

#### WORD FROM THE CHAIR

Dear Members,

Happy Spring! Hoping that you have been able to get out and catch some rays and fresh air.

We hope you were able to join us for our recent collaborative events: "Pelvic Health & Cancer" with the Oncology Division

and "Celebrating Women in PT" with the NOD, GHD & BBIPOC Student Collective! For those of you who were able to attend, we hope you found the panel discussions to be inspiring, thoughtful and informative. We were grateful for the opportunity to participate in such incredible initiatives that created a safe space for discussion, learning and reflection. Our executive team would like to thank our rockstar panelists for sharing their time, insights and enthusiasm!

Our executive has been diligently working together to kickstart the core priorities of our strategic plan: Governance, Member Experience, Education and Advocacy. We are looking forward to the upcoming events as well (mark your calendars!):

#### 1. OUR ANNUAL SPEAKERS SERIES:

We are so excited to announce our awesome lineup of webinars and speakers from April until June (check it out on in the Speaker Series on page 7 of this newsletter and stay upto-date by following our instagram account @womenshealthdivision)!

# 2. FIRST-EVER VIRTUAL CPA CONGRESS MAY 13-16, 2021: SUPPORTING THE HOLISTIC PHYSIOTHERAPY PROFESSION

Register Now! The CPA has worked hard to plan a true "conference-like" virtual experience for this year's Congress. We hope to "see" you all there for this awesome opportunity for learning and connecting!

Are you presenting? Please let us know by emailing **whdsecretary@gmail.com** (name, presentation, social media handles)! We would love to support your work with some WHD Twitter & IG love "at" Congress!

#### 3. 2021 MEMBER'S MEETING MAY 16, 2021 AT 11:30AM:

Our executive will be there and we hope to "see" you all there for this opportunity for learning and connecting! We hope that you will join us as we would love to hear the voices of all our members. As an executive, we always look forward to opportunities to connect with you all!

Wish you and your families' good health as we continue to navigate the pandemic together. Thank you all for your dedication to supporting the health of our communities.

Ps. I am attending World PT Congress 2021 Online - what a blast it's been! Stay tuned for reflection on this in my next address in the summer newsletter!

Devonna Truong Chair of the Women's Health Division, Candian Physiotherapy Association



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JANE BRUCE



#### NOTE FROM THE EDITOR

Dear readers.

As we start to enjoy the sunnier days of Spring with no sign yet of gyms reopening, many of us are seeing a rise in clients picking up outdoor activities such as running and cycling.

How can treating through a pelvic health lens improve the performance of our athletic clients? What are the current recommendations for exercise in athletes during the perinatal period? How can we help our perinatal clients return to sport and activity after birth? How can we treat pelvic floor dysfunction that is related to sports?

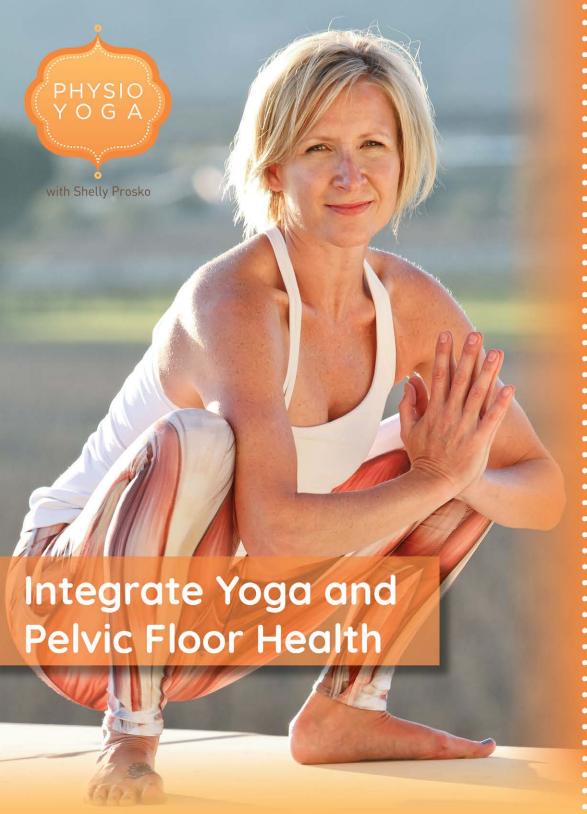
In this edition of the Newsletter, we will be exploring these topics as they relate to pelvic health in the realm of sports and recreational activity.

Yours truly, Hayley O'Hara, PT WHD Newsletter Editor

#### **WOMEN'S HEALTH DIVISION EXECUTIVE MEMBERS**

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- Book: Yoga and Science in Pain Care: Treating the Person in Pain

Shelly Prosko, PT, C-IAYT physiotherapist, yoga therapist



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#### VALENTINE'S DAY CHALLENGE 2021



Thank you to everyone who participated in the Women's Health Division's 7th Annual Valentine's Day Challenge. The Valentine's Day Challenge is a Canada-wide fundraiser that was introduced in 2015 to celebrate Valentine's Day, while encouraging community engagement, supporting local women's shelters, and increasing awareness of health inequities experienced by women. This year's participants came from 20 clinics and 9 universities, including British Columbia, Alberta, Saskatchewan, Ontario, Quebec, Newfoundland and Labrador, Nova Scotia, and the Northwest Territories. Participants were tasked with collecting items such as toiletries, menstrual hygiene products, and incontinence supplies. These items were then donated to a local women's shelter of their choice on February 14th, 2021. Together, participating clinicians and students collected over 1000 tangible donations and \$2000 worth of financial donations for shelters across Canada. A special congratulations to Noémie Tito and McGill University for winning the challenge, collecting over 100 donations and raising \$520 dollars for the Native Women's Shelter of Montreal.

Women's shelters provide accommodation, counselling, and education to women, with or without children, who are experiencing homelessness and/or domestic violence. They connect women and children to essential resources, such as social, judicial, and health-care services. Most importantly, they provide a safe space for women and children to recover from previous experiences and regain their autonomy. However, women's shelters are often non-profit organizations. Thus, tangible and monetary donations are vital to ensure that shelters can provide consistent support for women and children in their communities. According to an article published in the New England Journal of Medicine, women have been disproportionately impacted by the COVID-19 pandemic, due to rises in domestic violence, shelters operating at reduced capacity to ease crowding, and travel restrictions mitigating accessibility to shelters (1). Engaging with and supporting our local shelters through fundraising is an important way that we can help address social, health, and resource inequities that are currently being experienced by women around Canada. Moreover, educating ourselves and others about inequities experienced by women can initiate conversations and facilitate movement towards equitable care for everyone.

Thank you again to everyone who participated in this year's

Valentine's Day Challenge and helped support organizations across the country. We appreciate your drive to make changes in your communities and we look forward to your participation again next year!

References (1) Evans ML, Lindauer M, Farrell ME. A pandemic within a pandemic— Intimate partner violence during Covid-19. New England journal of medicine. 2020 Dec 10;383(24):2302-4.



# **Upcoming Webinars**

#### **Exercise for Women with Cancer**

Speaker: Dr. Jenna Smith-Turchyn, PT, PhD (Assistant Professor & Researcher

at McMaster University)

Date/Time: May 20th, 2021 @ 7:30PM (EST)

Registration Link:

https://us02web.zoom.us/meeting/register/tZUpd0mogzsjGdNeRV90Vetti8m3EmWsQrrz



## **Returning to Running Postpartum**

Speaker: Dr. Sinéad Dufour, PT PhD (Associate Professor & Researcher at

McMaster University; Director of Pelvic Health at The World of My Baby)

Date/Time: June 2nd, 2021 @ 3PM (EST)

**Registration Link:** 

https://us02web.zoom.us/meeting/register/tZYkc-yogDsiHNWt07BQrjRbcX\_05RrNBlgG



### Concussions in Women and Girls

Speaker: Dr. Meaghan Adams (Assistant Professor at McMaster University &

Post Doctoral Fellow at York University & Toronto Rehabilitation Institute)

**Date/Time:** June 23rd, 2021 @ 7:30PM (EST)

**Registration Link:** 

https://us02web.zoom.us/meeting/register/tZcvdeChpzwsHd364w3PCZJRyLMVCf44MWlb





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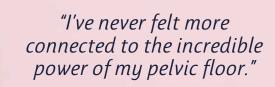
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- Samantha



#### **Pelvic Floor Physiotherapy Courses**







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#### The Physical Therapy Approach for Dyspareunia (2.5 day course)

**LIVE-ONLINE – May 28-29 & June 19 2021 (in English)** 

#### C-Section: Preparing for and Recovering from Belly Birth (2 day course)

LIVE-ONLINE – June 5th & June 13th 2021 (in English)

# Physiotherapy for Ano-Rectal Disorders AND Pelvic Floor Physiotherapy in Paediatrics (4 day COMBO course)

LIVE-ONLINE – Sept. 17-18 & Sept. 25-26 2021 (in English)
Register for the Combo in order to benefit from the *discount*, (see website for the options)

#### **The Physical Therapy Approach to Female Urinary Incontinence (4 day course)**

Hybrid version (2 online days & 2 in person days) – Oct. 1, 16, 17 & 22 2021 (in English)

# For course details and registration go to:

www.physiourosante.com info@physiourosante.com

Claudia Brown and Marie-Josée Lord





By Adrienne Sim, BHK, MPT

www.fullcirclephysiotherapy.com IG: @adriennesimphysio/ @fullcirclephysiotherapy FB: @adriennesimphysio/ @fullcirclephysiotherapy

Adrienne Sim is a pelvic health Physiotherapist working in Langley, BC as a member of Full Circle Physiotherapy, a collective of passionate independent

pelvic health practitioners serving areas across the Lower Mainland. Adrienne completed her Master of Physiotherapy at Curtin University in Perth, Western Australia in 2010. She went on to pursue a Graduate Certificate in Clinical Physiotherapy through Curtin University in 2014 with a specialization in Continence and Women's Health. Currently, Adrienne is involved in the Research and Development Committee for the Canadian Society of Pelvic Medicine and is actively working to improve pelvic health awareness and accessibility in BC through interprofessional collaborative opportunities and research initiatives. Outside of work, Adrienne enjoys keeping active and living the chaos (most of the time) and excitement that comes along with life with 2 little humans.

