

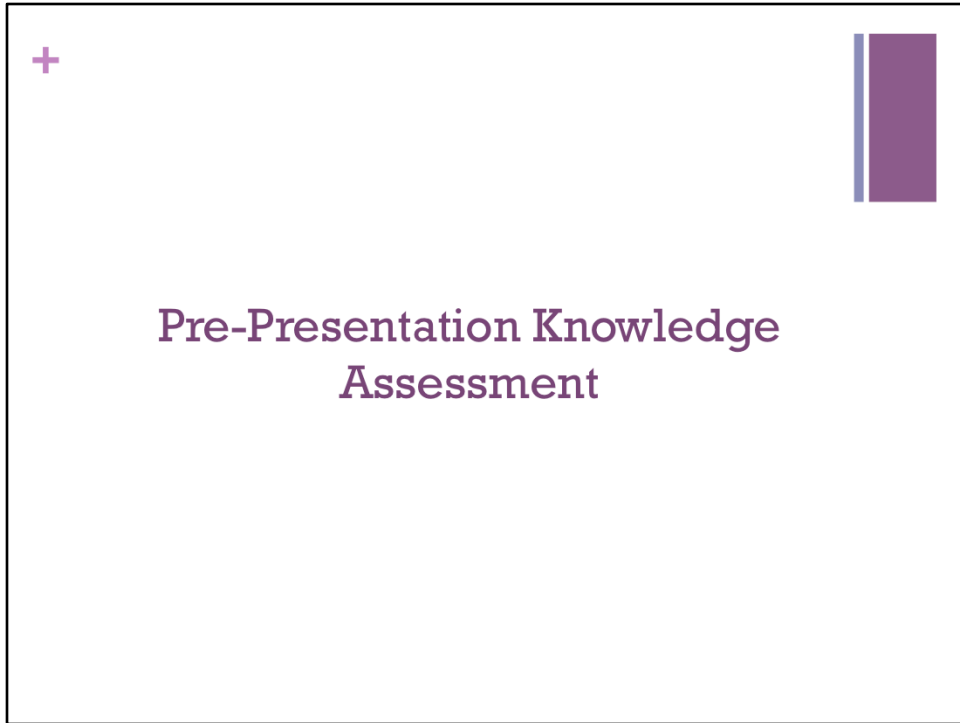
Pregnancy and Pelvic Girdle Pain: How Physical Therapy can Help

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Hello!

My name is Lindsay Saunders, and I am a third year student in the doctor of physical therapy program at UNC-CH. Mary has given me the privilege of coming to talk to you all about the pelvic floor and pelvic health physical therapy. I fell in love with this specialty after I did a clinical rotation in pelvic health. In my time at this clinic, I was shocked by how little people know about the pelvic floor, myself included. And then I realized that it's just not something people, whether they are in the medical field or not talk about. Even though it's 2018, there continues to be a lot of shame surrounding topics like pelvic pain, incontinence, and pain with sexual intercourse. This is especially true when these things are associated with pregnancy. There's this assumption that women will just hurt after having a baby, or that they'll leak urine when they cough or jump or laugh. This presentation is going to focus on pelvic pain related to pregnancy, and I will explain why shortly.

My goal here is to give you all the language to ask questions, to empower you with knowledge to start the conversation. Even though you may not currently be experiencing pelvic pain, chances are you know someone who is. Maybe it's a friend, maybe it's a family member. Maybe it's something you experience in the years to come. I just want to start the conversation because no one should have to live with pain and it's time that we do something about it.



Before we get started, I have a quick pre-presentation knowledge assessment for everyone. It should take about a minute to fill out, and I'll have you re-do it before you leave. This will give me vital insight as to whether or not this presentation was actually useful and I will use it to provide some data for my project.



At the end of this presentation, the learner will:



1. Demonstrate a basic understanding of pelvic anatomy and the roles of the pelvic floor;
2. Demonstrate an understanding of the concept of pelvic pain;
3. Demonstrate a basic understanding of the connection between pregnancy and pelvic pain;
4. Demonstrate an understanding of the role of physical therapy in treating pelvic pain;
5. Demonstrate an understanding of exercises and strategies to manage pelvic pain;
6. Demonstrate improved comfort with discussing the topic of pelvic pain and asking questions of medical providers;
7. Demonstrate awareness of community resources.

