W21: The Overactive Pelvic Floor
Workshop Chair: Anna Padoa, Israel
29 August 2018 10:30 - 12:00

<table>
<thead>
<tr>
<th>Start</th>
<th>End</th>
<th>Topic</th>
<th>Speakers</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30</td>
<td>10:55</td>
<td>Pathophysiology of OPF</td>
<td>Linda McLean</td>
</tr>
<tr>
<td>10:55</td>
<td>11:15</td>
<td>Overactive pelvic floor and sexual function</td>
<td>Anna Padoa</td>
</tr>
<tr>
<td>11:15</td>
<td>11:35</td>
<td>Evaluating and understanding pelvic floor muscle overactivity-</td>
<td>Melanie Morin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A physiotherapist perspective.</td>
<td></td>
</tr>
<tr>
<td>11:35</td>
<td>12:00</td>
<td>Evaluation and Treatment of the OPF from a Bio-psycho-social</td>
<td>Carolyn Vandyken</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perspective</td>
<td></td>
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**Aims of Workshop**
Overactivity of the pelvic floor is often unrecognised and not well understood. Written resources on the subject are very limited and much of the management of the Overactive Pelvic Floor (OPF) is based on clinical experience. This workshop is intended to serve as a valuable resource for clinicians with an interest in the pelvic floor. In addition, the workshop will provide clinical tools for medical and mental health practitioners alike for recognition, assessment, treatment and interdisciplinary referral of patients with OPF and OPF-related conditions. This workshop will serve as an occasion for caregivers to refine OPF patient management as well as stimulate investigative efforts.

**Learning Objectives**
1. To understand the definition, pathophysiology and clinical presentation of an overactive pelvic floor (OPF) and its relation to chronic pain conditions and psychosocial issues.
2. To carry out the evaluation of patients with OPF using a multidisciplinary approach and to become acquainted with common diagnostic techniques and tools.
3. To plan an individually tailored treatment strategy for patients suffering from OPF and OPF-related conditions.

**Learning Outcomes**
1. Improved awareness on the connection between chronic pelvic pain and symptoms related to pelvic floor overactivity.
2. Acquisition of a psychosocial approach in evaluation and treatment of OPF patients.
3. Awareness of the need to establish an interdisciplinary network of practitioners in the care of OPF patients.

**Target Audience**
Urologists, urogynaecologists, gastroenterologists, physiotherapists, Ob&Gyn, gastroenterologists, colo-proctologists, continence nurses, midwives, sex therapists and sexologists

**Advanced/Basic**
Advanced

**Conditions for Learning**
This workshop will be delivered as an interactive seminar.

**Suggested Learning before Workshop Attendance**

**Suggested Reading**


The Pathophysiology of the overactive pelvic floor

Linda McLean, Canada

Despite a dearth of empirical data, pelvic floor muscle (PFM) overactivity is thought to play a crucial role in the development and/or maintenance of several conditions including genital and pelvic pain syndromes, sexual dysfunction, and bowel and bladder elimination disorders. When one considers the many physiological processes that interact to mediate PFM tone and excitability, it is not surprising that our understanding of the aetiology and pathophysiology of these conditions is limited.

Through this first presentation of the workshop, I will define PFM overactivity, highlighting the differences between tone and overactivity, two common terms used to describe PFM involvement in genital and pelvic pain, bowel and bladder elimination disorders and sexual dysfunction. An appropriate and consistent use of terminology is essential if we are to develop a common, shared understanding of these disorders. I will then review neuromuscular physiology as it pertains to excitatory and inhibitory influences on muscle activation, and will use this foundation to discuss the many excitatory and inhibitory pathways that influence PFM tone, voluntary activation, reflex activation, and behavioural and learned responses.

Having developed a common framework for understanding the physiology of PFM overactivity, I will discuss evidence for the involvement of PFM overactivity in dyspareunia and bowel and bladder elimination disorders. This discussion will include the current evidence for enhanced excitability to the PFM and potential associations with alterations in peripheral and central pain processing. I will also discuss evidence for the potential influence of visceral somatization and emotional state on PFM overactivity.
The sum of the evidence provided will shed light on why concurrent consideration of biomedical and psychosocial factors is essential for the assessment and subsequent management of conditions associated with an overactive pelvic floor. The evidence presented will show how we might moderate PFM overactivity through physical interventions targeting behavioural and reflex pathways, but will also show that we must intervene on a psychosocial level to address the influence of thoughts and emotions on excitatory and inhibitory pathways influencing PFM excitability.

**Take home message**

A thorough understanding of PFM physiology, including the many excitatory and inhibitory influences associated with PFM activation, is crucial if we are to understand the overactive pelvic floor. Only through such a depth of understanding can we begin to optimize our outcomes through targeting appropriate biophysical and psychosocial pathways.

**The overactive pelvic floor and sexual function**

*Anna Padoa, Israel*

A well operating pelvic floor is an essential component of bowel, bladder, and sexual function. Overactivity of the pelvic floor is less recognized and not as well understood as pelvic floor weakness and its clinical presentation is far more complex. Pelvic floor overactivity may be associated with musculoskeletal and neurological impairments, chronic pain conditions, ano-rectal and urinary dysfunction as well as psychological distress, and is correlated with symptoms that greatly affect quality of life as well as sexual function.

This presentation will start with an overview of the role of pelvic floor muscles in normal female sexual function. The evidence on the effect of pelvic floor muscle training on sexual function in women with normal pelvic floor muscle tone will be addressed. We will review the classification, pathophysiology, clinical presentation and treatment of female genito-pelvic pain and penetration disorders, with special emphasis on the relation between sexual pain, sexual arousal and pelvic floor muscle function.

The role of the pelvic floor in male sexual function will be mentioned, in relation to chronic pelvic pain and chronic prostatitis. Sexual arousal in women with sexual pain disorders will be addressed and relevant literature on this topic will be overviewed. We will then discuss pelvic floor overactivity in relation to several sexual, emotional and relationship issues. A special emphasis will be devoted to post traumatic stress disorder in sexual abuse survivors, as a cause for pelvic floor overactivity. Attachment styles and other behavioural issues in relation to the pelvic floor will also be mentioned.

In the section regarding treatment of overactive pelvic floor, we will focus on medical and surgical options for genito-pelvic pain disorders. We will present the evidence regarding efficacy of each treatment modality and suggest a rationale, based on the current literature, for individual treatment tailoring. We will overview the current evidence on the efficacy of treatment modalities such as topical creams, neuromodulating agents, botulinum toxin, muscle relaxants and surgery.

To conclude, the importance of a multidisciplinary treatment approach, including physiotherapy and psychosocial support, will be mentioned.