In 2015, the International Olympic Committee (IOC) assembled an expert panel to perform a rigorous systematic review of the literature on physical activity during pregnancy and after childbirth for recreational and elite athletes. The consensus statement was published in 2016 with recommendations for exercise training in pregnancy and after childbirth for regular exercisers and elite athletes and identified major gaps in the research. The recommendations and the gaps in research will be outlined here.

Consideration for the care for athletes should start at preconception which aims to optimize health and knowledge before planning and conceiving. For many athletes, reproductive age coincides with peak performance and many athletes may also have relative energy deficiency in sport (RED-S). The long-term repercussions of RED-S are unknown but numerous features have negative impacts on fertility. Therefore, it is recommended that athletes with a history of disordered eating are monitored closely by their healthcare team preconception and during pregnancy.

Research on the effects of exercise on the fetus, labour and birth were explored. High impact exercise, including jogging, ball and racquet sports, has been associated with slightly higher



risk of miscarriage, particularly around the time of implantation. However, there is no association between exercise and the risk of miscarriage beyond 18 weeks gestation. On the other hand, light to moderate intensity physical activity may actually decrease the risk of miscarriage. Although the evidence is of low quality, elite athletes who want to become pregnant may consider limiting the intensity of high impact training routines in the week after ovulation and refrain from repetitive heavy lifting efforts in the first trimester of pregnancy.

Several general concerns related to exercise in pregnancy were outlined in the consensus statement and included the following recommendations:

- · Exercising in hot and humid weather where there may be an increased risk of raising core body temperature above 39deg should be avoided. This is particularly important in the first trimester when the neural tube is forming.
- Exercise in the supine position is cautioned due to potential risk of decreased venous return and uterine blood flow. Symptoms such as dizziness, which is associated with particular exercises or positions, are likely to occur after 28 weeks gestation. These exercises and positions should be discontinued if symptoms arise. Short bouts of exercise for 2-3 minutes in supine are generally fine however modifications may include tilting the torso 45deg or doing exercises in side-lying, sitting or standing.
- Training at altitudes greater than 1500-2000m is not advisable. based on the assumption that there is an associated decrease in blood flow to the uterus however, there is a lack of data to support this claim.
- Attention should be given to adequate energy intake in order for athletes to achieve recommended gestational weight gain.
- · Maximum VO2 testing and exercise above 90% VO2 max is not recommended. In addition, the BORG RPS does not correlate strongly with heart rate during pregnancy and often underestimates heart rate. Beyond the second trimester, it is recommended that heart rate be monitored directly.
- · Heavy strength training should be modified to avoid the Valsalva manoeuver which may decrease blood flow to the uterus temporarily and lead to excess pressure down on the pelvic floor. This may result in urinary or fecal incontinence or pelvic organ prolapse during or after pregnancy.
- There is strong evidence that strength training of the pelvic floor during pregnancy can prevent and treat urinary incontinence during pregnancy and after birth as well as reduce the length of both the first and second stage of labour. It is advised that pregnant athletes learn how to contract the pelvic floor muscles correctly before giving birth with incorporation of pelvic floor muscle training into their training regimen for prevention.

• Sports to avoid include those that involve a risk of trauma, such as being hit by something (eg a hockey stick), having a physiological risk associated such as scuba diving, and where the risk in sport may involve a collision, fall or sudden deceleration (eg. bobsledding, luge, equestrian, pole vaulting, ice hockey and downhill skiing).

There is a significant lack of studies investigating exercise during pregnancy, specifically in elite athletes. The following evidence on effects of exercise during pregnancy is predominantly obtained from studies on exercise in the general population, suggesting that exercise during pregnancy:

- Reduces excessive birth weight (Level of evidence High)
- Has few effects on preterm birth (Level of evidence -Moderate)
- Has no effect on Apgar scores (Level of evidence -
- Does not increase rates of induction, episiotomy or epidural (Level of evidence - Moderate)
- Does not increase first or second stage of labour (Level of evidence - Moderate)

There are very few studies investigating factors related to return to exercise following childbirth in the general population and even fewer in elite athletes. A progression for return to sport should include: return to participation, return to sport and then return to performance. An individualized program for recovery needs to take into consideration various individual aspects including: the requirements of the athlete's sport performance, their childbirth experience (including levator ani trauma, denervation and operative delivery) and demands of their sport. Special considerations should also take into account the detraining period requiring reconditioning and healing timeframes. For example, fascial repair is 51-59% of its original tensile strength at 6 weeks postpartum and 73-93% at 6-7 months postpartum. In addition, exercise levels should be guided by pain and symptoms related to the surgical site. Considerations for lactation and exercise include pumping or feeding prior to exercise and being fit with a supportive sports bra to reduce breast discomfort and allow for greater flexibility in workouts. Moderate exercise during lactation does not appear to affect the quantity or composition of breast milk or impact infant growth.

Overall, the IOC 5-part consensus statement provides some valuable insight and informed the development joint SOGC/CSEP Clinical Practice Guideline for physical activity through pregnancy, yet reveals a significant need for high quality evidence specific to pregnant athletes.

Resources: 1.http://dx.doi.org/10.1136/bjsports-2016-096218; 2. http:// dx.doi.org/10.1136/bjsports-2016-096810; 3. http://dx.doi.org/10.1136/ bjsports-2017-097964; http://dx.doi.org/10.1136/bjsports-2017-098387; 5. http://dx.doi.org/10.1136/bjsports-2018-099351



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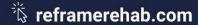
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#### TREATING PELVIC FLOOR DYSFUNCTION IN WOMEN: INTERVIEW WITH GRÁINNE DONNELLY

By Katie Kelly, PT, Newsletter Subcommittee Member



Gráinne Donnelly is an Advanced Physiotherapist and researcher in pelvic health physiotherapy. She is on the Specialist Advisory Board for the Active Pregnancy Foundation and an associate member of Canterbury Christchurch University's Perinatal Physical Activity Research Group (PPARG). She has a particular interest in Diastasis Recti, perinatal exercise and ultrasound imaging within pelvic health physiotherapy. Recently she co-launched a podcast called "At Your Cervix - the Podcast" which aims to lift the lid and break taboo on all things pelvic health.

Website: www.absolute.physio

Social Media: Instagram: @absolute.physio Fb: Absolute.Physio Twitter: @ABSPhysio

LinkedIn: Grainne Donnelly

Podcast:

https://physio-matters.com/the-at-your-cervix-podcast/

#### IN YOUR EXPERIENCE. HOW DO WOMEN STRUGGLE WITH PELVIC FLOOR PROBLEMS **DURING SPORT AND EXERCISE?**

Many women experience symptoms of pelvic floor dysfunction when they participate in sport and exercise. This may be in the form of leaking from the bladder and/or bowel; sudden urges or increased frequency to go to empty the bladder or bowel; pelvic organ prolapse (often experienced as a feeling of heaviness/ pressure in the vaginal area) or pelvic pain including pain in the saddle/vaginal/back passage areas. These issues often present after women have had children however nulliparous women (who have not had children) can also leak during high impact/ exertional activities, e.g. gymnastics, volleyball.

For some women, these symptoms will impact their enjoyment of the activity and involve planning around toilet trips or carefully selected clothing to aid discretion. For others, especially those in elite level sports, it can be a limiting factor to their progressions and marginal gains or even serve as a barrier to continuing. The taboo surrounding pelvic health means that many women navigate through sports and exercise without the education and/ or support to address these complaints. This needs to change.

#### AS PHYSIOTHERAPISTS, WHAT IS OUR ROLE IN HELPING WOMEN TO EXERCISE WHEN THEY ARE PREGNANT AND IN THE POSTPARTUM PERIOD?

Supporting women to keep active during and after pregnancy is so important. We understand the established benefits that physical activity provides for physical and mental wellbeing and these benefits also extend to the unborn child in the case of pregnant women. Different regions around the world have established physical activity guidelines. I regularly refer to the "2019 Canadian guidelines for physical activity throughout pregnancy" and in In the UK we have the Chief Medical Officer's Physical Activity Recommendations for all phases of life including pregnancy and postpartum. Women are advised to aim for 150 mins of moderate intensity exercise per week including cardio and strength sessions. CMO infographics available at this link.

Recent research that I was involved in, headed by Dr Izzy Moore at Cardiff University, found that many pregnant women fear physical activity (such as running) due to concerns about the baby's well-being, risk of miscarriage or compromising their pelvic health. As physiotherapists we are exercise prescription specialists, and we need to use our knowledge and skillset to

empower and support women to maintain physically active. A huge part of this role is simply offering evidence informed information and maximising its dissemination. Establishing consistent messaging throughout the global pelvic health physiotherapy profession will provide an impactful way to counter the plethora of mixed messaging out there.

In the postpartum period, our role is to inform and support women to grade back towards their baseline physical activity... or perhaps even further! Ensuring that they know what to do in the early days, such as pelvic floor muscle rehabilitation (regardless of delivery mode) and low level abdominal/functional movements is important. Debunking the myth surrounding the 6-week postpartum check, where often women think that they do nothing for the first 6-weeks and then suddenly get the green light to go and do anything. The principles of sports medicine and return to sport can easily be applied in the context of the postpartum woman by understanding the need for assessment the potential "injury", required period of reconditioning, graded exposure to training and then return to sport testing. If women understand the need for this graded approach, they are more likely to adhere and not risk overloading too soon. Like any area of rehabilitation, assessment and management to support women in returning to exercise following childbirth should be carried out within a whole system context by considering all the factors within a biopsychosocial model of care that may influence readiness. For example, a postpartum woman who is sleep deprived, not eating well and struggling to cope with the psychological transition into motherhood may not be ready to push on with exercise progressions yet.