Here are the objectives for this presentation. In a nutshell, I hope you all walk away with a better understanding of what the pelvic floor is, what it does, the signs and symptoms of pelvic pain, how it can impact daily life, and the role of physical therapy in managing pelvic pain related to pregnancy.

+ Presentation Outline

- Some Statistics: Why this Topic Matters
- Relevant Anatomy
- Pelvic Pain Defined
- Pregnancy and Pelvic Pain: The Connection
- Pelvic Pain and Daily Life: The Impact
- The Role of Physical Therapy
- Knowledge is Power: Useful Resources
- Acknowledgements
- References

This is the presentation outline. If you have questions at any point, please feel free to stop and ask.



As I mentioned earlier, I recognize that most of you in this room haven't experienced pregnancy related pelvic girdle pain. However, that does not mean it's not worth knowing about or relevant!

When talking about pelvic pain in relation to pregnancy, statistics can vary significantly. Differing definitions, study characteristics, and research methods can all influence statistical findings.

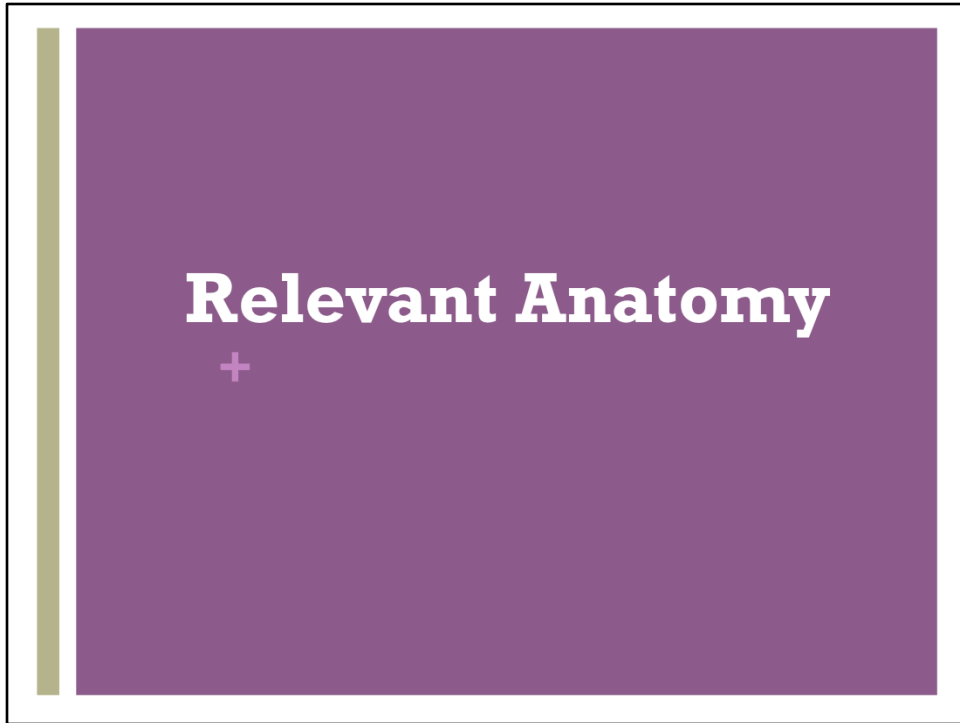


Why this Topic Matters

Research Suggests that:

- **48-56 %** of pregnant women experience **pelvic pain** during or after pregnancy¹⁻⁵
 - **As many as 25%** of those classify this pain as **severe**^{1,4}
 - As many as **10%** develop **chronic pelvic pain**⁴
- **15-25%** of pregnant women experience **low back pain** in addition to pelvic pain⁴
- Pelvic pain presents as early as **the 1st trimester**^{1,4}
- Pelvic Pain can **worsen significantly** between the 18th week and delivery^{1,4}

As you can see, this is an issue that impacts a significant percentage of women, and as I will highlight shortly, the impact can be quite devastating. This pain can range from mild to severe, can last for months or years on end, and can occur in conjunction with low back pain. This is one of the reasons this topic is so vital.