**Take-home message**

Pelvic floor overactivity is often accompanied by impaired sexual function and genito-pelvic pain disorders. The importance of a multidisciplinary, individualized treatment approach, including psychosocial support and therapy, cannot be overemphasized in this group of patients.

**Evaluating and understanding pelvic floor muscle overactivity- A physiotherapist perspective**

*Mélanie Morin, Canada*

It has been recognized that pelvic floor muscle (PFM) overactivity plays a crucial role in several conditions such as bladder and bowel elimination disorders, genital/pelvic pain syndromes and sexual dysfunctions.

This presentation will review the muscle physiology associated with PFM tone. General muscle tone can be defined as the resistance provided by the muscle when pressure or a stretch is applied. General muscle tone in normally innervated skeletal muscles is composed of a passive and an active component (Simons, 2008). The passive component consists of the viscoelastic properties of the muscle tissue (Gajdosik 2001). The active component consists of physiological contracture (commonly defined as trigger point (TP)), electrogenic spasms (unintentional muscle contraction that can be brought to voluntary control), and normal electrogenic contraction (resting activity in normally relaxed muscle and myotatic reflex during stretching).
The presentation will also discuss the current assessment tools (palpation, ultrasound, manometry, electromyography (EMG) and dynamometry) and relate these tools to muscle physiology for evaluating muscle tone. Moreover, their psychometric properties (validity and reliability) and current recommendations will be presented.

The available evidence in women and men with conditions related to an overactive PFM will be discussed. So far, the literature suggests an elevated global PFM tone (measured by ultrasound, dynamometry and manometry), TPs (measured by palpation and palpometer), increased viscoelastic properties (dynamometry and EMG) and for some patients, elevated tone explained by electrogeneric causes (evaluated by EMG). Empirical findings also indicate that the assessment of PFMs should not be limited to tone since the contractile properties (strength, speed of contraction, control and endurance) were also shown to be altered.

The evidence concerning the efficacy of PFM physiotherapy modalities will be presented. Physiotherapy intervention may include different modalities (education, manual therapy, biofeedback, electrical stimulation and dilator) which may target different components of PFM tone. For instance, biofeedback specifically addresses electrogeneric spasms. The patients can thus learn how to properly relax their PFMs and gain control. In contrast, muscle stretching may address reduced flexibility associated with the viscoelastic properties of the tissue.

Take home message

A thorough understanding of PFM assessment tools in relation to muscle physiology is crucial to guide in the selection of treatment modalities and hence, potentiate efficacy.

This presentation will provide an overview of the physiology underlying elevated pelvic floor muscle tone in perspective with currently available tools. Moreover, empirical evidence available related to the implication of the PFMs in men and women with an overactive pelvic floor will also be presented.

Evaluation and Treatment of the OPF from a Bio-psycho-social Perspective
Carolyn Vandyken, Canada

Persistent pelvic pain is characterized by pain affecting bladder/bowel elimination disorders, genital/pelvic pain syndromes and sexual dysfunctions. Biopsychosocial models have revealed the importance of illness perceptions, cognitive-behavioural variables and psychological distress in explaining the experience of pain and disability across many pelvic pain conditions. Growing research in the area of pelvic pain over the past decade has emphasized the importance of taking a broad biopsychosocial approach to the management of pelvic pain. (1)

Physiotherapists have traditionally been trained in a more biomedical model; however, utilizing a broader, biopsychosocial model is essential in the treatment of these complex pain conditions. In order to do this, physiotherapists need to increase their competency in assessing distress using objective assessment tools such as the Depression, Anxiety, and Stress Scale (DASS-21), Pain Catastrophizing Scale (PCS), Tampa Scale of Kinesiophobia (TSK), the Positive Affect, Negative Affect Scale (PANAS), the FreMantle Back Questionnaire (FreBAQ) and the Central Sensitivity Inventory (CSI). (2)

Utilization of these tools will allow for appropriate treatment planning based on the unique presentation of each patient. Central pain mechanisms are a key component that needs to be assessed in every patient with pelvic pain; however, looking for specific drivers of this upregulated state is an important factor to effectively addressing the underlying components for each individual patient. (2)

Upon identification of the specific distress factors that may be contributing to the central pain mechanisms in the individual patient, physiotherapists need also develop specific competencies for modality-based interventions that fit well into the scope of practice for physiotherapy. Developing a modality based approach to pain education, yoga, qi gong/tai chi, sensori-motor exercises, relaxation exercises, and meditation will increase physiotherapist’s competency in addressing the central pain mechanisms at play.

This presentation will focus on reviewing the key questionnaires needed to inform a physiotherapist’s practice when using a biopsychosocial approach. Key competencies will also be addressed to build a toolkit for sensori-motor exercises focused on retraining the nervous system to address over activity in the pelvic floor muscles.

Take home message

With persistent pelvic pain, it is essential that physiotherapists focus on developing competency in assessing psychosocial distress. Using their newly found assessment skills, physiotherapists need also develop competency in the utilization of modalities based on yoga practices, tai chi/qi gong practices, pain education, meditation practices and exercises targeting the sensori-motor cortex.
The Pathophysiology of the Overactive Pelvic Floor

Linda McLean, PhD
Professor, Faculty of Health Sciences,
University of Ottawa
Ottawa, Canada

Affiliations to disclose:
No affiliations to disclose

Funding for speaker to attend:

[ ] Self-funded
[ ] Institution (non-industry) funded
[ ] Sponsored by:

Outline: The pathophysiology of OPF
1. The overactive pelvic floor - definitions
2. What factors influence pelvic floor muscle excitation/inhibition?
3. What research evidence supports pelvic floor overactivity?
4. How might central sensitization impact pelvic floor activity?
5. Summary

still
We don't know.

1. Definition?

The overactive pelvic floor

13/09/2018
IUGA/ICS joint report

"Pelvic floor muscles which do not relax, or may even contract when relaxation is functionally needed, for example, during micturition or defecation."

Rogers et al., 2018

ICS report

Overactive pelvic floor muscles. A situation in which the pelvic floor muscles do not relax, or may even contract when relaxation is functionally needed for example during micturition or defecation. This condition is based on symptoms such as voiding problems, obstructed defecation, or dyspareunia and on signs like the absence of voluntary pelvic floor muscle relaxation.

Messelink et al., 2005

Associated concepts

Hypertonicity

- "Increased Resistance of a muscle to passive lengthening" (Simons and Mense, 1998)
- A general increase in muscle tone that can be associated with either elevated contractile activity and/or passive stiffness in the muscle. As the cause is often unknown, the terms of neurogenic hypertonicity and non-neurogenic hypertonicity are recommended.

