Evaluation & Treatment of Coccydynia

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- - [Calista] It's my pleasure to welcome back, to physicaltherapy.com, our presenter, Dr. Jennifer Stone. Jennifer Stone is a residency-trained orthopedic and pelvic health physical therapist who lives and works in Columbia, Missouri. She supervises two physical therapy clinics in the MU health care system and sees approximately a 60% patient caseload. She is also the program director for Evidence in Motion's Pelvic Health Certification. One of her professional passions is working toward more integrated health care around the pelvis, pelvic girdle, and spine, as well as working with women during the child-birthing year. Jennifer seeks to make the pelvic girdle accessible and easily understandable to physical therapists from all areas. Jennifer, it's great having you back.

- [Jennifer] Thanks, it's great to be here. All right, everyone, we're gonna go ahead and get started. I did just want to mention that if you have any questions, feel free to ask those when you have them. I will try to answer them at that moment, if possible, and there will also be some time at the end, but sometimes it's helpful to ask when you have them, that way we can go over the appropriate slide again, and we're not trying to go back through the entire presentation. All right, so our learning outcomes for this course. At the end of the course, hopefully you will be able to do the following four things, you should be able to define the anatomy and physiology of the coccyx and the surrounding structures, you should be able to list at least three possible sitting modifications to help improve the symptoms of coccydynia for your patient, you should also be able to describe at least three tests or measures that can be helpful in evaluating patients with coccydynia, and you should also be able to describe at least four interventions that may be helpful in the physical therapy treatment of patients with coccydynia. All right, so let's go ahead and get started. All right, so the exact prevalence of coccydynia at this point really is unknown, okay? There has been some studies that have attempted to look at it and they are not able to come to a consensus. We do know some risk factors, though, for coccydynia. We know that it is five times more common in women than in men, we also know that adolescents and adults are

much more likely than children to develop coccydynia. That's not to say children cannot develop coccydynia, but certainly, they're much less likely, okay? Obesity is sometimes listed as a risk factor, and sometimes it is not. The people who have attempted to assess this think that if obesity is a risk factor, it's likely due to some increased risk for posterior subluxation upon sitting. So basically, people who have higher body mass often will not tuck their pelvis as much when they sit and so potentially are putting some weight directly onto the tailbone in a direction that may be more likely to lead to some posterior subluxation and some pain from that. And then also potentially higher risk for trauma due to lack of balance, et cetera. But those same studies also show that subjects with a lower BMI or lower weight actually have an increased risk of hypermobility and anterior subluxation.

So like I said, there's really no distinct for certain obesity as there is not a cause of this. One thing that I think is great is that if obesity is a cause for this, the thought right now is that that's mechanical, that it's likely because of the way that the person is moving, and particularly the way the person is sitting, which is something that we can pretty easily address, right, that we can teach them different movement patterns, or we can teach them to sit in a different way, and so it's not that they're just in trouble unless and until they lose a large quantity of weight. All right, so what are some causes of coccydynia? There's a lot of possibilities. I would say the most common, at least that I see walking into the clinic, would include trauma. So some things that can cause trauma include vaginal delivery, especially instrument-assisted or shoulder dystocia, we'll go over this in a little bit more detail in a minute, just because I think it's likely relevant and applicable to patients you will see. A fall is very common. I live in Missouri, like we mentioned earlier, and it's very common for people to slip on ice 'cause we have this awesome thing that happens here where it'll ice first or rain first and then freeze and snow on top of it, and so people can't necessarily see that there's ice under the snow. So we have a lot of coccydynia due to falls. A near fall can actually also cause coccydynia. And the reason for that is just that if you do this thing where you

slip, and then you try really hard to catch yourself, those muscles activate really strongly, and sometimes that can set off a muscle spasm or some other problems that can lead to coccydynia. Certainly a direct blow could do that, that's one of the less common ways that I actually see people being injured, but it is a possibility. And then actually, water slides are such common causes of coccydynia that there are entire articles looking at incidents of coccydynia that starts after a person went down a water slide, so there you go. Another possible cause would be repetitive micro trauma, so repeatedly, or for a really long periods of time, sitting on hard surfaces or just sitting with kind of awkward body mechanics.