Before we delve into the fascinating realm of pelvic pain, I wanted to touch on some basic anatomy. To truly understand this concept, it is important to have a basic understanding of the structures involved.



The Core and So Much More



- What is your “core”?
 - It’s not just “six pack abs”...
 - It’s not just the stomach muscles...



- The core is made up of everything from your diaphragm to your pelvic floor⁶⁻⁹.

- It’s so much more!

Ask audience: What comes to mind when someone talks about our anatomical core?

Often times, when people hear the word “core”, they think of the coveted “six pack”. But the core is so much more than just our stomach muscles! In reality, it includes everything from our diaphragm (the muscle that helps with breathing) to the pelvic floor.



Our Cores are like Soda Cans^{1,10,11}!

- When the can is closed, it's hard to crush because of the pressure inside the can.
- Once the can is opened, it's weaker and easier to damage because the pressure is gone.



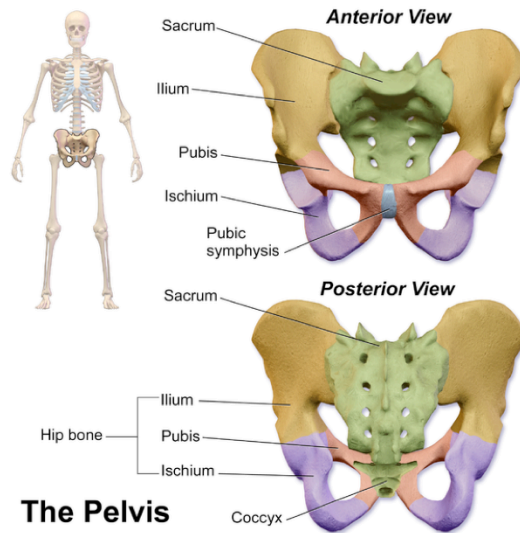
The core is like a can of soda; it has a top, a bottom, some sides, and has a certain amount of internal pressure that contributes to its stability. When everything is in working order, the soda can is nearly impossible to crush because its structure and the pressure inside gives it strength. But as soon as the can is damaged (for instance, if I dent the can and it has a hole), it becomes very easy to crush.

The same thing goes with our core. It's top is the diaphragm, it's sides are the muscles of the abdomen and back, and it's bottom is the pelvic floor. The muscles work to maintain the pressure inside our abdomen, which gives us stability. As soon as a part of the core is damaged or weakened (like the pelvic floor during and after pregnancy), the core becomes weaker and susceptible to additional dysfunction. Therefore, all parts of the core must work together to maintain optimal functioning.



The Pelvis¹²⁻¹⁵

- The pelvis is composed of the left and right hip bones, the sacrum, and the coccyx (also known as the tailbone)
- These bones form joints that make us stable but also allow us to move



The bony pelvis is a vital aspect of our core. Our right and left hip bones are connected by a structure called the pubic symphysis and the sacrum connects to the hip bones to form the sacroiliac joints. These joints provide both stability and mobility to the pelvis.



The Pelvic Floor 12-14,16



- The pelvic floor:
 - A group of muscles that attach to the pelvis
- The pelvic floor is made up of three layers with unique roles:
 - 1st: sexual appreciation
 - 2nd: bladder and bowl control
 - 3rd: support for the pelvic organs
- The pelvic floor muscles also form the vaginal opening, provide pelvic stability, and promote adequate mobility of the joints of the pelvis

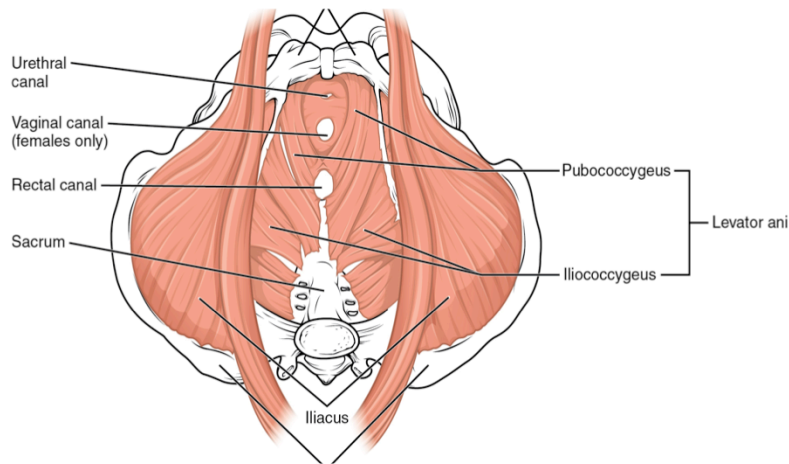
The pelvic floor, which serves as the bottom of our can in the analogy I just spoke about, is composed of muscles, ligaments, tendons, and other structures. The muscles of the pelvic floor can be divided into three layers:

- The first layer plays a key role in sexual appreciation
- The second layer is important for urinary and fecal continence
- The third, deepest layer supports our pelvic organs and helps to stabilize the bony pelvis and the spine

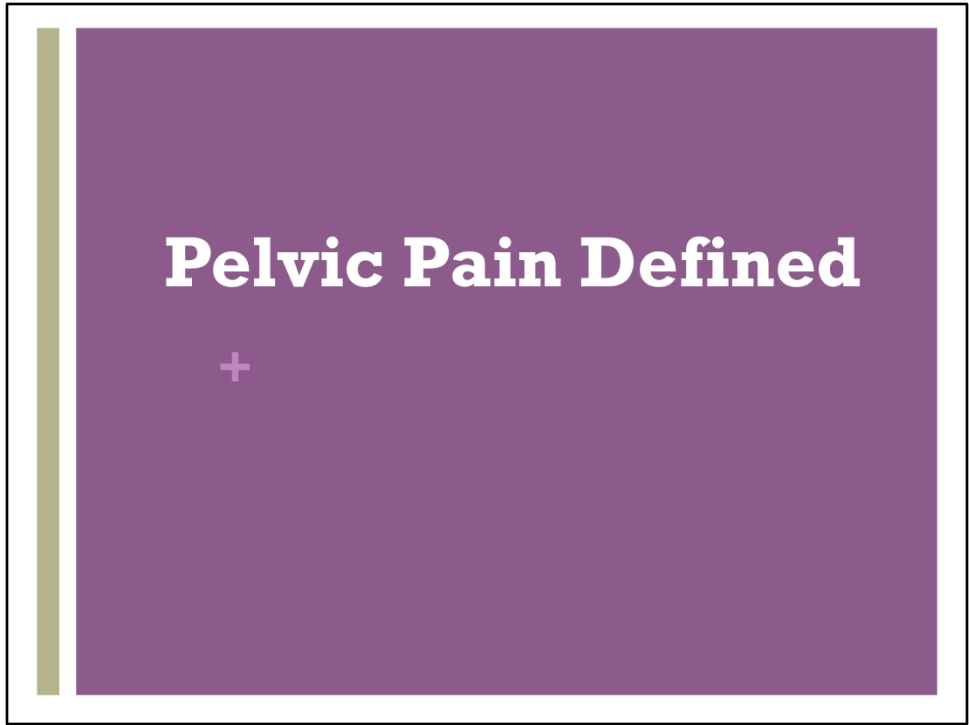
These muscles attach at various places on the pelvis and form the vaginal opening. They also play a key role in providing us with stability and help to circulate blood and fluid throughout the body



Putting it all Together 12-14,16,17



So, if we bring everything we've talked about together, we know that the pelvic floor is just one part of our core that supports organs, helps to control urine and feces, and promotes pelvic stability. In order for the pelvic floor to function at its best, all components of the core must be working properly. Pelvic pain can impact the function of the pelvic floor muscles and other structures of the core, leading to a number of effects that will be discussed shortly.

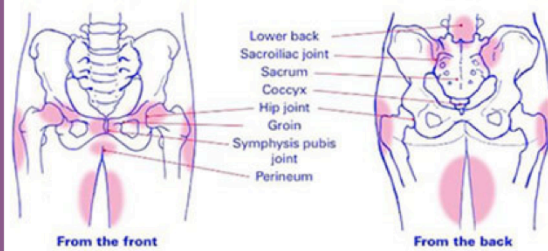


So what does “pelvic pain” even mean? How is it defined?