Rogers et al. 2018

Spasm

- "The presence of contracted, painful muscles on palpation and elevated resting pressures by vaginal manometry."
- "This persistent contraction of striated muscle cannot be released voluntarily; if the contraction is painful, this is usually described as a cramp."

Rogers et al. 2018
**Working definition of the overactive pelvic floor:**

“pelvic floor muscle activation that is present when it is not required for function, and where poorly controlled tonic or phasic activation, caused by behavioural, reflex, or other involuntary mechanisms cause pain or impede bowel, bladder, sexual or other functions”

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**2. So What factors influence PFM excitation?**

- Local stretch receptors
- Cutaneous receptors

---

**What influences PMF activation?**

- Spinal cord, cortex and brainstem relays

---

**What influences PFM activation?**

- ? Emotion

The emotional motor system represents diffuse pathways originating in the caudal brainstem and terminating on spinal grey matter, which may impact the tone or excitability of the PFMs under different physiological conditions.

Because of the location of relay centers in the brain, with inputs from the cerebral cortex and the viscera, there is much subconcious control of PFM excitation and inhibition, and this control may be influenced by anxiety, pressure, and/or pain.

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**What influences PFM activation?**

- Visceromotor Reflexes

Links between the intestinal tract, the lower urinary tract and the PFMs fibers run in close proximity within the spinal cord and PONS.

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*Holstege, 2016.*
What influences PFM activation?

The anticipation of pain may be sufficient to induce EMG activation in other muscles and it seems logical to suggest that women with dyspareunia may contract their PFMs as a means of withdrawing from a potentially painful stimulus.

3. What is the research evidence for OPF

- Must consider the different aspects of activation: tonic, voluntary (phasic), reflex, motor control
- Must consider confounding influences of anxiety/fear, pain and pain history, emotional and visceromotor influences, MTrPs, and nervous system changes to pain processing

Evidence for OPF through EMG

Eg. Vulvodynia (McLean and Brooks, 2017)

<table>
<thead>
<tr>
<th>Type of activation</th>
<th>Superficial PFMs</th>
<th>Deep PFMs</th>
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<tbody>
<tr>
<td>Tonic</td>
<td>Possibly higher in women with vaginismus and PVD compared to controls (Gentilcore-Saulnier et al., 2010; Engman et al., 2004; Shafran and El-Sibai, 2002; Gammoudi, 2016 etc.).</td>
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EMG is the only direct measure of muscle activation, however EMG is not useful for clinical assessment in terms of diagnosis, prognosis nor progression.

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<tr>
<th>Type of activation</th>
<th>Superficial PFMs</th>
<th>Deep PFMs</th>
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<tbody>
<tr>
<td>Maximum voluntary activation</td>
<td>Not reported</td>
<td>Postulated to be reduced yet no difference between women with and without dyspareunia in cohort studies using EMG. (Morin et al., 2017 found lower force generating capacity, lower speed of contraction. Could this be pain inhibition?)</td>
</tr>
<tr>
<td>Amplitude Variance</td>
<td>Not reported</td>
<td>Some studies have suggested impairment (Glazer et al., 1997, White et al., 1998) yet no difference between women with or without dyspareunia have been found in other cohort studies (Engman et al., 2004).</td>
</tr>
<tr>
<td>Endurance</td>
<td>Not reported</td>
<td>Impaired endurance has been suggested in women with PVD (Glazer et al., 1998; Moin et al., 2017) however again no concurrent EMG/maximum makes this result difficult to interpret.</td>
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**Type of activation**

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<tr>
<td><strong>Evoked/Reflex activation</strong></td>
<td>Polysynaptic reflex amplitudes higher in women with vulvodynia than controls when evoked through clitoral stimulation (Frasson et al., 2009). May be higher in women with PVD when evoked through pressure at the vulvar vestibule or with vaginal probe insertion (Gentilcore-Saulnier et al., 2010). Higher activation during dynamometer opening (stretch) in women with PVD compared to controls (Morin et al, 2017).</td>
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<tr>
<td>Not higher in women with PVD compared to controls when stimulus is pressure at the vulvar vestibule (Gentilcore-Saulnier et al., 2010).</td>
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**What about Myotonal trigger points (MTrPs)?**

- No sensitive nor specific diagnostic test for MTrPs.
- No proven relationship between myofascial pain syndrome and the presence of MTrPs.
- MTrPs are commonly found in asymptomatic individuals, and some nodules are not tender to palpation at all (Travell and Simons, 1983; Shah et al., 2015; Mense et al., 2001).

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**Are MTrPs associated with overactivity?**

Probably not. (Shah, 2015)

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**Evidence of cortical changes in women with provoked vestibulodynia?**

Peripheral and/or Central sensitization?

- Allodynia
- Hyperalgesia

(Pukall et al., 2005)

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**4. Sensitization??**

- Peripheral and/or Central sensitization? - Allodynia - Hyperalgesia

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**Original Research**

**Association of Chronic Pelvic Pain and Endometriosis With Signs of Sensitization and Myofascial Pain**

(Preciado-Stouffer, S., Eshkol-Etkin, K., Stein, N., Streat, M., Butler Overt, Z., and Jay Shale, M.)

| Table 2. Sensitization and Myotonal trigger Points in Women With Chronic Pelvic Pain With or Without a Current Diagnosis of Biopsy-Proven Endometriosis and in Healthy Volunteers |
|------------------|------------------|------------------|
| **Phylogenic Neurovascular Mediators** | **Signs of Sensitization** | **Signs of Sensitization** |
| **Assessment** | **Rate and Current** | **Rate-only** | **Rate-only** | **Rate-only** | **P** |
| Sensitization | 15 (8.2) | 9 (5.2) | 3 (3.3) | <.001 |
| Regional allodynia | 14 (7.8) | 9 (5.2) | 3 (3.3) | <.001 |
| Regional hyperalgesia | 14 (7.8) | 7 (4.1) | 3 (3.3) | <.001 |
| Hyperalgesic response to suprapubic pressure | 16 (9.2) | 9 (5.2) | 3 (3.3) | <.001 |
| Mechanical trigger points | 17 (9.6) | 10 (5.9) | 3 (3.3) | <.001 |
| Nociceptive pain threshold of muscle | 3 (2.2) | 2 (1.2) | 0 | <.001 |
| Intramuscular nociceptive muscle peak pressure | 1 (0.6) | 0 (0.0) | 0 | <.001 |

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**Unprovoked Carver Pelvic Pain and Current Biopsy-Proven Endometriosis With Chronic Pelvic Pain Only**

Patient and control groups were matched for age, parity, and current biopsy-proven endometriosis. Chronic pelvic pain only without current biopsy-proven endometriosis and with healthy volunteers. Pain and controls biopsy-proven endometriosis comparison.
Remodeling our nervous system?