On the contrary, a new mother who had an uncomplicated vaginal delivery and has commenced early pelvic floor and core rehab and is mindful of potential risks to pelvic health if she does too much too soon, may require the reassurance, support and know-how to actually progress onwards and overcome their fear of movement.

# DO YOU ENCOUNTER WOMEN WANTING TO RETURN TO EXERCISE AFTER DELIVERY WHEN THEY ARE SYMPTOMATIC? HOW DO YOU GUIDE THEM DURING THIS TIME?

Yes, many women perceive symptoms of pelvic floor dysfunction to be a normal and expected part of having a baby. For others, they may recognize that it isn't normal but they do not wish to pull back from their chosen exercise. For example, running is often a coping strategy for women in terms of mental wellbeing. It may be their only "me time" or the only remaining and relatable sense of identity from prior to being a mother.

The key to scaling women back from a certain level due to significant symptoms of pelvic floor dysfunction or risk of overloading their tissue tolerance, is to ensure that they are still doing some forms of meaningful activity. When it comes to runners.... I find that they just want to run. Therefore, scaling

activity back to non-running rehab needs to look familiar to running. I like to use the jump board on my reformer to still train lower limb impact within a gravity assisted position, or supported run drills against a wall. I like to progress to running as soon as possible and can achieve this with less impact to the pelvic floor with incline running or opting for softer terrains.

If we can utilise some sort of support to alleviate symptoms while they run, this can be a great option. For example, the Contiform or Uresta intravaginal support devices help alleviate stress urinary incontinence. Rehab can continue alongside this with the aim of progressing past a support device or it may be a viable option long term.

# WE KNOW THAT YOU HAVE HELPED CONTRIBUTE TO GUIDELINES FOR RETURNING TO RUNNING AFTER PREGNANCY (GOOM ET AL, 2019). WHAT WAS YOUR BIGGEST STRUGGLE IN TERMS OF DEVELOPING THESE RECOMMENDATIONS?

This was a passion project that was never intended to be such a huge undertaking. However, when we recognized the significant lack of guidance for postpartum women, we knew we had to do something to get the conversation going. The biggest struggle was the lack of evidence researching females in general and even more so perinatal females. Much of our recommendations were made following expert consensus alongside extrapolated findings from research investigating other populations. For example, males returning to sport or nulliparous women and sport.

We are part of an international working group, including some amazing Canadian members, who are hoping to progress research in this area over the coming years. Hopefully in the not-so-distant future there may be more evidence-informed resources to recommend.

# HOW DO YOU USE THE 'RETURNING TO RUNNING POSTNATAL' GUIDELINES IN YOUR CLINICAL PRACTICE?

Despite how many health and fitness professionals perceive the guidelines, they are not intended as a protocol or prescription. Rather, they are intended to facilitate therapist clinical reasoning. I regularly send the document to my postpartum mums, regardless of whether the exercise they want to get back to is running or not. I think there is enough information that they can understand and apply. It offers them the reasoning behind



why a graded return to exercise is important.

The load and impact tests are something I consistently utilise to inform my clinical reasoning. I also use these tests as rehabilitation exercises where indicated. The part of the guidelines that I particularly want to highlight is the Additional Considerations. Often as physiotherapists we can become tunnel visioned towards the physical needs. We know that we work within a biopsychosocial model of care however this section highlights the wide range of considerations that are important for the postpartum woman within this context.

We were delighted to go on and publish about the guidelines in the BJSM: Infographic: Guidance to medical, health and fitness professionals to support women in returning to running postnatally

Since then, Emma Brockwell, another co-author, and I have had several wonderful research opportunities which is exactly what we hoped for when releasing them. We wanted to stimulate research investigating this population.

#### ARE THERE ANY OTHER RESOURCES OR TOOLS THAT YOU **USE WITH YOUR CLIENTS TO ASSESS OR TREAT?**

I use ultrasound imaging within my clinical practice, and I find this a really valid and useful tool for evaluating pelvic floor function and support as well as abdominal wall function and recovery. I teach other physiotherapists how to use ultrasound imaging within their clinical practice in pelvic health and I am part of a team developing the first Scope of Practice Guidelines for Physiotherapists utilising ultrasound imaging within the UK. Shout out the Jane Dixon, Dr Mike Smith, and Lucia Berry who are also working on this.

Whether women leak, experience prolapse symptoms or pain with lifting, it is important to reduce the load in line with the load tolerance of the tissues and grade up as strength and conditioning principles allow.

Ultrasound imaging expands both my clinical assessment and treatment in that is also offers a great medium to educate and inform the woman about her pelvic floor. We all know that the majority of women struggle to locate or understand the role of their pelvic floor. This is not surprising given that it is a region of the body we do no readily or regularly see or speak about in day-to-day life. If we consider the non-pelvic health physio clinic where a patient may be demonstrated an exercise by their physio...for an area of the body that they can see and fully understand...we know that they often repeat it back incorrectly initially and it may take some practice and cueing to refine the task. How then, can we expect women to understand what their pelvic floor is or does? In my clinical experience, the mind body connection and visualization that ultrasound imaging of the pelvic floor offers to the patient is incredibly beneficial.

I am also a huge fan of validated outcome measures and regularly use the Australian Pelvic Floor Questionnaire and the ICIQ.

Our work with the guidelines has taken us on a journey to connect and meet some amazing researchers and clinicians that are really pushing the profession onwards. We are part of an international working group, including some amazing Canadian members, who are hoping to progress research in this area over the coming years. Hopefully in the not-so-distant future there may be more evidence-informed resources to recommend.

#### HOW DO YOU HELP WOMEN WHO CONTINUE TO HAVE MORE PERSISTENT PELVIC FLOOR/CORE SYMPTOMS EVEN WITH DILIGENT ATTENTION TO PELVIC FLOOR PHYSIOTHERAPY, WHEN THEY WANT TO RETURN TO HIGHER IMPACT/HIGHER LOAD ACTIVITIES?

This is when we would have to really individualize management to the patients needs. This may involve referral onwards or working alongside other members of the MDT. The patient may wish to explore surgical options if appropriate.

I am a huge fan of conservative adjuncts, such as pessaries, for prolapse and/or incontinence. I also see a role for compression garments in managing and limiting symptoms.

Activity modifications may be appropriate such as type of activity, surface it is carried out on, duration or intensity. I try to find a sweet spot that means the woman can continue to exercise but we limit excessive overload and/or symptoms. Some of the modifications mentioned previously can be appropriate, such as uphill running, softer terrains or access to an anti-gravity treadmill if possible.

As always... considering the entire person within a whole-system context to see if there are any areas to address which may make a difference to their pelvic health progression.

#### DO YOU HAVE PERSONAL GUIDELINES THAT YOU FOLLOW FOR WOMEN WHO ARE SYMPTOMATIC WITH HEAVY LIFTING?

I don't have set guidelines for this and I tend to follow the researchers and clinicians leading the way in this area such as Lori Forner...whom I believe is Canadian actually! How appropriate!



Lori's research to date has demonstrated how heavy lifting did not worsen perceived symptoms of prolapse. We know that prolapse is actually very subjective in terms of how much it impacts upon a woman's QoL. Some women have minimal pelvic organ descent but significant life impacting symptoms, while others have significant descent with minimal symptoms. Hopefully future research will help us understand more about the central processes and sensitization involved in prolapse.

Whether women leak, experience prolapse symptoms or pain with lifting, it is important to reduce the load in line with the load tolerance of the tissues and grade up as strength and conditioning principles allow. Addressing any deficits in pelvic floor strength, co-ordination or endurance and evaluating whether women may benefit from the support of a pessary is key. Optimizing strategies for lifting so that they do not bear down or Valsalva during lifting may help.

In addition, many women find compression wear that offers targeted support to the lumbopelvic region can reduce symptoms. Some examples include EVB Sport shorts and SRC shorts. I am hoping to proceed with some research investigating the mechanical impact of compression wear for my MSc study in the next few months so stay tuned if this interests you.

#### WHAT ARE SOME AREAS OF RESEARCH, OR LACKING INFORMATION, WHEN IT COMES TO PELVIC FLOOR AND SPORT/EXERCISE?

We are lacking female-specific research in general and particularly investigating the impact of postpartum recovery and return to exercise.

- Preventative strategies for pelvic floor dysfunction postpartum - i.e. if we evaluate risk for pelvic organ prolapse utilising the GH + PB components of the POP-Q evaluation, does offering targeted rehab or intravaginal support devices to women who demonstrate higher risk for developing prolapse but who do not yet have symptoms offer any prophylactic benefit?
- · What specific load and impact tests are useful for evaluating postpartum women?
- When is the ideal time to return to running after having a baby? Our guidelines suggest the average woman will be ready around 12 weeks. This was based on reviewing the research surrounding tissue healing alongside expert consensus. It would be good to explore this more specifically.
- What is the risk of RED-S in postpartum women?
- Is there a desired pelvic floor muscle strength/endurance to maintain continence?
- Is hiatal support more influential in pelvic organ support and the continence mechanism?
- · We know that higher impact exercise stimulates pelvic floor activity. When does the transition from tissue overload change to beneficial muscle activity responses or how can we evaluate this?
- Predictive factors for pelvic floor dysfunction.

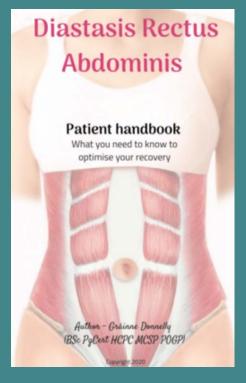


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Sarah is a physiotherapist with dual interests in orthopedic and pelvic health physiotherapy.