What is Pelvic Pain? ^{1-4,18}

- Pelvic Pain can be defined in a number of ways
 - Based on pain location
 - Based on symptom duration
- When related to pregnancy, pelvic pain is typically defined as:
 - Pain in the pelvic region that may or may not radiate that begins during pregnancy or within 3 weeks of delivery¹.



Unfortunately, pelvic pain as it relates to pregnancy can be defined in a lot of different ways, which can make it hard to diagnose. One of the most common definitions is: pain in the pelvic region that occurs during pregnancy or within 3 weeks of delivery

It can be classified as acute or chronic:

Chronic pelvic pain is often defined as noncyclical pain lasting for six months or more that occurs below the umbilicus and leads to functional disability or requires intervention from a healthcare practitioner

It can also be classified based on its anatomical location:

- Pubic Symphysis Pain/Syndrome: Pain is often described as a dull ache or sharp pain along the pubic bones and may radiate to the inner thighs
- Sacroiliac Pain/Dysfunction: Pain is often described as a deep ache in the joint that radiates to the low back and hips
- Coccydynia: Pain is often described as dull with periods of sharp pain that is increased with coughing, sneezing, walking, or sitting

An individual can experience pain in multiple anatomical locations, making it difficult to delineate the source of one's pain



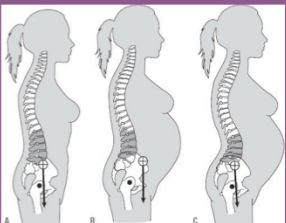
Pregnancy and Pelvic Pain: The Connection

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If we consider the fact that about half of all pregnant women experience pelvic pain, that a quarter of those women have severe pain, and that pain becomes chronic for 10% of pregnant women, it's clear that pelvic pain is a significant concern. But what's the connection? Why do pregnant women experience pelvic pain?

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What Happens During Pregnancy?



- During pregnancy, the body changes significantly 1-4,-19-22
- The connection between pelvic pain and pregnancy is not entirely understood 1,3,4
- Most research suggests that pelvic pain arises from multiple factors
 - Hormonal changes 1,3, 19-21
 - Changing center of mass 1,3-5,21,22,23

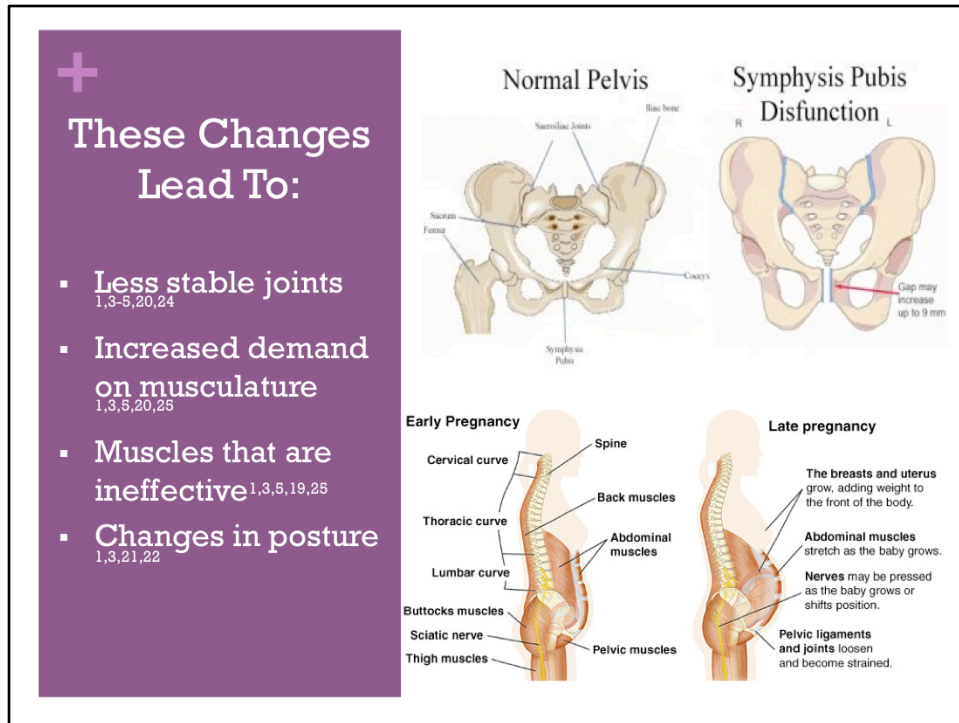
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Hormonal changes