- Painful myofascial trigger points can sensitize segmentally related visceral structures creating the perception of endometrial pain, irrespective of the presence of lesions.
- Long-term remodeling of the central nervous system (resulting in allodynia, hyperalgesia, and myofascial dysfunction) may persist after lesions are treated in women with a history of endometriosis.


Systematic review shows that available treatments for Vaginismus are efficacious, allowing the completion of sexual intercourse in 78% of cases. The duration of Vaginismus, but not the kind of intervention, seems to play as a factor modulating the success of therapy.


Fear avoidance?

- Fear-avoidance, PFM variables, and partner support explained 28.3% of the variance in pain during intercourse ($P<0.001$).
- Among women with high partner support, catastrophizing was not significantly related to pain ($b=0.150$, $P=0.142$). When partner support was low, catastrophizing was significantly related to pain ($b=0.068$, $P<0.001$).

So what do we do?

Summary

OPF defined as “pelvic floor muscle activation that is present when it is not required for function, and where poorly controlled tonic or phasic activation, caused by behavioural or involuntary mechanisms, impedes function and affects bowel, bladder and/or sexual health” has a multifactorial aetiology and pathophysiology.

Strategies to mitigate the impact of OPF on function should aim to target the physiological processes that underlie dysfunctional activation. These processes may differ from one patient to the next and may include but are not limited to disorders of pelvic floor muscle tone, spasm, motor control, relays from emotional and visceral pathways, and processing associated with peripheral and central nervous system remodeling.
Overactivity may be caused by:

- Neurologic conditions
- Problems with Motor control
- Protective physiological reflexes
- Visceral/autonomic connections
- Emotion/fear

It is likely perpetuated by:

- Learned/anticipatory behaviours
- Central nervous system changes in response to longstanding pain

Chemical mediators?

Don’t appear to work in conditions associated with dyspareunia

Intra-vaginal diazepam for high-tone pelvic floor dysfunction: a randomized placebo-controlled trial

Cabrera C, Gipps C, Chamber N, Wansare M, Victoria Emanuel

Intravaginal Diazepam for the Treatment of Pelvic Floor Hypertonic Disorder: A Double-Blind, Randomized, Placebo-Controlled Trial

But do seem to work in dyssynergic voiding

The prevalence of dyssynergic defaecation in patients investigated for chronic constipation is as many as 40%. Randomised controlled trials have demonstrated major symptom improvement in 70%-80% of patients undergoing biofeedback therapy for chronic constipation resistant to standard medical therapy and have determined it to be superior to polyethylene glycol laxatives, diazepam or sham therapy. Long-term studies have shown 55%-82% of patients maintain symptom improvement.
The Overactive Pelvic Floor and Female Sexual Dysfunction

Anna Padoa, MD
Urogynecology and Pelvic Floor Service
Yitzhak Shamir (Formerly Assaf Harofe) Medical Center
Sackler School of Medicine, Tel Aviv University

WS 21 “The Overactive Pelvic Floor”

Definition of “overactive pelvic floor muscles”

2005 report from the Pelvic Floor Clinical Assessment Group of the ICS:

“A condition in which the pelvic floor muscles do not relax, or may even contract when relaxation is functionally needed, for example during micturition or defecation”.


OPF symptom complex

The Pelvic Floor and Female Sexual Function

What is the role of pelvic floor muscles in normal female sexual function?

Kegel, 1948:

- a technique for strengthening the striated pelvic floor musculature as a treatment for urinary stress incontinence. Several women reported enhanced erotic sensations in their genitals and a greater ability to experience orgasm.

- Pubococcygeal muscle strength was found to be higher in orgasmic than anorgasmic women.

- It was hypothesized that at the time of intercourse, sexual pleasure is enhanced by the contractions of the pubococcygeus and iliococcygeus muscles


**The Pelvic Floor and Female Sexual Function**

Bohlen and colleagues observed three different patterns of orgasmic contractions in eleven women aged 24-33.

- **First type:** a small number of regular contractions subjectively indicated orgasm onset
- **Second type:** twice as many regular contractions followed by additional irregular contractions.
- **Third type:** a small number of women reported experiencing orgasm without any pelvic floor contractions.


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**Role of PFM in sexual function**

The bulbocavernous muscle was found active during sexual activity, suggested function was to hold the penis in place while providing penile stimulation during heterosexual sex.

Reflex contractions of the levator ani and puborectalis muscles have been found on stimulation of the clitoris and cervix.

- It has been suggested that they enhance biological reproductive function by providing:
  - distal vaginal dilation
  - elongation of the vagina
  - proximal vaginal ballooning, facilitating entry of the penis
  - maintaining the cervix more cranially and providing a receptacle near the cervix to hold semen and thus facilitate conception.

---

**Are stronger PFM associated with better sexual function?**

**YES, IT DOES**

- Women with stronger PFM, scored higher on domains of the FSFI
- Women with stronger PFM scored higher on orgasm and arousal
- Women with stronger PFM scored higher on more intense and frequent coital orgasms
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**Sexual function in women with pelvic floor dysfunction**

- Patients referred to physical therapy were divided in a high and low pelvic floor tone:
  - women in the middle age group: better sexual function than younger (< 30 yrs) and older (> 50 yrs) women
  - women with low tone pelvic floor had higher sexual function scores than women with OHP
  - Women with a low tone pelvic floor had lower FIFI sexual pain scores.


---

**The Pelvic Floor and Female Sexual Function**

Sherfey, 1974 - Myovascular theory:

Venous congestion and stretching of the pelvic muscles stimulate muscle nerve endings so that they begin to contract. These muscular contractions, perceived as pleasurable, constitute the experience of orgasm.


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**The Pelvic Floor and Female Sexual Function**

A decrease in pubococcygeus strength demonstrated an anorgasmic woman compared with sequence women.


---

**The Pelvic Floor and Female Sexual Function**

Most studies indicated an improvement of at least one sexual variable in women with pelvic floor dysfunction.

- All women with organ dysfunction gaining PFM and a 12 week period to education in attention control group had no difference in orgasmic scores.


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- Patients referred to physical therapy were divided in a high and low pelvic floor tone:
  - women in the middle age group: better sexual function than younger (< 30 yrs) and older (> 50 yrs) women
  - women with low tone pelvic floor had higher sexual function scores than women with OHP
  - Women with a low tone pelvic floor had lower FIFI sexual pain scores.


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**The Pelvic Floor and Female Sexual Function**

A decrease in pubococcygeus strength demonstrated an anorgasmic woman compared with sequence women.


---

**The Pelvic Floor and Female Sexual Function**

Most studies indicated an improvement of at least one sexual variable in women with pelvic floor dysfunction.

