W19: ICS Core Curriculum: Institute of Physiotherapy: New Frontiers in Conservative Management for Pelvic Floor Dysfunction in Conjunction with the ICS Physiotherapy Committee

Workshop Chair: Cristiane Carboni, Brazil
19 November 2020 18:00 - 19:30

Start	End	Topic	Speakers
18:00	18:05	Introduction	Cristiane Carboni
18:05	18:15	Laser therapy for vulvodynia - What are the underlying mechanisms and evidence	Melanie Morin
18:15	18:20	Questions	All
18:20	18:45	Physiology of pain processing – How can we improve the pain management of our patients through more effective pain educational approaches and a better understanding of the placebo effect?	Serge Marchand
18:45	18:50	Questions	All
18:50	19:00	Female Genital mutilation/Cutting and the role of pelvic floor physiotherapy	Cristiane Carboni
19:00	19:05	Questions	All
19:05	19:15	The transgender patients – How can pelvic floor physiotherapy contribute to management?	Heather Moky
19:15	19:20	Questions	All
19:20	19:30	Discussion	Cristiane Carboni Melanie Morin Heather Moky Serge Marchand

Aims of Workshop
Despite high-quality evidence supporting conservative management for various pelvic floor disorders, there a number of new challenges requiring up-to-date discussions to ensure best practice and improve patient care. We will discuss the evidence and underlying mechanisms supporting emerging treatments in laser therapy and educational approaches for pelvic pain. In addition, we will discuss the available scientific evidence and our role as physiotherapists in the management of patients who have undergone female genital mutilation and gender-affirming surgeries.

Learning Objectives
To update clinicians on the evidence surrounding the efficacy and potential underlying mechanisms of laser therapy for the management vulvodynia

Target Audience
Conservative Management

Advanced/Basic
Intermediate

Suggested Learning before Workshop Attendance
Starzec M, Fradette J, Bardin M, Tu LM, Paré J, Carroll MS, Bérubé-Lauzière Y, Morin, M. Efficacy of high intensity laser therapy (HILT) for vulvodynia and musculoskeletal pain: A systematic review. Archives of Physical Medicine and Rehabilitation 2019 (accepted for publication).

Bonapace J, Chaillet N, Gaumond I, Paul-Savoie É, Marchand S. Evaluation of the Bonapace Method: A specific educational intervention to reduce pain during childbirth. J Pain Res. 2013;6:653–61.

Payne CK, Abduladir J, Ouedraogo C, Madzou S, Kabore FA, and De EJB. International Continence Society White Paper Regarding Female Genital Mutilation/Cutting. Neurourology & Urodynamics, 2019;38:857-867. This document provides the necessary background along with extensive references for those with special interest in the field. It includes links to relevant videos.

Jiang DD, Gallagher S, Burchill L, Berli J, Dugi D. Implementation of a pelvic floor physical therapy program for transgender women undergoing gender-affirming vaginoplasty. Obstet Gynecol. 2019 May;133(5):1003-1011.

Overview of the presentations

This workshop is presented on behalf of the ICS Institute – School of Physiotherapy. We have selected four innovative and emerging field of expertise in conservative management for pelvic floor disorders that need to be discussed to help clinicians and researchers to delineate the available knowledge to guide clinical practice and to identify areas of uncertainties deserving further research. The presentations entailed in this workshop will be presented by leading experts and will be recorded and converted into educational modules for broadcasting on the ICS Institute website.

During these four presentations, clinicians and researchers of all disciplines will be guided through the most up-to date evidence. In addition, this workshop will provide information and clinical tools for clinicians and researchers to delineate the current evidence and navigate through the uncertainties. This workshop will stimulate discussion to guide the development of new therapeutic approaches and field of practices. The audience will be invited to ask questions at the end of each presentation. Moreover, a discussion period at the end including case studies will be planned to foster discussion.

- **Laser therapy for vulvodynia - What are the underlying mechanisms and evidence**