During pregnancy, the body produces hormones called progesterone and relaxin. These hormones serve to prepare the body for birth by promoting relaxation of the ligaments that support the pelvis and its musculature. Consequently, these hormones can lead to ligamentous laxity

Changing center of mass

As the fetus continues to grow, the woman's center of mass shifts forward to accommodate the expanding uterus. This development places increased stress on the muscles supporting the uterus (the pelvic floor) and the muscles of the abdominal wall



These changes can lead to:

- Altered joint stability
 - Ligamentous laxity translates to less stable joints. At the sacroiliac joint (the joint where the hip meets the sacrum), shear forces can occur and contribute to pain. The pubic symphysis that joins the left and right hip bones can also become lax and widen, allowing for motion to occur where it shouldn't.
- Increased demand on muscles
 - Due to ligamentous laxity, the core muscles, including the muscles of the pelvic floor, must work harder to maintain pelvic stability. Increased work demand can contribute to pain.
- Muscles that are unable to function effectively
 - As the fetus continues to develop, the expanding uterus places increased stress on the core muscles, causing them to stretch and lengthen. When a muscle is lengthened beyond a certain point, it's ability to contract (or to do it's job) is reduced. This can not only cause pain, but can also contribute to things like urinary incontinence
- Postural Adaptations
 - Postural adaptations during pregnancy have been shown to vary, and it is difficult to predict the changes that will occur



Does Delivery Influence Pelvic Pain?²⁶



Research suggests that pelvic pain may be influenced by:

- Type of delivery
- Number of deliveries
- Presence of an episiotomy

Some research suggests that pelvic pain may be influenced by characteristics of delivery:

Vaginal birth has been shown to result in further widening of the pelvis and separating of the pubic symphysis and is correlated with a higher incidence of pelvic pain. It is also suggested that the likelihood of developing pelvic pain increases with multiple deliveries and having an episiotomy. Women with episiotomies are more likely to experience a net loss in pelvic floor muscle strength 6 months after delivery.



Pelvic Pain and Daily Life: The Impact

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Has everyone heard of the phrase “no pain, no gain”? It’s not uncommon for people to have this kind of mindset when it comes to pain. However, as you’ll see in a moment, pelvic pain isn’t always something people can just work through. This is another reason why it’s such an important topic to discuss.

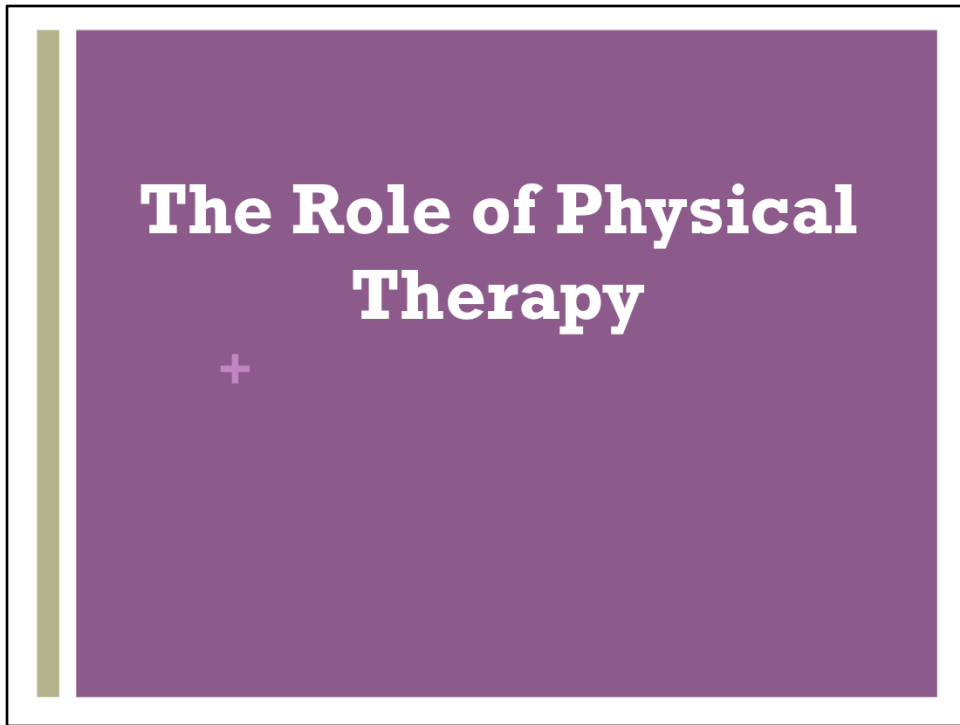
+ Pelvic Pain and Daily Life ^{1,4,,27-31}