- All women with organ dysfunction gaining PFM and a 12 week period to education in attention control group had no difference in orgasmic scores.


---

**The Pelvic Floor and Female Sexual Function**

Reflex contractions of the levator ani and puborectalis muscles have been found on stimulation of the clitoris and cervix.

- It has been suggested that they enhance biological reproductive function by providing:
  - distal vaginal dilation
  - elongation of the vagina
  - proximal vaginal ballooning, facilitating entry of the penis
  - maintaining the cervix more cranially and providing a receptacle near the cervix to hold semen and thus facilitate conception.
Female genito-pelvic pain/penetration disorder

Vaginismus (DSM-IV-TR)
Recurrent or persistent involuntary spasms of the musculature of the outer third of the vagina interfering with intercourse, characterized by high tone pelvic floor, chronically or in situations of attempted penetration (by any object)

Assessment of PVD

Medical History
- Pain characteristics
- Musculoskeletal history
- Bowel and bladder function history
- Medications: OC, depo-provera, antibiotic treatment, psychotropic medications
- Comorbid medical or mental health conditions and treatments
- Hormonal status (pre vs post-menopausal, post-partum, lactation)

Psychosocial and Sexual Assessment
- Desire, arousal, orgasm, sexual distress
- Thoughts, emotions, behaviors, couple interactions, avoidance behaviors, negative partner responses, catastrophizing, hypervigilance, fear of pain, anxiety and depression
- Current romantic relationship
- Childhood trauma, including abuse and neglect, and any adult negative sexual experiences
- Validated self-report questionnaires (eg. Female Sexual Function Index [FSFI])

Assessment of PVD

Physical examination
- Interactive educational pelvic examination
- Vulvscopy
- Speculum examination:
  - Simple, asymmetrical, eversion, ulceration, abnormal discharge, erythema
  - pH testing, wet mount, and potassium hydroxide (KOH) prep
- Pelvic exam:
  - Use one finger
  - Rectum and bladder trigone
  - Ileorectal and urethral
- Anamnesis
- Recto-vaginal examination when clinically required (endo-anal)

Sensory Evaluation
- Measured cottonouch
- Medical, touch, and pressure palpation
- External urethral and vagina
- Anterior, posterior, and lateral fornices
- Labia minora
- Area of Bartholin's gland
- Manual examination
- Probe: 2 mm
  - Note involvement of whole vestibule versus posterior vestibule only

Medical Treatment of PVD

Neuroproliferative PVD
- topical anesthetics
- antihistamines
- antiepileptics
- capsaicin cream
- vulvar vestibulotomy

Hormonally mediated PVD
- stopping hormonal contraception
- topical estradiol (with or without testosterone) to the vestibule

Hypertonic pelvic muscle dysfunction:
- physiotherapy:
  - muscle relaxants (valium dosage)
  - Botulinum toxin injections
- cognitive behavioral therapy

Medical Treatment of OPF: BTTA injections

<table>
<thead>
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<th>Patient</th>
<th>Age</th>
<th>Weight</th>
<th>Height</th>
<th>History</th>
<th>Follow-up</th>
<th>Side</th>
<th>Dose</th>
<th>Amount</th>
<th>Interval</th>
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<td>163</td>
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<td>3 months</td>
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<td>45</td>
<td>65</td>
<td>158</td>
<td>20 weeks</td>
<td>3 months</td>
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<td>200</td>
<td>3 ml/day</td>
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<td>20 weeks</td>
<td>3 months</td>
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<td>45</td>
<td>65</td>
<td>158</td>
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</tr>
</tbody>
</table>

Sexual arousal and OPF in women with genito-pelvic pain/penetration disorders

- Apparently, genital response in women with dyspareunia is not impaired
- Genital response was found to be impaired, however, by fear of pain
- Braun et al: diminished genital arousal both in women with dyspareunia and in sexually functioning women, during erotic film viewing when the participant was under the threat of a painful stimulus at her ankle (= fear of pain)
Fear of pain may result in increased pelvic floor activity, as part of a defensive reaction.

The pelvic floor musculature, like other muscle groups, is indirectly innervated by the limbic system and therefore highly reactive to emotional stimuli and states.

Increased pelvic floor EMG has been observed in women with and without vaginismus in response to an anxiety provoking film.

In cases of actual or imminent physical or mental pain the pelvic floor muscles will involuntarily, and often unconsciously, contract.

Pelvic floor activity was found to be significantly enhanced during sexually threatening film excerpts, but also during anxiety evoking film clips without sexual content.

In sexual abuse survivors, the pattern of pelvic floor activity was highest during the sexually threatening film clip and the film clip with consensual sexual content.

A individualized, multidisciplinary approach must be adopted, including:

- Multimodal physiotherapy
- Psychosocial treatment
- Medical treatment

- Education
- Manual therapy
- Biofeedback
- Electrical stimulation
- Dilution technique
- Stopping OC
- Topical estradiol
- Muscle relaxants
- Botulinum toxin injections
- Topical anaesthetics
- Antidepressants
- Antiseizure drugs
- Capsaicin cream
- Vestibulectomy
EVALUATING AND UNDERSTANDING PELVIC FLOOR MUSCLE OVERACTIVITY – A PHYSIOTHERAPIST PERSPECTIVE

Mélanie Morin, PT, Ph.D
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OBJECTIVES

1. To review the physiology behind muscle tone
2. To discuss the current pelvic floor muscle (PFM) assessment tools and their advantages and limitations
3. To present the empirical evidence available related to the involvement of the PFMs in men and women with an overactive pelvic floor

Context

- PFM overactivity plays a crucial role in several conditions such as bladder and bowel elimination disorders, genital/pelvic pain syndromes and sexual dysfunctions

WHAT EXACTLY IS MUSCLE TONE?

“State of the muscle”, usually defined by its resting tension


Funding for speaker to attend:
- Self-funded
- Institution (non-industry) funded
- Sponsored by:

Affiliations to disclose:
- None
"State of the muscle", usually defined by its resting tension

- Muscle tone is evaluated clinically as the resistance provided by a muscle when a pressure/deformation or a stretch is applied to it.
- Muscle tone has two components: (i) contractile (active) component; (ii) the viscoelastic (passive) component.