Sarah worked with the National Alpine Ski team for five years through her affiliation with the Canadian Sport Institute (CSI). During her time as lead physiotherapist at CSI Calgary, Sarah gained extensive experience rehabilitating complex injuries

elite snow sport athlete populations. Highlights include working as a medical team member at the 2018 PyeongChang Winter Olympic Games and two FIS World Ski Championships. Sarah currently practices out of Marda Loop Physiotherapy and Evidence Sport and Spine South in Calgary.

As awareness of pelvic health physiotherapy increases, so does access to such therapy within the Canadian high-performance sport model. I am an orthopedic and pelvic health physiotherapist who spent five years working with winter National Sport

Organizations (NSOs). In this article, I will share some insight into the treatment of pelvic health conditions amongst elite athletes.

Within the sport world, I encountered many athletes with pelvic floor dysfunction, primarily in the form of pelvic floor muscle (PFM) overactivity. Some cases stemmed from pelvic organ pathology. For example, an athlete with a history of PFM hypertonicity who sustained a rectal prolapse after a weight lifting session. Another struggled with bowel dysfunction and pain aggravated by international travel to competitions. Other cases were orthopedic in nature, ranging from chronic low back or hip pain to persistent lower limb overuse injuries that were recalcitrant to focal treatments.

In both instances, the presence of subjective pelvic health complaints and injury chronicity compelled me to view each case through a pelvic health lens. This approach identified and addressed issues that previously hadn't been prioritized, such as nervous system downregulation and myofascial release treatments. Anecdotally, I found that once these treatments yielded improvements, traditional modalities like manual

therapy, therapeutic exercises, and incremental loading strategies were more effective.

**KEY DIFFERENCES BETWEEN ELITE ATHLETES AND** OTHER POPULATIONS

Training techniques are more rigid when working with athletes, as this population toes the line of optimal load. Perfecting training and sport specific technique minimizes bodily stressors among other benefits. Most athletes have a robust capacity for load tolerance and excellent movement strategies. However, I often find otherwise well-trained athletes lack pelvic girdle movement literacy. They adopt breath holding, over-bracing, and suboptimal trunk-pelvis kinematics as ways to cope with high loads, fatigue, and complex movement tasks.

Conversely, athletes absorb loads so great that typical movement patterns are neither realistic nor ideal in the most strenuous of situations. For example, an alpine skier reported that she pushed out a well fitted tampon over the course of a giant slalom run. Skiers absorb approximately three times their weight in ground reaction forces during a single giant slalom turn while travelling 90 km/hr. In this instance, we focused on improving her response to high intra-abdominal pressures during less complex tasks, while acknowledging this may not translate perfectly when she was maximally loaded.

#### **RETURN TO SPORT GUIDELINES FOR ATHLETES** WITH PFM DYSFUNCTION

When an orthopedic injury occurs, NSOs often utilize a framework to guide an athlete's return to sport (RTS) program. The three-tiered system differentiates rehabilitation, return to training, and finally RTS categories. Priority shifts from rehabilitation to sports performance when the medical teams clear the athlete to return to modified training. Once the athlete meets certain qualitative and quantitative milestone-based criteria, they gradually return to full training and competition. Quantitative assessment tools such as limb asymmetry indices obtained via dual force plates or arthrokinematic dynamometry assist with measuring these criteria. In athletes with pelvic floor dysfunction secondary to an orthopaedic issue, most RTS criteria is currently based on best practice guidelines for the primary injury. As such, RTS guidelines for athletes with PFM dysfunction remain largely undefined.

#### THE INTEGRATED SPORTS TEAM (IST)

Physiotherapy is one of many professions within a national IST. There are many benefits to working alongside a network of knowledgeable professionals. During the modified training RTS stage, physiotherapists and strength and conditioning coaches collaborate to progress rehabilitation goals while simultaneously improving global strength and fitness. Biopsychosocial inputs and nutrition are supported and augmented through sports

psychology and nutrition consults, respectively.

The downside of working with different professionals is that treatment goals are not always aligned. Not all coaches have the theoretical background that allows them to understand the rationale behind certain treatment modalities, especially in the biopsychosocial realm. Education is the first step towards cultivating a common goal and creating a strong team dynamic. Ultimately, successful rehabilitation of the athlete speaks for itself.

In summary, drawing from both an orthopedic and pelvic health background to treat injuries within the high-performance sport world has been highly valuable in rehabilitating patients. There is plenty of room for this sub-speciality to grow through improved pelvic health screening, treatment, and the development of RTS guidelines specific to this population.





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Spring is here and what a great time to get outdoors and enjoy some fresh air and movement. I'm sure this is of great relief to hear for most people as we continue to persevere through this pandemic. One very popular outdoor pastime at the moment is cycling since it is seen as a good socially distant activity. Cycling is certainly a good option for most individuals but there can be some drawbacks to this activity for those struggling with pelvic health concerns.

First off, let's briefly discuss some of the advantages of cycling other than it being a socially distant activity. Biking is an excellent exercise for overall cardiovascular health. A systemic review of cycling and its overall benefits found that there was a consistent inverse relationship between commuter cycling and all-cause mortality, cardiovascular disease mortality and cancer mortality & morbidity among middle-aged to elderly adults1. The study also found that there is a clear positive doseresponse relationship between the amount of cycling and health outcomes: such as improved fitness and decreased obesity<sup>1</sup>.

Cycling can also be a good alternative for individuals that have difficulty with full weight-bearing or high impact/loaded activity. It has been shown to be one of the most common activities following knee surgery<sup>2</sup> and has been incorporated into many post-operative cardiovascular programs as it is an effective and well-tolerated activity especially in the early postoperative period<sup>3</sup>.

#### BUT WHAT ABOUT THE PROS AND CONS WHEN IT COMES TO PELVIC HEALTH AND CYCLING?

Of course, all the advantages described above are relevant for all genders struggling with pelvic floor issues; however, there are a few genito-urinary concerns that may arise with cycling. This may not come as much of a surprise to pelvic health practitioners as we are well aware of the sustained pressure over the perineal region that this activity entails. As a result, this will impact the amount of compression over neuromuscular and vascular structures in the pelvis<sup>4</sup>. Let's discuss three of the more common concerns including: pudendal neuropathy, erectile

dysfunction, and vulvar disorders.

#### PUDENDAL NEUROPATHY:

The pudendal nerve originates from S2-S4 nerve roots and branches out into the dorsal, perineal and rectal branches within the pelvis to supply motor, sensory and autonomic functioning to the tissues and organs within the pelvis. The pudendal nerve courses from the sacral region posteriorly, then runs medial to the ischial spine and branches out anteriorly. As a result of the location of the pudendal nerve and arteries, they can be easily compromised or compressed during cycling. Repetitive compression can decrease blood flow to the arteries which supply the pudendal nerves. Most cyclists experiencing pudendal neuropathy may complain of global genital numbness or more specific burning, tingling or numbness in the perineum, penis/labia, scrotum or buttocks <sup>4,5,6</sup>. Pain may also be present, especially if the nerve is entrapped<sup>4</sup>. Hence, it is important to do a full urogenital and neurological physical assessment to rule out other neuropathies potentially at play or cauda equina.

Should one be experiencing symptoms of pudendal neuralgia, short-term cessation of cycling (3-10 days) should be considered, as well as intermittent rising out of the saddle while riding in order to decrease compression and allow for better blood flow into the perineal region<sup>4</sup>. It is also recommended to assess the mechanical aspects such as: overall bike fit, saddle position and type of saddle when riding.

#### **ERECTILE DYSFUNCTION:**

Erectile dysfunction (ED) is the inability to achieve and maintain a penile erection sufficient for satisfactory sexual performance<sup>7</sup>. The cause of cycling related ED is not clear in the literature. There has been mention that pudendal neuropathy as described above may be a contributing factor, however one study found that the length of exposure to perineal pressure, showed no correlation with ED8.

Some studies suggest that bicycle characteristics may play a role in ED. For example, using a saddle with or without a cut out could alter pressures over the perineum. There is still a paucity of research and more studies are needed to determine if there is a true link between cycling and ED. Although there is not enough evidence to say for sure that there is a causal relationship between cycling duration or mileage and ED, it is still recommended at this time to temporarily stop or reduce cycling duration for those struggling with ED. It is best to make modifications to help alleviate symptoms while keeping in mind the individual's needs and goals<sup>4</sup>.

#### OTHER PELVIC OR VULVAR PAIN DISORDERS:

Pelvic or vulvar pain disorders such as vulvodynia, provoked vestibulodynia, or clitorodynia may be exacerbated by cycling.

These conditions tend to present with varying degrees of pain, although it has been supported in the literature that women diagnosed more specifically with vestibulodynia had lower tactile and pain thresholds around the vulvar vestibule and on the labia minora than controls9. We can appreciate that someone that has been struggling with a persistent pelvic or vulvar pain syndrome may not tolerate further compression over the perineal region from cycling.

In addition to this, both males and females tend to report skin lesions, irritation, and chafing regardless of having or not having an underlying pelvic pain disorder at play<sup>6</sup>. In females specifically, inflammatory skin problems or other vulvar infections in the saddle region have been reported. It was also found that a lower handlebar position may increase the pressure of the saddle to the perineum<sup>6</sup>. Again, considering cessation of cycling or altering the saddle and cushioning for more comfort may be options to consider.

Based on understanding of pelvic anatomy, it may be clear to physiotherapists practicing in pelvic health how cycling may negatively impact those with pre-existing pelvic pain syndromes. The literature thus far has also identified the presentation of pudendal neuropathy, erectile dysfunction, and other skin related irritation in cyclists. However, adverse symptoms that arise as a result of cycling and increased compression of perineal structures needs to be further researched to gain a better understanding of causality and specific treatments to alleviate these concerns.