- Impact on Activities of Daily Living
 - Pain with Sexual Intercourse
 - Difficulty Caring for Newborn
 - Reduced Quality of Life

Unfortunately, pelvic pain can become so debilitating that it interferes with one's ability to perform even basic activities like moving in bed, carrying groceries, and going up and down the stairs. Women often report trouble carrying or picking up their child after delivery as a result of their pelvic pain.

68%-82% of women with pelvic pain report pain with sexual intercourse, impacting their ability to form romantic relationships.

Pelvic pain has been correlated with the development of mood disorders and depression, which can also contribute to a reduction in overall quality of life.



The Role of Physical Therapy

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Physical therapy plays a vital role in the assessment, diagnosis, and treatment of pelvic floor dysfunction, and proper intervention has been shown to positively impact patient outcomes for a number of conditions including pelvic pain. The goals of physical therapy intervention are centered on improving pain, function, and quality of life. Not only can physical therapists provide direct intervention, but therapists can also provide patients with vital education and referrals to other specialists as needed.



The possibilities are endless!
1-4, 20, 27, 29-38

- There are a number of beneficial interventions:
 - Manual Therapy
 - Biofeedback
 - Ultrasound
 - Electrical Stimulation
 - Core strengthening/stability
 - Postural re-education/ Biomechanics training
 - Relaxation training

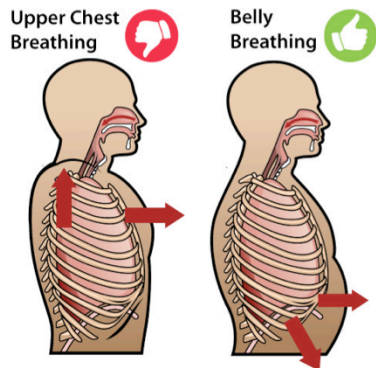


There are a number of interventions that research suggests may be beneficial:

- Manual therapy
 - Manual therapy, such as myofascial release or ischemic pressure, can be performed internally or externally and is useful in addressing musculoskeletal trigger points that may be contributing to one's pain. To perform manual therapy, the therapist uses their hands as the primary tool.
- Biofeedback
 - Biofeedback has been shown to be useful in re-training the pelvic floor to work effectively. It can be used to help patients learn to contract and relax their pelvic floor appropriately, as many individuals with pelvic pain experience difficulty coordinating the pelvic floor muscles. Biofeedback involves inserting a wand (probe) into the vagina or rectum to provide a visual or auditory representation of muscle activity.
- Ultrasound
 - Ultrasound can provide deep and superficial heat to tight and painful muscles, helping them to relax
- Electrical Stimulation
 - Electrical stimulation is contraindicated during pregnancy, but can be used after delivery to retrain the pelvic floor. This involves sending electrical