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**PFM TONE**

- Normal resting activity
- Recorded by EMG
- Resting activity = controversies (Lakie, 1979; 1980)
- The urinary sphincter and some part of the levator ani muscle may have a tonic (constant) activity (Deindle, 1993; Vodusek, 1982)
- Myotatic reflex

---

**Muscle Physiology**

- Pathological involuntary electrogenic contraction
- Unintentional activity that is amenable to voluntary control
- Can be amenable to voluntary control (biofeedback) (Bergman, 2001)

---

**Trigger Point Objective Assessment**

1. Actin and myosin (extensibility of bridges) (Campbell, 1988)
2. Cystoskeleton (titin and desmin)
3. Conjunctive tissues surrounding muscle fiber (endomysium), fascicle (perimysium), muscle (epimysium)
**PFM assessment tools**

- Palpation
- EMG
- Manometry
- Ultrasound
- Dynamometry

**WHICH COMPONENTS OF TONE ARE ASSESSED WITH THE CURRENT PFM ASSESSMENT TOOLS?**

**PSYCHOMETRICS (RELIABILITY - VALIDITY)?**

**INVOLVEMENT IN THE PATHOPHYSIOLOGY OF CHRONIC PELVIC PAIN?**

**Palpation**

- General muscle tone
  - Devreese’s scale (normo-, hypo-, hyper-) tone (Devreese 2004)
  - Dietz’s scale (0 to 5; includes pain) (Lowen, 2014)
  - Lamont’s scale (0 to 4; withdrawal behaviour) (Reissing 2004)

  - **Reissing’s scale** (Reissing 2005)
    - Good inter-rater reliability (Reissing 2005)
    - Sensitivity to change (Gentilcore-Laurenc 2012)

- **SUBJECTIVITY** (Gentilcore-Laurenc 2012)

**Women with vulvodynia, vaginismus and CPP showed higher tone in comparison with asymptomatic controls as assessed with Reissing’s, Lamont’s and Dietz’s scales (Reissing 2004; 2005; Gentilcore 2010; Loving, 2014)**

**Palpation**

- Relaxation capacity
  - 0 complete relaxation to 4 remains contracted – good reliability (Reissing 2005)

- Sign. difference in women with vulvodynia and controls (Gentilcore 2010)

- **Flexibility**
  - Antero-posterior distance in cm – good reliability (Boyle 2007)

- Sign. difference in women with vulvodynia and controls (Gentilcore, 2010)

  0 (less than one finger insertion) to 4 (two finger insertions with fingers abducted horizontally ≥ 2 cm)

**Palpation**

**SGS Papers**

*Physical examination techniques for the assessment of pelvic floor myofascial pain: a systematic review*

Melanie P. Monas, MD, MS; Nvanka Oshakwamu, DDS; Stephen Sokoloff, PhD; Smit, MD, MPH; Thomas Spagnolo, PT, DPT, WOC, WSWC; Lowen, MD, MS;

55 studies included

- Methodology varied
- Psychometric properties of TP assessment in the PFMs are scarcely studied.

**EMG**

- **PFM resting activity**
  - Recording of the electrical current travelling along the muscle fibers at rest

- **EMG at rest**
  - Vaginal probe (n=27 asymptomatic women)
    - ICC = 0.723 – 0.821 (Engman, 2004)
  - Vaginal Femiscan (n=17 nuliparous continent women)
    - ICC = 0.883-0.92 (Voorham-van der Zalm, 2012)
  - MAPLe (n=168 continent women)
    - ICC = 0.73-0.85 (Tu, 2008; Orr 2018; Naidoo 2010; Doguweiler-Wygul 2004)

- These confounding factors affect inter-subject comparisons (Auchincloss, 2009)
**EMG**

**PFM resting activity**

- **Significant difference**
  - White, 1997
  - Frasson, 2005
  - Living, 2014 (CPP)

- **Non-significant difference**
  - Reising, 2004
  - Engman, 2004
  - Gentilecore, 2010

  - Naess, 2015

**Manometry**

- Measurement of resting pressure; in mmHg or cmH₂O by using a pressure device (a manometer) inserted into the urethra, vagina or anus.
  - Good reliability in supine (Frawley, 2006; Hundley, 2005)
    - Calibrated to zero prior to insertion
    - Not clear how much the probe should be inflated prior to measurement. The latter would influence the probe size.
    - Probe size and brand are known to influence the measurement (Reissing, 2004; Uricoca, 2006)
    - Placement of the probe is also important (Guaderrama, 2005; Engman, 2004)
  - Frasson, 2005
  - White, 1997

**3D/4D Ultrasound**

  - Indirect assessment of PFM tone
    - Non-painful and do not distort anatomy
  - Women with vulvodynia (n=56) and controls (n=56) at rest (Morin, 2014)
  - Asymptomatic women (n=56) and women with PVD (n=56)
    - More cephalo-ventral bladder neck position
    - More acute ano-rectal angle
    - Larger levator plate angle
    - Lower levator hiatal diameters and area
    - Significant difficulties to contract and control the PFMs (Morin, 2014)
    - Similar findings in men with CPP (Davis, 2011)

**Intra-vaginal dynamometers**

- **Myotonometer** (MyotonPro)
  - The device exerts mechanical impulses followed by release inducing damped oscillation on the muscle at rest
  - Summative contribution of active and passive component
  - Several parameters can be extracted from the oscillation curve, such as muscle stiffness
  - Good test retest reliability (Davisson, 2017)
  - Superficial muscle assessment
  - Women with vulvodynia had significantly higher stiffness than controls (n=35) (Davidson, 2017)

**Intra-vaginal dynamometers**

- **Aim**:
  - To compare PFM tone (the relative contribution of its active and passive components) in women with PVD (n=56) and asymptomatic controls (n=56)
  - Combination of EMG and dynamometry - Good reliability (Naess, 2006)
  - We showed an increase in both the active and the passive component of PFM tone
  - Women with vulvodynia had significantly higher resting forces and stiffness
**Muscle physiology**

Fear-avoidance model by Vlaeyen et al. 2000

- The statistical model explained 28% of the variance related to pain intensity during intercourse \( F(8,164) = 9.497, p<0.001 \)
- The PFM function could explain an additional 9% of pain intensity beyond that accounted by the fear-avoidance variables
- Pain intensity was negatively associated with
  - Strength
  - Speed of contraction
  - Flexibility (maximal tolerated aperture)

**Summary – assessment tools**

- There is no gold standard for assessing PFM tone
- There are no normative data available
- Most of the tools available measure global PFM tone (i.e., summative contribution of active and passive components)
- A combination of tools is probably the most suitable approach to investigate PFM tone

**Summary of findings- PFM overactivity**

The available evidence in women with vulvodynia/CPP:
- Elevated global PFM tone (measured by ultrasound, dynamometry and manometry)
- TPs (measured by palpation)
- Increased viscoelastic properties (dynamometer combined with EMG)
- Some patients, elevated tone explained by electrogeneric causes (evaluated by EMG)

In men with chronic prostatitis/CPP:
- Elevated global PFM tone (measured by ultrasound)
- TPs (measured by palpation)