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#### HOW THE ANKLE IS CONNECTED TO THE PELVIC FLOOR: A LOOK INTO CONNECTTHERAPY™

Interview with Jane Bruce, PT By Leslie Spohr, PT, Newsletter Subcommittee Member



Jane attained her Bachelor of Human Kinetics at UBC in 2009 and started her career as a Kinesiologist in active rehab programs. Jane went on to complete her Master of Science in Physiotherapy at the University of Alberta in 2013 and returned home to start practicing as a Physiotherapist in Vancouver, BC. Jane worked at Dr. Linda-Joy Lee's clinic, Synergy Physio + Pilates, for the past 5 years. There, she started and completed the in-house residency program after

which she went on to mentor new residents, lead the clinic's Healthy Pelvic Floor Program, and became a Dr. LJ Lee ConnectTherapy Certified Practitioner. Currently, Jane is off work and learning to be a mom with her newborn daughter. The next step in Jane's personal and professional life is to relocate to Vancouver Island and start practicing ConnectTherapy with a Pelvic Health focus there.

#### CAN YOU BRIEFLY DESCRIBE CONNECTTHERAPY™?

ConnectTherapy<sup>TM</sup> is a biopsychosocial assessment and treatment model that addresses the whole person and the underlying causes of their symptoms. It is a broad clinical reasoning framework that enables the clinician to incorporate other physiotherapy skill sets, determine the most relevant influences on patients' symptoms and functional limitations, and choose more effective treatment pathways. It was developed by Dr. LJ Lee and is an evolution of her work on the Integrated Systems Model. ConnectTherapyTM includes The Thoracic Ring Approach, which is a framework to assess the thoracic spine and ribcage 3-dimensionally and to rule the thorax in or out as an underlying cause, or "Driver".

#### HOW DOES CONNECTTHERAPY ™ PLAY A ROLE IN TREATING PELVIC HEALTH CONCERNS? ARE THERE SOME AREAS OF PELVIC HEALTH IT IS APPLIED TO MORE THAN OTHERS (E.G., PAIN, POSTPARTUM, ETC.)

ConnectTherapyTM enables us to draw links between the pelvic floor (PF) and other body regions. It provides us with tools to determine if, when, and how much to treat regions other than the pelvis, and how other regions are influencing PF function. This is valuable in helping patients who have long-standing, recurrent problems or multiple symptoms that have not fully resolved with interventions aimed at the pelvis alone. Most patients with PF concerns have injury histories and/or symptoms that involve

other regions of the body. Thus, ConnectTherapy provides a framework for treating all patients with pelvic health concerns - giving us confidence to know when to focus treatment to the pelvis and PF, and when to integrate treatment elsewhere in the body.

ConnectTherapy<sup>TM</sup> also addresses more than pain and dysfunction. This allows us to assess and develop treatment plans for patients who do not present with dysfunction such as incontinence or prolapse but feel weak or undesired changes in their body. We can develop effective prevention programs for perinatal, perimenopausal, and pre-operative populations.

#### WHAT IS A DRIVER, AND, IF POSSIBLE, CAN YOU BRIEFLY EXPLAIN HOW SOMEONE DETERMINES A **DRIVER?**

Drivers are regions of the body that are in dysfunction and are the underlying causes of the patient's non-optimal movement and experience. A Driver may or may not be symptomatic. In ConnectTherapy we use a clinical reasoning algorithm called the Drivers Diagnostic Chart™ (DDC) and a manual skill called a "Correction" to determine the Drivers during functional movement analysis, using movements that are meaningful to the patient. With Corrections, we rule a body region in or out as a Driver by using our hands to temporarily improve its function, which provides a predictive test.

The DDC then prompts us to check how the rest of the body is responding to the Correction through palpation, observation, and the patient's subjective experience. To determine if the foot is a Driver in a patient with pelvic girdle pain during a squat, we would correct the foot then palpate and observe the pelvis and ask the patient how they feel during the squat. If the foot is a Driver, it would improve pelvis control, the patient's experience, and many other regions of the body. The DDC can actually identify an entire Driver Profile, which is a list of all the patient's Drivers, how they relate to one another, and how much they contribute to the patient's problem.

#### **HOW DO DRIVERS INFLUENCE YOUR** TREATMENT PROTOCOL?

Drivers are where we apply our physiotherapy intervention, and the Driver Profile tells us how much and when to treat each Driver. Interventions can be specific to ConnectTherapyTM or from other skillsets. If the Driver is not symptomatic, we demonstrate and educate the patient on how it is related to the patient's movement and experience. We also determine how



other influences (such as stress) connect to dysfunction of the Drivers, allowing us to provide patients with ways to proactively manage their treatment.

#### WHAT ARE SOME COMMONLY FOUND DRIVERS? ARE THERE CERTAIN DRIVERS THAT CONTRIBUTE TO PELVIC **HEALTH CONCERNS MORE THAN OTHERS?**

In patients with pelvic health concerns, the most commonly found Drivers are the Thoracic Rings and the foot/ankle complex (FA). Clinically, we see that these Drivers both contribute to dysfunction of the pelvis and consequently, both must be treated to fully resolve the problem. We also find dual Drivers in the thorax, for example, upper and middle thorax both needing to be treated to address all aspects of the patient's experience.

#### **CAN YOU ELABORATE ON THE FOOT/ANKLE COMPLEX** SPECIFICALLY AS A DRIVER - HOW IS AN ANKLE DRIVER **CONNECTED TO PELVIC FLOOR FUNCTION?**

Clinically, we assess this by Correcting the FA during an internal assessment to answer the question, "if I treat the FA, what changes will it make to the PF?" With an FA driver that has not been corrected or treated, we often find the following:

- Increased resting tone of the pubococcygeal sling and obturator internus ipsilaterally
- Decreased contractility of the levator ani ipsilaterally
- Asymmetrical PF contraction that tends to veer towards the side of the FA Driver

The mechanisms through which the FA and pelvis are related are both neurological and biomechanical. The FA and PF muscles are both innervated by S2, S3, S4 nerve roots. Peripheral neuromodulation techniques such as stimulation of the tibial nerve are being used in the treatment of fecal incontinence and overactive bladder. The stimulation is applied near the Spleen 6 acupuncture point, which is used in Traditional Chinese Medicine for a variety of gynecological issues. Treating an FA Driver may have similar neuromodulatory effects. Biomechanically, studies have linked ankle dorsiflexion positions with stronger pelvic floor contractions [1] and more optimal lumbopelvic position in squatting for labour<sup>[2]</sup>.

#### WHAT DO YOU COMMONLY FIND IN YOUR ASSESSMENT (SHX AND EXAM) THAT WOULD INDICATE AN ANKLE DRIVER?

The patient's history may include an injury, prolonged offloading of that foot, and symptoms that started after the injury. The FA driver may be due to movement habits developed over time and these patients may report one lower extremity being

more problematic than the other. The objective portion of a ConnectTherapy<sup>TM</sup> assessment begins with assessing the center of mass over the feet - FA Drivers are often opposite to the center of mass.

#### GENERALLY SPEAKING, WHAT WOULD TREATMENT LOOK LIKE IN AN FA SCENARIO LIKE THIS?

The general treatment principle in ConnectTherapyTM is to downtrain the old, non-optimal pattern while training optimal patterns across a variety of tasks. Treatment is broken down into 3 phases that include release, exercises, and tools for patient self-efficacy.

- Phase 1: Motor Learning Release, taping, activity modification, and controlling the foot in ADLs.
- Phase 2: Train neutral foot pyramid through uniplanar, low to medium load tasks - exercises may include squats, split squats, heel raises, and mini jump squats.
- Phase 3: Train neutral foot pyramid through lateral and rotational challenges, higher load tasks - exercises may include side or star lunges, eccentric or unilateral heel raises, and lateral hopping.

Many of the exercises listed above load the pelvis and hips, and for our pelvic health patients with FA Drivers we continually bring their attention to how they are controlling their pelvis as their FA improves. The home program may also integrate FA exercises with PF exercises. A common one I use in practice is to do FA exercises prior to using vaginal dilators or perineal stretching, as we often see increased tone on the side of FA Driver.

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#### WORD FROM THE CHAIR

Dear Members,

Happy New Year! I hope that the holidays brought love, warmth and laughter despite things looking different this year.

I am thrilled to report that we have finalized the actions and activities for each priority of our comprehensive strategic plan, which incorporates many new and important items. Our amazing executive has dedicated so much time, thought and energy to developing it, so we hope that you share in our excitement for the priorities moving forward!

Upcoming Event: Collaborative Case Rounds - CALL FOR CASES!

We are excited to share that we will be collaborating with the Oncology Division of the CPA to hold a collaborative Case Rounds in February/March 2021 with the topic of "Pelvic Health & Cancer". Do you have a case study that you would like to have our panelists speak to? Please submit cases to: whdchair@gmail.com. We are looking forward to you joining our discussion on this important topic. Stay tuned to our website and e-blasts for more details on this event!

Lastly (and importantly), this year has provided many insights and challenges for us all. I look forward to joining you in asking difficult questions, seeking out learning opportunities, engaging in self-reflection and having tough conversations.

Wishing you and your family good health as we continue to navigate the pandemic together. Thank you all for your dedication to supporting the health of our communities.

Devonna Truong Chair of the Women's Health Division, Candian Physiotherapy Association



## IN THIS ISSUE WORD FROM THE CHAIR 2 NOTE FROM THE EDITOR YOUR WHD TEAM AND COMMITTEES **SCOPE OF PRACTICE** WHO ARE YOU? **PERINEAL MASSAGE** 11 **BREECH** 15 **PUSHING POSITIONS** 17 **PASSIVE DESCENT** 19 **IRON DEFICIENCY** 22 **DURING PREGNANCY**



#### NOTE FROM THE EDITOR

Dear Readers,

I would like to wish each and every one of you a Happy New Year. I hope this year brings us greater connection, mask-less greetings, and warm hugs from friends and loved ones.

This edition of the Newsletter is all about gearing up for birth.