+ Let's Try Some Things!^{39,40}

- Diaphragmatic Breathing
- Contracting the Pelvic Floor



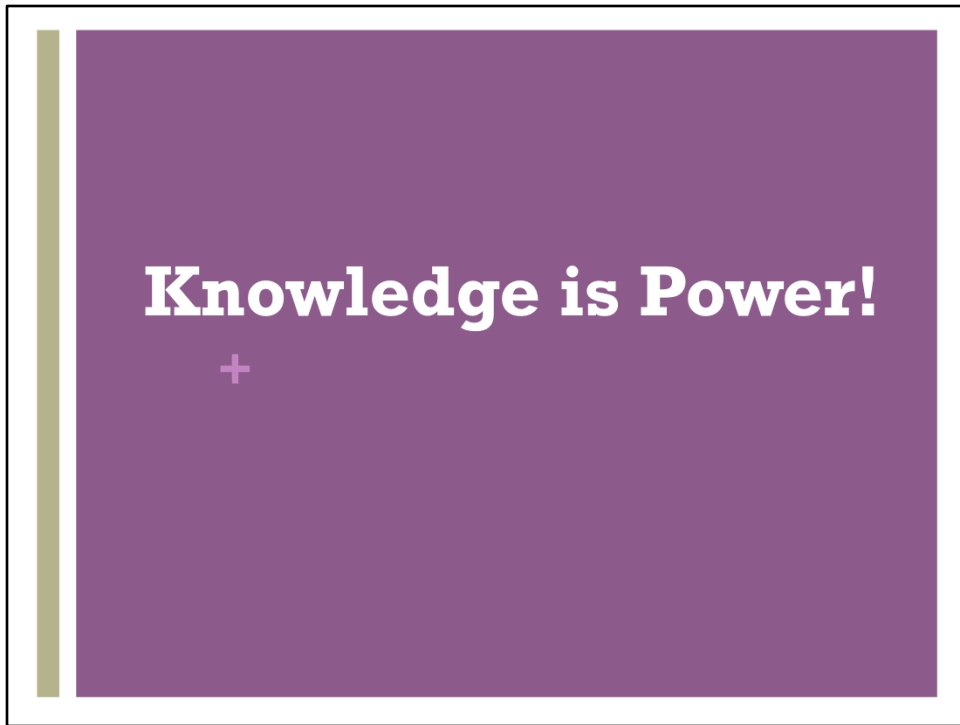
As I mentioned, two things that can be beneficial for pregnancy related pelvic pain are diaphragmatic breathing and pelvic floor contractions. We'll start with diaphragmatic breathing, and I would like for you all to practice with me!

When we breathe, a lot of people think that because the lungs are in the chest, the chest should move considerably. That is not the case! We're actually supposed to breathe with our diaphragm. So what you're going to do is place one hand on your stomach and one on your chest. I want you to take a nice deep breath in through your nose and try to breathe all the way down into your belly. You should feel the hand on your belly move before the hand on your chest ever does.

Repeat this a few times. This is a great stress management technique, as it helps to calm the system. I like to use diaphragmatic breathing before a test, and maybe it will help you as well!

The next thing I want to try is a pelvic floor contraction. Because this group of muscles can be difficult to tune into, I want you to start with diaphragmatic breathing. On the exhale, I want you to pretend like you're urinating and you want to stop the flow. So to do that, you have to draw your pelvic floor muscles up and in. Practice this a few times.

It's more difficult than it looks, isn't it?! These two activities represent a small fraction of what physical therapy can do to address pelvic pain related to pregnancy.



I have provided everyone with a list of local clinics that feature certified pelvic health specialists. If you would like additional information, feel free to check out the additional resources I have provided. I would especially suggest checking out the podcast; it's very interesting!

+ Useful Resources

Local Clinics

- The International Pelvic Pain Society: <https://pelvicpain.org/home.aspx>
- The Pelvic Guru: <https://pelvicguru.com/>
- Pelvic Health Specialist Locator: <https://pelvicpain.org/patients/find-a-medical-provider.aspx>
- The Pelvic Floor Disorders Network: <https://pfdnetwork.azurewebsites.net/Home.aspx>
- The Pelvic Health Podcast: <http://physiodetective.com/pelvic-health-podcast/>
- Integrative Therapies: 7-E Oak Branch Drive, Greensboro, NC 27407; (336) 294-0910
- BreakThrough Physical Therapy: 1591 Yanceyville Street, Ste. 400, Greensboro, NC 27405; (336) 274-7480
- LeBauer Physical Therapy: 319 Smyres Pl. Greensboro, NC 27403; (336) 271-6677
- Alliance Urology Specialists: 509 North Elam Avenue, 2nd FL North Elam Medical Plaza Building, Greensboro, North Carolina 27403; (336) 274-1114.

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Does anyone have any final questions?

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Post-Presentation Knowledge Assessment and Feedback

Questions???

If you wouldn't mind taking a moment to fill out the post-presentation assessment and feedback forms, I would greatly appreciate it! Thank you so much for your time!

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