You certainly could also have repetitive micro trauma from not balancing your musculature and balancing intra-abdominal pressure ideally as well. And that wouldn't necessarily be related to sitting, that would be more so with activity. A pelvic floor spasm is a very likely cause of coccydynia, especially if that spasm is unilateral. So if you have a spasm on one side, and then it's not replicated by the other side, so you've got sort of this uneven pressure across the tailbone. Scar tissue from a pilonidal cyst removal or a coccygectomy, we will talk a lot more about both of these things. Idiopathic coccydynia is actually fairly common as well, meaning we just don't know what started it, it just kind of insidious onset, no particular reason that we can think of.

Those ones unfortunately, have the least ideal prognosis. Rapid weight loss is also a common cause of coccydynia, and most people think that this is just due to shifting pressures. Often people who lose weight very rapidly are losing a lot of muscle mass as well as fat and water, and so potentially, there's some issues with that as well. And then pelvic organ prolapse is also a very common cause of coccydynia. All right, so what are some things that you'll see if a patient walks in your clinic, or what are some things that they'll tell you about? They will have pain with sitting, almost certainly, it's typically going to be worse with leaning back and also worse with sitting on really hard surfaces, and interestingly, it's actually often also worse with sitting on a very, very soft

surface. So there's a happy medium in there somewhere that is more comfortable for people, but if we're going really, really hard or so supportive, or really, really soft or unsupportive, often they will have some pain and problems. It might be actually better if they're sitting on a toilet, or a donut cushion, and the reason for that is that both of those will actually unweight the coccyx to where they're sitting more so on their ischial tuberosity. They will often have pain with transitions, especially transitions where they're going from a lot of hip flexion to not very much hip flexion, or the reverse, so sit to stand, stand to sit. Usually the pain will improve some with walking or any kind of repetitive low impact movement. And then they often will have pain with bowel movements, and sometimes will have painless sex, and especially with the penetrative aspect of sex. Okay, so the nice thing is there's a good prognosis, about 90% of these patients will get better with conservative care only, and sometimes not conservative care involves physical therapy and sometimes it doesn't, sometimes when they say conservative care in studies, they're just talking about sitting rearrangements and stretching, and that sort of thing.

So that is one piece of good news that we can really tell our patients is that their prognosis is actually probably really good with this. All right, so let's talk a little bit about just some of the treatment options for coccydynia. Like I said, the most people will not have to go all the way down this list or even past maybe the second line on this list, but just so that you know what some of the options are, some things that you might see. The first-lime treatment is lifestyle adaptations, so things like cushioning, meaning cushions that help to unload the coccyx, soon we'll go over what some of those look like here in a little bit, use of heat modalities, so heat or cold, and then just also sitting posture, how to sit in such a way that they're not just hanging out on their coccyx. The second line of treatment would be us, so physical therapy, and then also potentially medication. We're gonna spend the whole course on physical therapy, so we'll get to that. As far as medication goes, NSAIDs are the most common thing that is suggested for people. Opioids are not typically recommended, but I have sometimes

seen those used for a very short period of time in the case of a traumatic mechanism of injury, okay? The third line of treatment would be injections. These are typically injections that include lidocaine and then some version of a steroid. They're directed toward the sacrococcygeal joint or sometimes towards the ligaments around the sacrococcygeal joint, they are typically ultrasound or fluoroscopy-guided, and when we talk about anatomy you'll probably see why, but essentially the sacrococcygeal joint and ligaments are very, very physically close to some structures that you would not want to accidentally inject with these things. So you can also use nerve blocks. That's a little bit less common because most people don't think that the main cause of coccydynia is nervous system in origin, okay?

And then a what is hopefully only a final resort at this time, it used to be a very common thing for people that do, but I thankfully see this less and less frequently, but would be a coccygectomy, so actually removing the tailbone. We will talk about it just because I do still see it on an occasional basis, but thankfully not nearly as commonly as I used to. Okay, so let's talk about it now. Coccygectomy is just removal of the coccyx, exactly what it sounds like. The soft tissue structures that attach to and surround the coccyx are sometimes tucked down, typically into ligaments, fascia, or the sacro-ligament structures, and sometimes they're just let loose to scar down on their own. I put a link to the text of an article that has a really good overview of several of the different options for surgical techniques.

