower abdomen, activating abdominal TrPs that set off IBS symptoms such as diarrhea and nausea.

TrP cascades can begin with the activation of any TrP if latent TrPs lurk in referral patterns or other area muscles. The use of a topical anesthetic such as lidocaine gel during pelvic exams may prevent vaginal TrP activation and resulting TrP cascades. TrP cascades are chain reactions that can occur when one or more TrPs refer to an area and activate TrPs there, referring pain to other TrPs that continue the activation cascade. Vaginismus (spasms of the pelvic floor), can cause the vaginal opening to be too tight for sexual intercourse, pelvic exam, or even tampon use. This condition may be caused by TrPs and worsened by the central sensitization of FM.

Deep ligaments may be the site of TrP nerve entrapment. (Mahakkanukrauh et al. 2005) The sacrotuberous and other deep pelvic ligaments can contribute to pudendal nerve entrapment that can cause a world of pelvic pain. TrPs in the obturator internus muscle can also cause pudendal nerve entrapment. These can refer pain to the external female genitalia (causing vulvodynia), around the anus and tail bone, and can cause a full sensation in the rectum. They are associated with urinary hesi-

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tancy, frequency, burning, urgency, constipation, and/or painful bowel movements. Pudendal nerve entrapment by TrPs is a major cause of disabling CPPD. TrPs in the rectus abdominis and other abdominal wall muscles, adductors, all the gluteal muscles, iliacus, piriformis, psoas, and quadratus lumborum can also cause or contribute to CPPD. Abdominal TrPs don't always follow specific referral patterns, so variations can surprise even those who are familiar with TrPs.

TrPs high in the adductor magnus, one of the thigh muscles, can cause a diffuse, hard-to-locate pain throughout the pelvis. They can also cause perineal, rectal, or vaginal pain, bladder pain, deep groin pain, pubic bone pain, or sharp lances of pain shooting up inside the pelvis, pain only during intercourse, or the sensation of a foreign body in the rectum.

TrPs in the quadratus lumborum, a very complex muscle in the low back, can refer pain to the exterior female genitalia and vagina. TrPs in the lateral abdominal oblique muscle can refer pain to the groin, exterior female genitalia, and vagina. Gluteus medius TrPs can refer pain to the vagina and hip. Gluteus minimus TrPs can cause pain deep in the vagina. Piriformis TrPs are often mistaken as discogenic pain, causing unnecessary cost and delay of adequate treatment. Symptoms of these TrPs can include dyspareunia, low back pain, hip pain radiating down the leg, and muscle weakness. (Pace et al. 1976)

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