Yours truly,

Hayley O'Hara, PT WHD Newsletter Editor

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#### MATERNAL CAPACITY BUILDING: THE ROLE OF PHYSIOTHERAPISTS IN PRENATAL CARE

Jessica Bergevin, PT



Jessica Bergevin is a physiotherapist who practices within the women's health and orthopaedic landscape rurally in Nova Scotia. Her academic background is comprised of a Bachelor of Science in Kinesiology from Dalhousie University and a Masters of Physiotherapy from Queens University. Apart from Communications Chair for the WHD Executive, her professional roles include serving as a

board member for the Nova Scotia Physiotherapy Association and Chair of the Advocacy Committee. Jessica is currently completing a Doctor of Science in Rehabilitation and Health Leadership with the goal of improving prenatal care in Nova Scotia. She loves Pilates, skating, court and beach volleyball, botany, and wiener dogs.

Prenatal care is a complex entity and referral pathways between providers and services are not always clear<sup>1</sup>; large disparities exist between countries, cities and population groups.<sup>2</sup> Fundamental messages in common prenatal education resources have not changed in decades and a lack of consensus continues among both academics and clinicians regarding the effectiveness and best structure for prenatal care.3 In fact, few guidelines exist for Canadian providers as to when patients should be referred to physiotherapy during pregnancy.1

The location and organization of prenatal care can be a critical factor in determining whether women choose (or are able) to access services. Many reasons can interfere with a women's access to prenatal care, often linked to such social determinants of health as culture, geography, race, and sexual orientation. Services need to be located and organized in such a way that these determinants do not serve as barriers to care.4

Physiotherapists are well-positioned to provide prenatal care as it is within our scope of practice to teach nonpharmacologic pain-management for labour, exercise prescription, pelvic health education, and positions for labour.<sup>5</sup> Education on the benefits of pelvic floor exercises in preventing urinary incontinence is essential during pregnancy.6 Women report higher satisfaction if they experience continuity of care throughout their pregnancy.<sup>7</sup> Additional preferences include meeting with other pregnant women in groups, developing meaningful relationships with professionals, and becoming more active participants in their own care.4



Personal control during labour and birth is an important factor related to satisfaction with childbirth experience and is therefore a sociocultural driver for change.8 A negative childbirth experience is linked to increased post-partum depression and posttraumatic stress syndrome.9

Women who participate in group prenatal care have greater knowledge, feel more prepared for labour and birth, and are more satisfied than women who only have individual care.<sup>4</sup> The insight from the lived experience of individuals with a common intersectionality can be valuable as a teaching and capacity building strategy to build on the existing cognitive schemas of the prenatal population. Eliciting prior knowledge through small group warm-up activities, informal discussions and interviews can eliminate systemic barriers and facilitate culturally relevant learning.<sup>10</sup>



#### PEARLS OF WISDOM FOR PHYSIOTHERAPISTS **PROVIDING PRENATAL CARE**

- Exercise should be recommended for pregnant individuals with a focus on activities of daily living and avoidance of maladaptive movements patterns for treatment of PGP.11
- Clinicians should avoid language that can perpetuate the fear of movement, for example "unstable pelvis".12
- Education about positioning in pregnancy can include:
  - · Avoid leg crossing when seated
  - · Sleep with a pillow between knees
  - Engage the gluteals prior to rising from a chair (may decrease sharp pain experienced when the sacrum shifts in relation to the ilium and can help with functional mobility)
- To promote pelvic stability during exercise, avoid long levers or large ranges of motion. Keep exercises simple in order to focus on spine integrity, core breathing, and alignment.
- Exercise modifications for prenatal women include:
  - · Paced transitions (allows time for good biomechanics and adjustments of blood pressure to occur).
  - Planks and Pushups can be modified by performing them on a wall.
  - A Wedge can be used for supine exercises.
- · Positions for labour: wide-legged child's pose, squat, sitting or leaning on a ball, 4-point.

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Hayley O'Hara, PT

There are many different care providers and services available to assist women throughout their pregnancy and to help them prepare for labour and delivery. It can often feel overwhelming to navigate questions from clients around the different roles of these care providers, especially when trying to make the best recommendations for them. Here is a guide you can use with your clients to assist them in making informed decisions around who they should involve in their prenatal care team.

#### **DOULA**

Doulas offer emotional and physical support during the labour process. This may include education on positions for birthing and for relieving pain, techniques for breathing during birth, empathy and encouragement, and the preservation of a quiet and focused birthing environment. Doulas may also offer informational support leading up to and during delivery, including answering questions, providing information to help you make decisions around birth, and mediating communication with other care providers during the labour process<sup>1</sup>.

#### **MIDWIFE**

Midwives are primary healthcare providers who offer care throughout pregnancy, labour, delivery, and the postpartum period. They perform regular visits, recommend necessary diagnostic testing and blood work, and have access to emergency services. A midwife will act in place of an obstetrician to deliver your baby. With a midwife, you can choose to birth in your home, a hospital, or a birthing centre. A midwife is most suitable for those with no complications and a low risk pregnancy<sup>2</sup>.

#### **ACUPUNCTURIST**

Acupuncturists perform acupuncture which is a form of alternative medicine that has been shown to play a role in the relief of back and pelvic pain, the management of pregnancyrelated nausea, and changing breech presentation. Acupuncture has also been used during labour to effectively manage pain<sup>3</sup>.

#### **DIETITIAN**

Dieticians assist with optimizing nutritional intake during pregnancy to ensure you and your developing baby are meeting all of the necessary nutritional requirements. Dieticians may screen for nutritional deficiencies and advise on appropriate prenatal supplements. They may also provide education and advice on food intake during pregnancy and create individualized nutritional plans based on your specific needs, which can assist with weight management and the maintenance of normal blood glucose and blood pressure levels<sup>4</sup>.

#### PERSONAL TRAINER, YOGA OR **PILATES INSTRUCTOR**

Certified personal trainers, yoga instructors, and Pilates instructors with special knowledge and training in prenatal care can assist you with remaining physically active throughout your pregnancy in a way that is safe for you and your baby. They can create a fitness program for you and offer one-on-one coaching to provide you with motivation and encouragement. If your trainer or instructor does not specialize in prenatal exercise, they may collaborate with your physical therapist or chiropractor to ensure the exercises they are providing are safe and beneficial. Yoga and Pilates are particularly great forms of prenatal exercise as they utilize breathing techniques to assist with the management of intra-abdominal pressure, which may help to maintain the integrity of the pelvic floor and abdominal wall during exercise.

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#### THE ROLE OF PERINEAL MASSAGE IN BIRTH PREPARATION: WHAT EVIDENCE DO WE HAVE? Katie Kelly, PT (Newsletter Subcommittee Member)

The benefits of perineal massage have been touted for a number of decades and include decreased risk and degree of perineal trauma. There are Pinterest boards dedicated to it, and we even see references to it in pop-culture - anyone remember that scene in the 2008 film Baby Mama? However, what does the evidence say about the effectiveness of perineal massage? The last 18 months or so have brought about new research highlighting the role of perineal massage in birth preparation. More than 85% of women who undergo vaginal delivery will experience some degree of perineal trauma1. The rate of severe perineal tearing that affects the external anal sphincter is a low as 1-4% in European nations, and as high as 17% in the United States<sup>2,3</sup>. Greater morbidity is associated with these high degree tears and includes wound disruption, stress and urge incontinence, slower wound healing, infection, fecal and gas incontinence, dyspareunia, pelvic organ prolapse and rectovaginal fistula<sup>4, 5, 6.</sup>

Perineal massage can be performed by the mother on herself, or by a partner, within 4 to 6 weeks of delivery<sup>7</sup>. The parameters cited in research suggest 5-10 minutes of perineal massage daily, where 1-2 fingers are inserted 3-4 cm into the vagina, applying alternating downward and sideways pressure8. Women remark that the first few weeks of massage can be uncomfortable, with a mild burning sensation, but this decreases, or is gone by the second or third week of massage<sup>9</sup>. The theory is that the massage will increase circulation to the perineum optimizing the flexibility of the tissues - allowing for more stretching and widening of the vaginal opening for delivery. Furthermore, it may help women gain experience tolerating the stretching and pressure sensations associated with vaginal birth<sup>10</sup>.

A recent meta-analysis of 11 RCTs with 3467 patients (1711 women in the intervention group and 1756 women in the control group) investigated the effect of antenatal digit perineal massage<sup>11</sup>. All 11 studies compared perineal massage in the last 4 to 6 weeks before delivery, versus no perineal massage in the prenatal period. The authors investigated a considerable number of outcomes. Their results support that perineal massage significantly reduced the incidence of episiotomies, perineal tears (especially third and fourth degree), as well as a significant decrease in the second stage of labor duration, postpartum perineal pain, wound healing time and anal incontinence. Additionally, they found significantly improved Apgar scores at 1 and 5 minutes for mothers who underwent perineal massage. They postulate that the improvement in Apgar scores might be

due to a shorter second stage of labour, and easier delivery and thusly lower risk of fetal hypoxia. Interestingly, they did not find a significant difference in urinary incontinence between groups.

Women who had undergone perineal massage during pregnancy demonstrated significantly shorter durations of labour, with stage 1 of labour being on average 147 minutes shorter, and stage 2 labour being an average of 22 minutes shorter...

The previous meta-analysis investigated research published prior to August 2019. Since this time, a quasi-experimental study examined 60 primigravida women who were randomly allocated to perform perineal massage during pregnancy, or to not<sup>12</sup>. Perineal massage instructions where to contract and then relax the pelvic floor muscle, insert thumb to the middle joint into the vagina, and then perform U-shaped stretches pushing down and outwards towards the rectum, for 15 minutes, 6 times per week, throughout the third trimester. Women were directed to use coconut oil as a lubricant. Participants had to fill out regular questionnaires to monitor compliance. Women who had undergone perineal massage during pregnancy demonstrated significantly shorter durations of labour, with stage 1 of labour being on average 147 minutes shorter, and stage 2 labour being an average of 22 minutes shorter than those who did not undergo perineal massage. Moreover, those in the perineal massage treatment group had more intact perineum and fewer perineal ruptures.