I'm not gonna go over those in detail just for time, but there's really great pictures there and good descriptions. So just know that you can pull that up, it's a free access article, but you can pull it up at any point in time if you do have a patient who had a coccygectomy and you want to see what that actual procedure was. Post op physical therapy is not necessarily standard of care after coccygectomy, and I'm sure you all know what I'm gong to say in answer to should it be, that I really do think it should, just because of the structures that attach to the coccyx. Now we've got completely

different access points and all kinds of things. So, again, all of the things that we're doing today, or talking about today, are going to be very applicable, potentially post coccygectomy. Okay, so let's back up a little bit and just talk about anatomy and physiology because I know this is not necessarily a structure that a lot of people are spending a lot of time with, so I think it's helpful to just review, and a lot of the treatments are somewhat based off of that anatomy and physiology as well. Okay, so the coccyx or the sacrococcygeal joint is a fibro-cartilaginous one. I think there's this misnomer out there, at least when I talk to patients, and sometimes even other healthcare providers, that the coccyx really doesn't move. That's actually incredibly inaccurate.

The coccyx is actually very mobile, it does have up to about 70 degrees of motion during defacation, position changes and breathing. So yeah, very, very mobile. During childbirth, it actually moves even more than that, and certainly that is a time where it's not too uncommon for people to develop some increased pain after that event occurs because it moves a lot more than it normally would. Okay, so there are four types of coccyges, and if you google search online, you can see pictures of these. I don't know how helpful that actually is because it's not as if you're going to be able to visualize it, but so here are the four types. Type one is the most common by far. About 70% of people have a type one coccyx. In this case, the coccyx angle is slightly forward, and then the apex angle is slightly caudally, okay?

These patients are the ones who are least likely to develop idiopathic coccydynia. So they certainly can still injure their coccyx, but they're much less likely to just develop it out of nowhere, okay? Type two is about 15% of individuals, so the second most common, and in this case, the coccyx angle is forward a lot more sharply, and then the apex angle is a little bit more anteriorly as well, okay? These patients are a little bit more likely, but not necessarily incredibly likely, to develop that idiopathic coccydynia. Type three coccyx is about 5%, so this is actually the least likely one. And in these

individuals, the coccyx angle is sharply forward between the first and the third segments of the coccyx or the second and third segments of the coccyx, okay? These ones are, again, a bit more likely to develop that idiopathic coccydynia. And then type four, which is the most likely to develop idiopathic coccydynia, it represents about 10% of individuals, and in these patients, the coccyx is subluxed anteriorly at the level of the sacrococcygeal joint, or sometimes between the first and second segment. So it's actually moved forward as opposed to just angling. This is biology, by the way, we are not going to impact the type of coccyx that people have. So it's just one of those things to where you need to be aware that there may be some differences there, depending on the individual patient.

Okay, so now let's talk about the soft tissues that attach to the coccyx. It's actually very interesting sometimes when I have talked in the past to orthopeds, and again, this is becoming much less common now, but they would often say, "Well, what's the harm "in removing the tailbone? "It is a vestigial structure, it doesn't really do anything, "it's not like there's a lot of important stuff "that attaches to it." And I would beg to differ. So this picture, I don't know how easy this is for you to see, but basically, here's the coccyx right here, and almost all of the pelvic floor muscles attach onto the anterior portion of the coccyx, okay?

So our pelvic floor is kind of important, obviously, I'm going to think that because I work heavily within the pelvic floor, but those are muscles that are responsible for ideal core functioning, they're responsible for assisting us with continence, which I personally think is kind of important, and I really like being continent, and then they also function with sexuality, which again, is a really important aspect of life for a lot of people, okay, so just realize that those muscles attach to there. And then we also have some ligaments that attach there as well. So we have the anterior sacrococcygeal ligament, so that is this one right here, so on the front side, basically just attaches the coccyx to the sacrum, based on the name, I'm sure you could have guessed that. Then

we also have a lateral ligament, and then we have a couple of posterior ligaments, most importantly, the superficial posterior, and then we also have this super spinal ligament that runs all the way up and down, okay? So those are there as well. And all of these structures are severed when they do a coccygectomy. Okay, so that's a quick brief overview of the anatomy, now let's talk about physiology. So we mentioned this earlier, but the coccyx goes through 70 degrees of movement, on average, obviously, this is a bell curve, like lots of things, so some people will be a little less, some people will be a little bit more. But during the rest cycle, which hopefully most of your patients are doing the rest cycle fairly regularly, so that just can tell you if you have restrictions or pain with your coccyx it's never really fully at rest. So it's really important to make sure that mobility is appropriate to allow for this.