Vulvodynia is a highly prevalent chronic pain condition affecting up to 16% of women of all ages. Although available treatments can provide improvement, pain persists for some women, highlighting the need to investigate further therapeutic modalities. There has been a tremendous increase in the use of laser therapy for treating various pelvic floor dysfunctions including vulvodynia. The pressure from the market in conjunction with the appeal for this promising treatment approach has incited the IUGA and the ICS to issue a warning statement to highlight the need to investigate the evidence supporting this modality. In this presentation we will discuss the available evidence supporting laser treatment for vulvodynia. A recent systematic review by Starzek et al. (2020) was conducted to examine the evidence on the effectiveness of laser for vulvodynia. High Intensity Laser Therapy (HILT) was more specifically investigated as it was suggested to yield higher penetrative capacities to treat deeper tissues and enhance therapeutic effects due to the higher dosage of irradiation. Findings regarding the efficacy of HILT in vulvodynia, retrieved from only one small retrospective study with high risk of bias (Leclair et al. 2007), are promising but still insufficient for recommending its use in clinical settings. Given that laser literature in vulvodynia is limited and that vulvodynia shares common pathophysiological mechanisms with musculoskeletal pain, our investigation of the evidence can be broadened to extract the knowledge derived from laser therapy in other musculoskeletal chronic pain conditions. The findings derived from available RCTs consistently showed that HILT was effective in reducing pain and improving function with large to huge effect size. These promising results encourage conducting further research transposing and adapting this knowledge to women with vulvodynia.

In this presentation, we will also discuss the potential mechanisms of action of laser therapy for pain. The available literature entails a limited number of animal and human studies investigating various laser parameters (e.g. low/high intensity, pulsed/continuous, etc.). Among the mechanisms of action proposed, it has been suggested that laser treatment may have anti-inflammatory effects through photobiomodulation mechanisms by altering inflammatory markers in both animal and human studies. Moreover, HILT is reported to have a photothermal effect through increase in tissue temperature. This warming effect is hypothesized to improve muscle relaxation and extensibility of the connective tissue and thus, reduce pain. Another mechanism of action described is the analgesic effect of laser through neural inhibition. Indeed, the systematic review of Chow et al. (2011) showed that laser especially at a higher therapeutic dose, results in an anti-nociceptive effect by suppressing conduction velocity and reducing the amplitude of the action potentials in small diameter nerve fibers that convey nociceptive stimuli. HILT is also suspected to have an analgesic effect through endorphin mechanisms. The study Laasko et al. (1994) observed a dose-dependent effect of laser on the circulating level of beta-endorphin which suggests that laser may also reduce pain through the central pathway. Although these proposed mechanisms of action are relevant to the pathophysiological pathways of chronic pain conditions, further human studies are needed to confirm these potential mechanisms in relation with the various HILT parameters and most importantly, their relevance in pain mediation.

- **Physiology of pain processing – How can we improve the pain management of our patients through more effective pain educational approaches and a better understanding of the placebo effect?**

In pain, context is everything. Let's compare two situations of a strong muscle pain. In one situation, the patient has a cancer and this new pain will be interpreted as the evolution of the cancer and the unpleasantness will be unbearable. In a healthy subject, the same pain intensity the day after a very intense physical training will be interpreted as a sign that the training worked and a gain of muscles. The two situations with the same pain intensities will have very different effect on the person.

The context can also trigger endogenous modulatory mechanisms. To trigger a quick reaction in case of a potential risk of injury, pain must be amplified so the situation can be interpreted clearly. However, in other circumstances, a nociceptive signal may need to be ignored or reduced to react adequately, such as running from a danger on a wounded leg. It is most likely for these reasons that the central nervous system (CNS) has developed several complex endogenous facilitatory and inhibitory mechanisms that can either amplified or reduce the perception of pain. These situation-adapted pain responses are the result of complex endogenous mechanisms. This plasticity speaks to the nervous system's ability to change and adapt.

Placebo and nocebo responses are good examples of the importance of the context in a treatment. There is good evidence showing that placebo and nocebo responses do not only reflect a psychological reappraisal of an unchanged nociceptive activity.

There are several scientific evidence indicating that placebo or nocebo responses trigger changes in the brain that activate descending modulatory mechanisms, affecting the nociceptive signal early in the central nervous system. Among the psychological factors that trigger a placebo or nocebo response, conditioning and expectation have been demonstrated to greatly affect the outcomes of pain perception, but also the response to treatment. Placebo or nocebo responses can be triggered without the administration of an inert substance in several therapeutic contexts and will affect the treatment outcome. Moreover, placebo and nocebo effects, intrinsic to every treatment, can be used to develop personalized therapeutic approaches that improve clinical outcomes while limiting unwanted effects.

Understanding the neurophysiology of pain is essential for the clinician, but also for the patient. Several studies support that patient with higher knowledge in pain neurophysiology have less fear avoidance and lower perceived disability due to pain. Studies also suggest that women with chronic pelvic pain may benefit from neuroscience education as part of their management. It is then essential for any clinician working with patients suffering from chronic pain to have a good background of pain neurophysiology to transfer this empowering knowledge to the patient.