Finally, in November 2020 another study examined 32 primigravida women, who were randomly allocated to either receive education on and instructed to perform perineal massage during their third trimester or were allocated to a control group<sup>13</sup>. Results demonstrate a significant reduction in the incidence of perineal tears and a greater percentage of intact perineum in the group that carried out perineal massage. The authors support the use of perineal massage and state the

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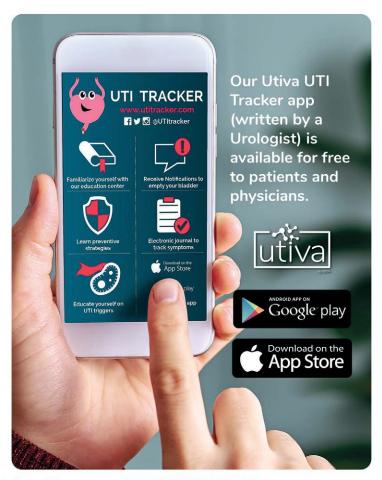
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importance of women being informed and instructed in perineal massage application as a non-pharmacological intervention to prevent perineal rupture.

Most women sampled find the practice of perineal massage acceptable and believe it helps them prepare for birth9. The majority (79%) report they would massage again and 87% would recommend it to another pregnant woman<sup>9</sup>. Given the very little amount of risk, and the potential benefit to be gained from performing perineal massage during the antenatal period, the evidence supports promoting education and instruction of good perineal massage technique to expecting mothers<sup>11, 7, 13</sup>. Indeed, perineal massage can be considered a useful tool for pelvic floor physiotherapists working with pregnant women.

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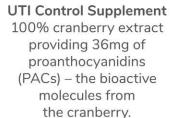
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#### STRETCHING BEFORE THE MARATHON

Dr. Samantha Doralp, PhD, PT

The idea of preparing for any major athletic event is not new, nor should it be any different for labour and delivery. Before a marathon, athletes train for weeks (even months). We often recommend endurance training, stretching and strengthening, and ultimately training in ways that match the main event. Given the unpredictability or uncertainty surrounding one's delivery, how should we encourage our clients to train for this life-changing event? It makes sense it would be in much the same way. Given the amount of stretching that will occur with a vaginal delivery, it makes sense to train the tissues to stretch or become more pliable.

Incorporating strategies to relax and lengthen the pelvic floor as well as maintain good mobility in the pelvis, especially towards the end of the pregnancy, are a great way to prepare our clients for delivery. This might include supported deep squats, diaphragmatic breathing or even mobility exercises on an exercise ball. Encouraging our clients to explore labour positions and find what is comfortable is also key in preparing both mentally and physically.

What else should we consider? Perineal massage is also a technique that can assist in increasing pliability in the tissues. A 2006 Cochrane Review by Beckmann & Garrett highlights that massage from the 35th week onwards decreased the likeliness of trauma requiring stitches, particularly in first time mothers<sup>1</sup>. Interestingly, it did not prevent trauma in those that had delivered previously but did reduce the incidence of perineal pain at three months.

What other options are available for increasing pliability in tissues? Sadly, the Epi-No is no longer available for purchase in Canada. The Epi-No and I became very close friends about two years ago while I was preparing for the birth of my first. As a pelvic floor physiotherapist, I had done the research and was already recommending it to my own clients, who had been quite successful in minimizing or avoiding perineal trauma. At the time, it was easily available for purchase in Canada and I was excited to get some perspective from the 'other side'. In terms of birth preparation, it is recommended that the Epi-No is used daily in the few weeks leading up to delivery. The Epi-No is an inflatable silicone balloon that is inserted into the vagina as a biofeedback device. It is inflated to various degrees to essentially increase tolerance to stretch. It was a great alternative to manual stretching, easy to use, and provides feedback on the stretch sensation in multiple directions, much like you would experience

during the crowning phase of delivery. As for the research, it is promising, but still limited. A review of randomized clinical trials indicates a reduction in the rate of episiotomy, perineal tears, levator ani microtrauma and avulsion<sup>2</sup>. Although the results were not always statistically significant in these studies, the trends suggest that when used correctly, the Epi-No can be a valuable tool in birth preparation.

Arguably, the greatest value in birth preparation, no matter what is done, comes from the reduction in anxiety that comes with being prepared. How we speak to our clients about birth preparation, provide support and encouragement, address their fears and provide tools to support this process are instrumental in how our clients experience and process their birth experience.



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#### INTERVENTIONS TO HELP TURN BREECH BABIES Angelique Montano-Bresolin, PT

Breech presentation occurs when a fetus is positioned in a bottom/ buttocks down position in utero. This is a common position in early pregnancy but as the pregnant individual approaches full term, the incidence of breech presentation decreases. The overall incidence of breech presentation at term is 3-4%.1

The option of a vaginal breech delivery is still available for appropriately selected candidates, however, for those that prefer not to pursue this route, there are some intervention options that may be considered to help turn a breech baby. Some of these options include external cephalic version or the use of acupuncture and moxibustion. There is also mention of the chiropractic 'Webster' technique and postural interventions in the literature, although these options require further highquality research to determine their safety and efficacy.

#### **EXTERNAL CEPHALIC VERSION (ECV):**

External cephalic version is a manual technique used by care providers over the pregnant abdomen that assists to gently turn baby into the head down position. It has been found that attempting an ECV at term decreased the relative risk of breech birth by 58% and decreased the relative risk of a cesarean delivery by 43%.3 There was also no difference in other outcomes such as newborn Apgar scores, neonatal admission or infant deaths.<sup>3</sup> Recent research suggests that perhaps ECV is underused in those considered to be good candidates.<sup>4</sup> Furthermore, 4-33% of pregnant people are not given the option of having an ECV.5 Due to the increase in evidence to support the use of ECV, the American College of Obstetrics and Gynecology (ACOG) has a renewed interest in the use of ECV to increase the chance of a vaginal birth.<sup>6</sup> ACOG states: "Because the risk of an adverse event occurring as a result of external cephalic version is small and the cesarean delivery rate is significantly lower among women who have undergone successful external cephalic version, all women who are near term with breech presentations should be offered an external cephalic version attempt if there are no contraindications."7

#### **ACUPUNCTURE AND MOXIBUSTION:**

Acupuncture and moxibustion are traditional Chinese medicine modalities that have been used to assist in turning a breech baby. Moxibustion is an intervention that uses heat generated by burning traditional Chinese herbal preparations to stimulate specific acupuncture points, more specifically Acupoint BL 67, beside the outer corner of the fifth toenail.8 An acupuncture needle inserted to stimulate this point may also be used independently or in adjunct to moxibustion. This Acupoint is said to promote turning of the fetus through increasing fetal activity.8 This technique at 33 weeks of gestation was shown to be an effective way to induce an increase in cephalic versions

within two weeks of the start of the therapy.8 In a more recent Cochrane review, the researchers found limited evidence to support the use of moxibustion for correcting breech presentation however, the combination of acupuncture with moxibustion may result in fewer births by cesarean section.<sup>10</sup>

#### CHIROPRACTIC 'WEBSTER' TECHNIQUE:

Also known as Webster's 'In Utero Constraint Technique' or 'Breech Turning technique' was developed by Dr. Webster in 1978. It is a specific chiropractic adjustment for pregnant individuals that uses a light force on the sacrum and specific abdominal treatment to reduce muscle tension.9 The technique does not involve an actual attempt at turning the fetus, rather the goal is to improve the biomechanical function of the pelvis thus allowing for more space, tissue and joint mobility for the fetus to turn.

#### **POSTURAL INTERVENTIONS:**

There are some practitioners and treatment programs that use a variety of positions and movements such as crawling, using slant boards, inversions or knee to chest postures to assist with turning a breech baby. This seems intuitive and using gravity may be an easy way for pregnant people to turn baby themselves, unfortunately at this time, there is not enough evidence to recommend this approach.9

All in all, ECV is the method that has been best researched to date and has been included in the medical recommendations of ACOG and SOGC.<sup>2,6,7</sup> This is followed by acupuncture and moxibustion which do have limited RCT's to support its use, however more robust research is needed for these modalities as well as chiropractic and postural techniques.

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#### PUSHING POSITIONS TO REDUCE TEARING

Rhiannon Langford, doula

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Rhiannon Langford is a full-spectrum virtual doula and founder of Birth Boss Maternity Care. After learning about the lack of existing support for pregnant people and new parents while working on a BBC maternal mental health documentary, Rhiannon devoted her life to helping people on their journey to parenthood. She studied Bioethics at Columbia University, focusing on birth

justice and human rights for parents in the medical system. Her Doula credentials include StillBirthday Birth and Bereavement Doula, BeboMia Maternal Support Practitioner, with additional training in aromatherapy, the rebozo, Spinning Babies, Evidence-Based Birth, nutrition, and Ayurvedic postpartum caregiving.

As a doula, one of the most common questions I receive in my practice is, "How do I avoid tearing?". The dreaded perineal tear in childbirth is quite common, but that doesn't mean it is something that we should accept. There are so many things we can do, as care providers, to help our clients reduce their chances of tearing. Birthing position is something we can easily educate our clients about and plays a huge role in perineal tearing outcomes.

Typically, when you labour in the hospital, you will push in what they call the "lithotomy" position. Lying flat on your back, you will be instructed to pull your legs back by gripping the back of your knees and pulling your legs towards you, curling around your baby, and tucking your chin in as you take a deep breath and push with all of your might. The fact is that this position is the easiest for care providers to catch a baby, but it also puts you at a greater risk of tearing. Let's break down the anatomy to learn why we can do better than this.

Our pelvic outlet lies at the bottom of the pelvis. The best position for a baby to descend through the pelvic outlet is Occiput Anterior (OA) position - back of head to the front of the pelvis - to allow their head the greatest amount of space to pass through. In order to maximize the space for the baby in an OA position, we need to find birthing positions that will open up the pelvic outlet from front to back.