And that is mostly A to P mobility, so swinging backwards posteriorly, and and swinging anteriorly, there is not a ton of lateral or rotational mobility, there's some, but not a ton, okay? As far as stooling goes, so the bowel and the coccyx are very, very close to one another, okay, actually, to the point where if the rectum is overly full, it can press against the coccyx and so we're going to talk more about this later because you really do need to ask your patients with coccydynia how their bowel movements are going, okay, because if they're having a lot of trouble with constipation, you could work on their coccyx all day long and you're probably not going to get them fully recovered, okay?

Rectal problems can also cause coccyx pain so it can actually be a referral pattern, and then coccydynia, by contrast, can also cause pain with stooling. So it can be sort of this back and forth, almost like a chicken-and-egg relationship, but definitely a lot of involvement there with stooling. For childbirth, there's a lot of coccygeal movement during a vaginal delivery. There's actually a bit of posterior movement of the coccyx during the latter stages of pregnancy as well, so just if someone did not have a vaginal delivery, they still can develop coccydynia depending on how they were carrying, and

some other things, okay? Postpartum coccydynia, meaning new onset of coccydynia postpartum, occurs most frequently in deliveries where mom was either sitting on her coccyx itself or in a well-thought, I mean position, which means on her back with her knees up, so sort of the stirrups position. Those are unfortunately some of the most common delivery positions, because they're some of the easiest ones for the patient to get into if she has an epidural, and they're also the easiest ones for providers to see, and so those tend to be the default. It is possible for the coccyx to be either fractured or dislocated during a delivery or during an injury also, whether that's falls or whatever else. Thankfully, that's relatively rare for it to be fractured or truly dislocated, most of the time, it's a soft tissue injury and essentially a strain or a sprain of those ligaments and that joint, okay? All right, so let's look at this for vaginal delivery, just in case. I know I didn't necessarily learn a whole lot about the physiology of this until I became a pelvic floor therapist, which was actually after my oldest child was born.

So during a vaginal delivery, the cervix opens and then moves towards the front, or anteriorly, it's usually pretty posterior, and then the pelvic floor muscles are actually stretched out to two to three times their normal length. So the pelvic floor muscles aren't shown on here, but so here's the cervix, the pelvic floor muscles would be these sort of just forming the walls of the vaginal vault, okay? So they double to triple in length. Some of that is baby stretching them out, some of it is also hormonal, a lot of it is hormonal, that's not typically possible, okay, and then the sacrum actually widens and moves posteriorly during early labor to allow the baby to drop down. So I'll show you here. So here's the sacrum, okay, so during the earlier parts of labor, what baby is doing is moving from up here to being sort of at the birth canal, basically, or close to crowning. When baby is dropping down, this part of the sacrum here, the top part, scoots back this way, and then when baby gets to this point where that we're now expelling head and shoulders, the sacrum actually can come back forward and the coccyx and the lower part of the sacrum actually need to drop back, okay? So, obviously, there's a lot of things that can happen in an ideal scenario, the body just

does this no big deal, and then baby comes out. However, sometimes if mom is maybe lying in a position where the pressure can't be even on both sides, or she's actually sitting on her coccyx and blocking it from being able to drop back, or just sometimes baby's position certainly can affect things, baby could be facing backwards and so that can cause some uneven pressures and that sort of thing. The other thing that can happen is something called shoulder dystocia. So shoulder dystocia happens at this stage here where the head's out and the next thing that needs to happen is that the baby needs to be able to turn and exit. Here's mom's pubic bone right here, pubic symphysis.

Sometimes what can happen is instead of coming out like this baby's shoulder can actually get hooked on the pubic symphysis and stuck because now you have bone against bone, so baby shoulder against mom's pelvis. If that happens, the provider does a series of maneuvers, and/or has mum move potentially, depending on the circumstances, to get baby out. In extreme circumstances, they may have to use forceps, sometimes the provider will slide their hand up in there beside baby to pull the shoulder out, in very extreme circumstances sometimes mom's pelvis has to be fractured. But even a mild shoulder dystocia has the potential to cause either pelvic girdle pain or coccydynia just because you've got not just baby, which is quite taking up a lot of space there, but also you'll have the providers hand as well, okay?