**HOW CAN THESE ASSESSMENTS GUIDE OUR TREATMENT?**

**ARE PHYSIOTHERAPY MODALITIES EFFECTIVE FOR REDUCING PELVIC FLOOR TONE?**

**Effects of physiotherapy**

**Electrode biofeedback**
- Address the electrogeneric cause
  - Reduction in pain 34-66% of participants
  - Reduction in PFM resting pressure after a maximal contraction in women with PVD indicating that contracting the PFM can be used as a muscle relaxation technique (Naess 2015)

**General relaxation techniques**
- Stress management, relaxation breathing, relaxing time with a walk, hot bath, yoga, and meditation

**Electrical stimulation**
- For reducing pain- TENS (Murina 2008; Naess 2015)
- For reducing tension / improving muscle control
  - Reduction of pain (Nappi 2003; Harris 1987; Nappi 2004; Fitzwater 2003)
  - Improvement in strength and in relaxation (EMG) (Nappi 2003)
Effects of physiotherapy

Manual therapy (Trigger point / Myofascial release)

Archives of Physical Medicine and Rehabilitation
Available online 17 July 2018
In Press, Accepted Manuscript

Trigger point manual therapy for the treatment of chronic non-cancer pain in adults: a systematic review and meta-analysis

Dianella Dornany Kibl1, 2, X. Nakano-C. Freasley PhD1, 2, Katriina Petersen Mbo1, Gablett2, 1 Department of Obstetrics and Gynecology, University of California, San Francisco, San Francisco, United States 2 Department of Physiotherapy, Avanti University, Mangalore, India

➢ Sign. reduction in pain in patients with interstitial cystitis, and urological chronic pain and chronic prostatitis (Fitzgerald 2009; 2012; 2013; Anderson 2006)
➢ Reduction in resting EMG activity (Weiss, 2001)

Supports the interrelation between contracture and electrogenic spasm

Effects of physiotherapy

Stretching/insertion (Idama 2000; Murina 2008)

➢ Sign. reduction of pain in women with dyspareunia
➢ Auto-insertion - an effective adjuvant to other therapies

Proprioceptive neuromuscular facilitation (O’ Sullivan 2000)

➢ Contract-relax to promote relaxation
➢ Efficacy not studied in PFM physiotherapy

Effects of physiotherapy

Multimodal physio

(Goldfinger 2009; Gentilecore Saulnier 2010; Bergeron 2002; Goldfinger 2016; Morin unpublished)

➢ Sign. reduction of pain in 51-78% of patients
➢ Improvement in sexual function
➢ Reduction in PFM tone (using the Reissing’s scale)
➢ Improvement in relaxation (0 fully able to return to their resting state to 4 remained fully contracted)
➢ Improvement in flexibility (transverse diameter 0 (less than one finger insertion) to 4 (two fingers abducted ≥2 cm))
➢ Increase in PFM strength (modified oxford)

Effects of physiotherapy

Physiotherapy

Physiotherapy

Lidocaine

Baseline Post-6 months Baseline Post-6 months

Passive force (N)

1.1(0.1) 1.2(0.1) 1.2(0.1) 1.3(0.1) 1.3(0.1)

Maximal aperture (mm)

22.0(0.8) 29.4(0.8) 27.6(0.9) 20.3(0.8) 22.2(0.8)

Maximal strength (N)

3.0 (0.2) 3.4 (0.2) 3.6(0.2) 2.9(0.2) 2.9(0.2) 3.0(0.2)

Number of contractions

8.0(0.4) 10.7(0.4) 11.0(0.4) 8.3(0.4) 8.1(0.4) 9.3(0.4)

Slope of the ascending curve (N/s)

5.2(0.5) 8.5(0.6) 9.1(0.6) 4.8(0.4) 5.1(0.5) 5.9(0.5)

Slope of the descending curve (N/s)

4.4(0.3) 6.1(0.4) 6.5(0.4) 3.5(0.4) 3.4(0.4) 3.9(0.4)

Adjusted mean ± standard error. ***p<0.0001

Effects of physiotherapy

Summary – treatment

▪ The effects of physiotherapy modalities on PFM function are not well studied.
▪ We need more research to understand the underlying mechanisms of action of our interventions.

THANK YOU!
Terminology

- Muscle tone
- Hypertonicity: increase in muscle tone that can be associated with elevated contractile activity and/or passive stiffness in the muscle, and may exist in the absence of muscle activity altogether. "Increased tone" is preferred when the cause is non-neurogenic.
- Hypotonicity: decrease in muscle tone that can be associated with reduced contractile activity and/or passive stiffness in the muscle. "Decreased tone" is suggested.
- Spasm/Cramp
- Contracture
- Trigger point
- Stiffness
- Flexibility
- Tension: may have a similar meaning to tone and stiffness

(Bø 2017; Doggweiler 2017)
The OverActive Pelvic Floor: A “Fresh” Perspective

Applying a Biopsychosocial Framework in Clinical Practice
Carolyn Vandyken, PT

Carolyn Vandyken, PT
Affiliations to disclose:
None

Funding for speaker to attend:
Self-funded
Institution (non-industry) funded
Sponsored by:

Treating the Patient as a “Whole” Person
Biopsychosocial approach

Central Sensitization
Operationally defined: CS is the amplification of nerve signals within the CNS which elicits pain hypersensitivity


Phillips, K et al. Central Pain mechanisms in chronic pain states—may it is all in their head. Best Pract Res Clin Rheumatol. 2011 April; 25(2):141-154

Pain Syndromes Consistent with Central Sensitization (Clifford Woolf 2012)

- Fibromyalgia
- Chronic fatigue syndrome (CFS)
- Irritable Bowel Syndrome (IBS) and other functional GI disorders
- Temporomandibular Joint Disorder (TMJD)
- Restless Leg Syndrome (RLS)
- Myofascial Low Back Pain (LBP)
- Multiple Chemical Sensitivity (MCS)
- Primary Dysmenorrhea
- Headache (tension > migraine, mixed)
- Migraine
- Interstitial Cystitis/Chronic Prostatitis/Painful Bladder Syndrome
- Chronic pelvic pain and endometriosis
- Myofascial Pain Syndrome / Regional Soft Tissue Pain Syndrome

Going Against the Grain: Anti-fragile
Physical Changes that Occur in Central Sensitization

- **Within the Neurons**
  - ↓ threshold so that they fire more easily
  - ↑ rest period between firing
  - Sensor end of neuron releases inflammatory products - neurogenic bogginess

- **Within the Spinal Cord**
  - Sprouting of receptors in DRG

- **Within the Brain**
  - Body maps of injured area enlarges in S1
  - Poor coordination between M1 and S1
  - ↑ adrenalin and cortisol production: fight/flight
  - ↑ fear/anxiety/depression/anger which winds up system further

(Pearson, N. Understand Pain, Live Well again 2010)

Why do We Have Trouble Making this Shift?