At the back of the pelvic outlet is the sacrum and coccyx. During birth, the coccyx is pushed out of the way so that baby can get their head through the outlet. When we push on our back, the

sacrum and coccyx are restricted, thereby limiting the opening of the pelvic outlet. We need to push in positions that allow for movement of the sacrum and coccyx. To further facilitate this movement and create even more space, we can promote an anterior tilt of the pelvis.

Another method we can use to create more space in the pelvic outlet is to widen the space between the sitz bones (ischial tuberosities). Internal rotation of the hip - knees in, ankles out will open the width of the outlet more by moving the sitz bones laterally. Looking for a good way to remember? Try "narrow the knees & push with ease!"

Let's rewind back to the lithotomy position for a second - by lying on our back with our knees out to the side, our tailbone is trapped and our sitz bones are closed in, creating less space for baby to descend. Let's flip the script with these birthing positions that maximize the space in the pelvic outlet.

#### 1. KNEELING

Getting up on one knee, this position uses gravity in your favour. I like to tell my clients - would you poop on your back? Same principle applies to birth. I recommend folding a towel or blanket under your knee to soften the impact. There are many variations to kneeling: a one-legged kneel, kneeling and draping your upper body over a birth ball, or if you're in a hospital bed try propping up the head of the bed and resting your forearms against it.

#### 2. HANDS AND KNEES

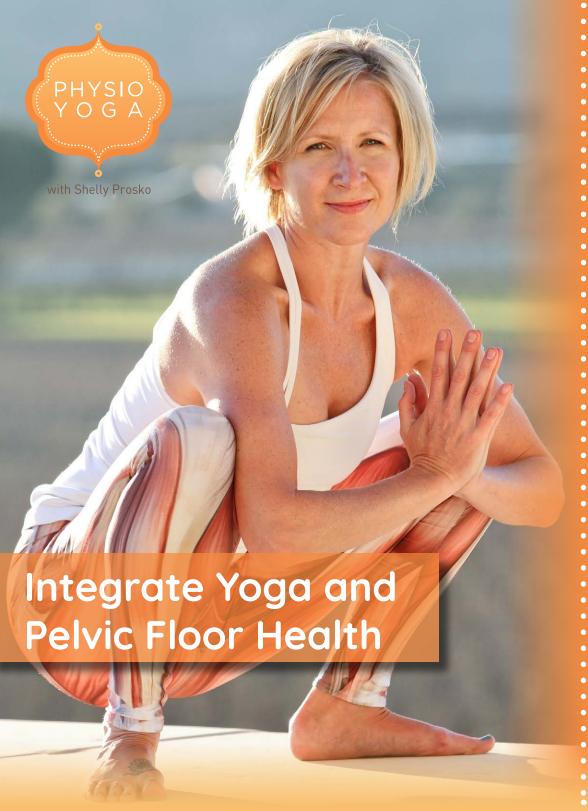
A comfortable position for many birthing people, this position allows you to rock your body to increase comfort. This position is also great for catching your own baby! You can easily practice a knees in ankles out position on all fours.

#### 3. BIRTH STOOL

The birth stool can be used in many ways. You can step up onto the stool and have a "Captain Morgan" pose, or you can sit on it in a similar position to if you were making a bowel movement. The low height of the stool flexes your legs and opens up your pelvis, and the upright position helps use gravity to promote fetal descent.

#### 4. SIDE-LYING

This position is great for limited mobility or those with epidurals. You can also rest between pushes this way. Make sure that you - or whoever is lifting your upper leg - help support your "knees in, ankles out" position!



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#### DELAYED VERSUS IMMEDIATE PUSHING IN THE SECOND STAGE OF LABOUR: WHAT DOES THE RESEARCH SUGGEST IS OPTIMAL FOR THE TIMING OF PUSHING?

Leslie Spohr, PT

Second stage of labour is defined as the time between full cervical dilation and delivery of the fetus<sup>1, 2</sup> It is often considered a highly demanding period of time that can have huge effects on the neonatal and maternal outcomes.3

Management of the second stage typically involves one of two methods: delayed, or spontaneous, pushing (also known as delayed pushing/passive descent) which occurs once dilation is complete and the woman feels the urge to push or the head of the baby is visible at the introitus, and immediate pushing, which is the initiation of pushing as soon as complete dilation has occurred.<sup>3,4</sup>

Some research indicates that the longer duration of the second stage leads to lower spontaneous vaginal delivery rates (ie. unassisted vaginal births) and increased risks to maternal and neonatal complications.<sup>1-6</sup> Delayed pushing, which often involves a >30 minute period of time afterfull dilation, can often prolong the second stage.<sup>4</sup> The American College of Obstetricians and Gynecologists (ACOG) recommends limiting the second stage to 2 hours (3 for a nullipara with anesthesia).<sup>1,4</sup> These guidelines have been consistently challenged over the decades as some studies have shown that more than half of labouring, nulliparous women will deliver vaginally if these time limits are extended.1 Despite this, there is ongoing controversy as to when a laboring woman should start pushing.3 Supporters of delayed pushing suggest that allowing for passive descent and the urge to push is more physiological, increases efficiency of the pushing effort, minimizes maternal exhaustion and reduces instrument-assisted deliveries.3 On the other hand,

those in favor of immediate pushing suggest that the bearing down reflex and urge to push are blunted with the use of an epidural, and ultimately can prolong the second stage which has implications for neonatal well-being, maternal infectious morbidity and pelvic floor trauma.3 However, there are some that argue the risks associated with a prolonged second stage are associated more with an increase in active pushing time and not solely the length of the second stage.4

It has been found that delayed pushing with or without epidural anesthesia, in fact, shortens the duration of active pushing.<sup>3,4</sup> Passive descent in this case allows for further fetal descent and rotation and better situating the fetus in the pelvis causing further release of oxytocin and progression of labour. This may result in more forceful contractions, an urge to push and smoother crowning, likely requiring fewer instruments for delivery, less maternal fatigue and less perineal damage.4

When looking at the research, the results are inconclusive based on a few limiting factors. Many of the studies reviewed are too heterogeneous to allow for proper statistical analysis of certain outcomes, additionally, the quality of studies involved varies significantly among them.3 Another noted limiting factor of the studies is the frequency at which a cervical exam is performed and when to push was instructed.<sup>2,3</sup> Often cervical exams are routinely performed at 1-2 hour intervals, despite the suggested deceleration of cervical dilation of the last few centimeters. This suggests that many of the women in the studies likely experienced



different amounts of "delay" before pushing regardless of whether they were instructed to push immediately or not. For those in the delayed pushing groups, times varied from 1-3 hours of delay depending on the study. <sup>2,3</sup>

While it is clear that delayed pushing results in an increased duration of the second stage, it does reduce the time spent pushing and increases the likelihood of a spontaneous vaginal birth, but the overall effect of this is unclear. Based on the reviewed research, there appears to be no clear difference in serious perineal laceration or episiotomy, caesarean section rates, blood loss and neonatal outcomes (admission to neonatal intensive care, five-minute Apgar score less than seven and delivery room resuscitation) between delayed and immediate pushing. Higher incidences of chorioamnionitis and low umbilical cord pH have been recorded in specific populations of women who practiced delayed pushing with an epidural.

It has been suggested that there is also not enough conclusive evidence to support or refute a particular style of pushing, with or without an epidural, as part of routine clinical practice. With the current lack of strong evidence to support a particular method, the decision to implement delayed or immediate pushing should take into account the woman's preference and comfort as well as the clinical context until higher quality studies become available.<sup>2,6</sup>

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#### WHY IRON IS KEY TO A HEALTHY PREGNANCY

Sarah Johnson, Writer for Szio+ Inc.

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In Canada, it is estimated that 1 in 8 women will be diagnosed Few things are more beautiful than creating a new bundle of joy, but pregnancy can also be a fragile time for your body's nutrient levels. Sufficient iron levels are key to a healthy pregnancy, from prenatal to postpartum.

#### WHY DO I NEED MORE IRON WHEN I'M PREGNANT?

Iron is a mineral that every human needs to thrive. It's responsible for making hemoglobin - a powerful substance that carries oxygen from your lungs to the rest of your body. Safe to say, iron has a pretty important job to do.

When you're pregnant, your body requires twice as much iron as usual. This is because your body is making extra blood to supply oxygen to the baby. It is no surprise then that an estimated 40% of all pregnant women are anemic.

#### WHAT ARE THE DANGERS OF ANEMIA FOR **PREGNANT WOMEN?**

Anemia is caused by a lack of iron in the body, which means your red blood cells aren't healthy enough to carry oxygen to your tissues. Common symptoms include fatigue, headaches, impaired thinking, and heart failure. For pregnant women, anemia can do even more harm.

Balanced iron levels can prevent premature birth, low newborn birth weight, postpartum depression, and, in some cases, infant death. If iron is low, it can also affect muscle function during delivery and reduce milk production after delivery. By improving your iron intake, you can avoid these risks and keep you and your little one safe.

#### WHAT COULD PUT SOMEONE AT RISK FOR ANEMIA **DURING PREGNANCY?**

Since pregnant women need enough iron for two, they are instantly more likely to develop anemia. You may also be at risk if you:

- · Don't eat enough iron in your diet
- Were recently pregnant
- Are having more than one baby

- Experienced heavy menstruation before your pregnancy
- Have a pre-existing blood condition
- Have an inflammatory disorder, which can affect iron absorption

#### **HOW CAN I PREVENT PREGNANCY-RELATED ANEMIA?**

Reading this is the first step. By educating yourself and working closely with your doctor, you can find an iron solution that meets your specific needs.

Start small by introducing iron-rich foods into your diet, like lean beef, beans, and spinach. Choose a well-rounded prenatal vitamin with a substantial dosage of iron. Most of all, ask your doctor about an effective, high absorption iron supplement. The World Health Organization recommends that all pregnant women take a supplement with 30 to 60 mg of elemental iron per day.

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