So we talked about a little bit of this as well, already earlier, so just talking about it may be that positions lead to uneven pressures. And Sherman-assisted delivery means use of a vacuum or forceps, either one can cause coccydynia. With a forceps delivery, especially though, what's happening is this is basically a forceps, kind of like kitchen tongs almost, is what it looks like, and what you do is you sneak that forceps in here, well, depending on where exactly baby's head is, how much space mom has, that can lead to some problems with the coccyx. A vacuum can too, though, a vacuum is what it sounds like, they literally attach a vacuum to the baby's head and pull the baby out

with tractioning. And where that can sometimes cause some problems is it pulls baby out a lot faster than they would come out on their own. And so due to that, it can lead to maybe some things having to move more quickly than physiology would think would be normal. Now, this is not, hopefully, typical for all of your deliveries. Usually these instruments are only used if either baby is going into distress, mom is too tired to push baby out, or that sort of thing, but they certainly can be used. Pelvic floor tearing or vaginal tearing, some people will call, they'll grade it one, two and three, if the pelvic floor tears, there's gonna be scar tissue. And we saw earlier that the pelvic floor does attach onto the coccyx so that can cause some problems. There can also be some girdling around the pelvic floor, especially with a more extreme version of a tear. And so that can, again, pull on that coccyx and lead to some pain. Sometimes epidural placement can lead to complications. Usually higher up in the spine, the epidural is usually placed around the L2, L3, but sometimes the patient will change the way they're moving in, and then that can, again, lead to the epidural placement.

And then if the pushing stage is really, really long, or really, really short, then we'll sometimes see problems. So usually, if I see a pushing stage shorter than maybe a half hour or longer than maybe two hours, that person I'm just going to know is at a little bit of increased risk for having some acute onset coccydynia, postpartum. Not everyone does, for some people, that's just kind of the normal way that their body gives birth, but then for others, it doesn't allow time for things to kind of stretch and move slowly, or there's this repeated really heavy pressure on the tailbone, and then that can lead to some pain. Okay, so that is delivery, and particularly vaginal delivery, and I just wanna throw out there, I always like to say this in classes, even if you're not necessarily treating postpartum women, so women, I would say within the first year or so after they have a baby, even if that's not necessarily a high volume of your caseload, you probably treat postpartum women if you treat women at all. So keep in mind that some of these problems can start way back when they had their baby and they may not be walking into my clinic until they're 45, 50, 70, but that doesn't necessarily mean that

delivery history is not important. So I would really recommend asking about that. Okay, so another issue that can either lead to coccydynia or coccydynia can actually lead to this issue as well, is constipation. This is one of the most common digestive complaints in the United States, okay? It's really difficult to diagnose. So we talk about coccyx, or sorry, constipation, and we say it's a symptom, not necessarily a disease of its own, it's a symptom of other issues. There's a high correlation with incontinence actually, especially in children, okay, and so the way that we define constipation is we use something called the Rome III criteria, and it must include at least two of the following. So straining, lumpy or hard stools, sensation of incomplete evacuation, a sensation that something is obstructing or blocking them from being able to empty, sometimes people will do manual maneuvers to facilitate defacation.

So they'll either use a hand and stick a finger up in there to help to digitally evacuate or some people will put pressure on their perineum or on their pelvic floor in order to defecate, and/or less than three defecation per week, okay? So just one of these by itself does not diagnose constipation, but if the person regularly has at least two, then we can be fairly confident, okay? And then also loose stool rarely is present without use of the laxatives, and then there's not enough criteria for IBS, or Irritable Bowel Syndrome, with more of a constipation focus, okay? And I'm not going to go into how we differentiate between constipation and IBS, because honestly, from a PT standpoint, constipation is treated the same whether it is IBS with a constipation component, or if it's just regular old constipation, okay?