Nijs (2012):

1. Self reflection of the clinician- do pain questionnaires yourself
2. Assessment of attitudes and beliefs in patients with chronic musculoskeletal pain- use PCS, TSK, DASS with our patients
3. Therapeutic Neuroscience Education (TNE)- look at the evidence
4. Clinical reasoning including reconscturalization- it has to change our practice
5. Therapy focusing on the right structures- tissues or nervous system

Nijs J., Roussel N., VanWilgen P., Kole J., Smets E. Thinking Beyond muscles and joints: Therapists’ and patients’ attitudes and beliefs regarding chronic musculoskeletal pain are key to applying effective treatment. Manual Therapy (2012)

Putting it into Practice

Jessica: History

- 6 weeks post-partum, P2/G2
- Very rapid delivery: felt “out of control”
- No time for an epidural
- First delivery- epidural, very controlled
- Complaints: heaviness, pain with being up on feet for > 30 minutes, carrying/lifting, bulge on self palpation
- Saw a pelvic health PT at 4/52 on recommendation of her midwife
- First PT went right to strengthening her pelvic floor with a Dx of a Grade 1 Uterine prolapse

Jessica: Screening

- Jessica did not feel “listened to”
- Very anxious about prolapse diagnosis
- Reporting feeling “blue” “out of sorts”
- Reached out to me for a 2nd opinion
- Distress questionnaires:
  - DASS 21: Depression=32, Anxiety=16, Stress=32 (Severe in all categories)
  - ACE score = 3 (Adverse Childhood Experiences)
  - FreBAQ (Fremantle Questionnaire)= 3 (WNL)
  - Central Sensitivity Inventory (CSI)= 44 (>40 is +ve)
  - Catastrophization (PCS)= 40 (severe category)
  - Positive Affect (PANAS)= 17 (< 30 is concerning)
  - Fear Avoidance (TSK)= 58 (>35 is a concern)
  - Self Efficacy= 3 (extremely low self efficacy)

Jessica: Physical Exam

- No allodynia
- Connective tissue tension in abdominal wall, groin and thighs
- Internally, tension in pelvic floor and rectovaginal septum
- Grade 1 “softening” of anterior, posterior vaginal walls and cervix position= normal??
- J-pain test strength in connecting pelvic floor because you are not getting an accurate representation of ability to contract
Jessica: Treatment

- Tension resolved in 3 visits
- Strength on Visit 3 was Grade 3/5 sec/5 reps
- Pain education
- Relationship of distress to tension
- Tension and pain are OUTPUTS
- Prolapse education
- Normal softening of the walls
- Too early to diagnose a prolapse
- Resolution of symptoms in 3 visits
- Strength on Visit 6 (3/12 later) was Grade 4+/10 sec/30 reps
- Maintenance routine: 2 kegels post-void
- Great coordination with a cough: The Knack
- Discussed long term exercise strategies with regards to working in/working out
- Balanced exercise diet: Cardio, ERR, weights

Jessica: Outcomes

- Good compliance: Motivational Interviewing
- 6 visits over a period of 6/12
- Resolved pressure feeling; no prolapse
- Committed to a regular exercise program including walking, kickboxing, qi gong, and weights
- Pain Catastrophization Scale = 8 (40)
- DASS 21: Stress= 8 (32), Anxiety= 6 (16), Depression= 12 (32) (mild)
- Tampa Scale of Kinesiophobia = 30 (58)
- Fremantle Back Questionnaire= 0 (3)
- Self-Efficacy= 10 (3)
Barbara—Screening

• Inadequate social support system - 1 friend, son who lived 3 hours away
• Not sexually active; single
• No incontinence; Bowels healthy
• DASS-Stress=severe (27)
• DASS-Depression= moderate (18)
• Low Positive Affect (PANAS)= Low (19)
• CSI=64
• Catastrophization= 13 [moderate]

Barbara—Physical Exam

• Hard time focusing; very teary
• Did not do internal exam for two visits because of level of overwhelm
• When we did her physical exam, she had minimal tension in the obturator internus bilaterally
• Everything else was normal; good timing, no prolapse, good strength
• Minimal pain education given:
  • Sensitized pain system vs. tissue drivers
  • Interstitial Cystitis vs. Bladder Pain Syn.
  • Delayed further education - not processing cognitively at the moment

Peripheral Mediators

- Skin issues
- Mobility, flexibility
- Strength
- Tension
- Includes muscles, ligaments, joints, nerves, aegons etc...

Central Mediators

- Sensory and motor nerves
- Pain 12-16 weeks
- Anxiety/panic/paroxysm
- Diffuse Pain/Body tension
- Physiological factors
- Mirror pain
- Thought processes pain

Drivers of Central Pain Mechanisms: Stress and Lack of Social Support

Barbara—Treatment

• Goal: To get depression under control:
  • Gentle Yoga to Overcome Pain (lifeisnow.ca)
  • Toilet meditation (physioyoga.ca)
  • Gratitude practice to increase positive affect
  • Bladder Diary re-tested after 3rd visit: Started a timed voiding program using:
    • Breathing, Kegels and distraction to increase her time between voids

What does the Research Say?

There is good evidence that yoga may be useful for several pain-associated disorders, even short term practice, for low back pain, irritable bowel syndrome, depression, fibromyalgia, and chronic neck pain

(Bussing et al, 2012)

Evidence suggests that yoga is an acceptable and safe intervention, which may result in clinically relevant improvements in pain and functional outcomes associated with a wide-range of M/S condition

Ward (2013)

Strong evidence for short-term effectiveness and moderate evidence for long-term effectiveness of yoga for chronic low back pain

Cramer et al (2012)

Barbara—Outcomes

• Talked to her boss about getting more support for online charting
• Joined a local community group in her new neighborhood to increase social interactions
• 5 visits= pain free
• Bladder Diary: one void at night, and 7-8 voids during the day
• Reconceptualized IC/BPS
• DASS-Depression (mild)= 12 (18)
• DASS-Stress (mild)= 16 (27)
• PANAS+26 (target=50) (19)
• Catastrophization= 8 (normal) (22)
Can We Hit the Target?

Treatments of the physical body may be just as valuable in people with persistent pain (BIO).
The central nervous system is altered by inputs from the physical body.

BUT

Treatment needs to be done within the context of a BIOPSYCHOSOCIAL PERSPECTIVE

AND

It needs to start with Pain Biology Education and Distress Questionnaires.

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