During this presentation, we will review some of the knowledge that will help the patient to better understand these mechanisms and potentiate pain inhibitory mechanisms and reducing excitatory ones.

- **Female Genital mutilation/Cutting and the role of pelvic floor physiotherapy**

Female Genital Mutilation/Cutting (FGM/C), in its official World Health Organization Definition, "comprises all procedures that involve the partial or total removal of external genitalia or other injury to the female genital organs for non-medical reasons." FGM/C is distinguished from female genital cosmetic surgery by consensual and other factors. There are no health benefits to this procedure and it exposes women and girls to significant short and long-term risks. FGM/C is a deeply ingrained sociocultural practice in many countries. The WHO Guidelines state that "FGM/C violates a series of well-established human rights principles", many other international groups have called for an end to the practice, and it is outlawed in many countries. Despite this, FGM/C is practiced in 30 countries around the world. An estimated 200 million women have undergone FGM/C to date and 3 million are at risk each year. Implementation of rehabilitation program in those women constitutes a real challenge as it demands specific skills and knowledge. The ICS White Paper regarding Female genital mutilation/cutting (FGM/C) prepared under the auspices of the International Continence Society (ICS), was intended by the ICS as a statement promoting the abandonment of this practice. The ICS also supports the respectful and evidence-based care or treatment of women and girls already affected by FGM/C, in keeping with the World Health Organization (WHO) Guidelines on the Management of Health Complications from Female Genital Mutilation. ICS members from all countries may encounter such women and should be prepared to care for them with insight, skills and compassion. As an international society, we have a duty to go to the countries and teach the healthcare professionals where these practices still exist to promote effective conservative management to these women presenting various pelvic floor dysfunctions. Girls and women who experience long-term gynaecological and/or urogynaecological health complications caused by FGM often live with the symptoms of these conditions for months or even years without seeking care. Consequences of FGM can be divided in short term and long-term consequences. There are many possible treatment options for treating short- and long-term complications. This includes physiotherapy, psychology and counselling, pharmacotherapy, reconstructive or restorative surgery, cognitive behavioral therapy. FGM is relevant to pelvic floor physiotherapists because long-term effects are within the scope of their practice. For some women there are significant health consequences related to pelvic floor dysfunction and pain. An international survey conducted by the International Organization of Physical Therapists in Women's Health (IOPTWH) showed that women who have undergone FGM are receiving physical therapy. Common reasons for referral: urinary dysfunction, postnatal perineal trauma, dyspareunia, postnatal urinary dysfunction, chronic pain and vaginismus, for which there is evidence for the benefits of physical therapy but not specifically in women with FGM. Validated outcome measures and research are needed to verify the benefits of physical therapy. The role of physiotherapist in these areas and worldwide will be discussed.

- The transgender patients – How can pelvic floor physiotherapy contribute to management?

The necessity for better health care and awareness of the needs of the transgender population is imperative. There are many barriers to basic healthcare for this population. We have the opportunity to identify, refer and treat many underlying issues that exist and remain untreated. The patient's gender dysphoria is often times so overwhelming, it is hard to seek addition help in the primary medical environment that often times can be lacking, unsupportive, or not available. It is essential to help establish a multidisciplinary team for this complex patient. Physical therapy plays an integral part of each patient's care on a daily basis, both pre and post operatively and many places in between. It is important to identify muscle dysfunction before, during, and after different stages of transition. Identifying basic complications that can occur during the transitions process can be addressed by a pelvic floor physical therapist or another team member. This in turn can help decrease further obstacles and help the patients overall progress and stability. When there is preexisting muscle dysfunction, any additional manipulation of the structures, procedures or operations can increase these issues. Muscle dysfunction can lead to a variety of problems. With pelvic floor muscle dysfunction, one may experience urinary or fecal retention, frequency, hesitancy, leakage, sexual dysfunction and pain. There are a variety of techniques such as packing, tucking, and binding; that are used by transgender individuals on a daily basis and sometimes without an end goal of gender affirming surgery. These techniques are used for basic comfort, a better appearance, concealing their genitalia and other reasons. Many do not understand the long terms impairments that can occur

with these techniques such as pain, numbness, scarring, respiratory issues, postural problems and other additional issues. Prior to and after vaginoplasty, phalloplasty, and metoidplasty, it is valuable to regain the strength and flexibility of the surrounding musculature to help preserve the muscle's basic function and identify potential scar issues.

This talk will discuss the role the pelvic floor physical therapist can play and the importance of establishing other treatment partnerships to help achieve better and successful outcomes for this population.