I could teach an entire course on this. Okay, so constipation is, again, a really common comorbidity, is it the chicken, is it the egg, does it matter? Honestly, I tend to be of the opinion that if the person has coccydynia and also constipation, I'm going to treat both, because if I treat both, they're going to get better faster, okay? I did want to include the Bristol Stool Chart on here, because I cannot even tell you how many patients I used to ask, "Do you feel like you have problems with constipation?" And

then they go, "Oh, no, no, I go regularly." And then I started showing them the Bristol Stool Chart, and they would say, "Oh, yeah, "I have a daily bowel movement and it looks like this, "like these little rabbit pellets." And that's actually quite constipated there. And what that made me really realize was, people don't actually usually see anyone else's bowel movements except their own unless you're a parent to babies, like I am, and then you see your baby's, but that looks totally different in a diaper, okay? But aside from that, you're not usually looking at other people's stool, and it's not like we're having these conversations around the water cooler at work. I mean, I do, because I work in a pelvic floor physical therapy clinic so we talk about all kinds of weird stuff, but for most people, they're not like, "Hey, how was your poop this morning?" And so since that's the case, a lot of people think, "Oh, well, if I'm just going every day, "and I don't feel like I'm sitting there "and having to strain," or maybe they are sitting there and straining, but they've done that their whole life and they don't realize that's not normal, then they'll go, "oh, yeah, I'm not constipated, I'm fine."

And so I've started actually not asking people if they think they're constipated, I'll just show them this Bristol Stool Chart, I just keep a copy of it, and I also have it on my intake form. And I'll just ask them, "Hey, can you show me "what your stool typically looks like?" Okay, and I have one that doesn't have the very constipated, slightly constipated, so that that for this right column just because I don't like to plant ideas in people's heads, and I don't want them circling things based on what situation they think they're in, but I put that on this Bristol Stool Chart just so you could all see what that actually corresponds with, okay? So just a small suggestion there, but important to ask about. Okay, so the types of constipation we'll typically see, there's normal transit constipation, which is the most common type. So that just means they digest things at a normal speed, and they feel like they have difficulty with evacuation. So they feel like they have to strain to evacuate or they may be feel like they're not fully emptying, and then they also may have presence of hard stools and it could be either/or, it could be both, okay? There's also slow transit constipation, which means that the colon or the

GI system is not pushing the digestive process through, so peristalsis, which is that muscle contraction that moves our food through, is not happening at a normal rate, okay? This can be due to medications, including pain medication, especially opioids, but also any type of nerve medication that's intended to treat pain, will potentially cause this as well. It could also be from a neurologic disorder, so any type of neurological disorder, whether it's progressive or not, potentially could lead to slow transit constipation, or metabolic disorders. Slow transit constipation is very common, especially in people who have thyroid dysfunction, okay? Also very common postpartum, sometimes, for people to develop thyroid dysfunction, and/or then people can obviously have it whether they're postpartum or not, okay? And then the final type of constipation is something called outlet dysfunction. And so basically what this means, is that we call it dyssynergic defecation, that when people try to start stool, what should happen is that their external anal sphincter and their pelvic floor, should both relax, as their diaphragm and then the muscles within their bowels themselves compress so that they're pushing the stool out.

And people who have dyssynergic dedication, their external anal sphincter and/or their pelvic floor will contract instead of relaxing. So basically, they're fighting against themselves and trying to squeeze stool through a small funnel as opposed to through an opening. Encopresis is another type of outlet dysfunction. So what this means is that the person has been chronically constipated for so long, that they've had this big buildup of stool in their rectum or in that sort of end portion of their colon before it exits their body, and the rectum itself can actually become stretched out. And like any other muscle, if the rectum is super stretched out, it is hard for it to generate the level of muscle contraction that would be able to effectively push out stool, and then it also impacts their ability to feel like they need to have a bowel movement because what allows that is that when our rectum is full of stool, we have these stretch receptors in there, they're nerves, that feel that there's some stretch happening in the rectum, and those nerves then will say, "Hey, stretch, "you have to go to the bathroom." But if the

rectum is super stretched out, then that nervous system signal is not going to be sent as quickly. So that's another type of thyroid dysfunction, okay? So here's just a photograph, or not a photograph, sorry, a drawing, of dyssynergic defecation, so it's just showing what I was just mentioning, where people will be potentially straining, and instead of things opening and allowing the stool to flow through easily, you get this tightening of the pelvic floor and/or potentially tightening of that external anal sphincter. And so instead of having this straight shot out through a wide opening, it has to kind of scoot around and go through, okay? And then this is showing encopresis, so that stretching out of the rectum that I was talking about, that makes it much harder. Alrighty, so that's constipation, and we'll talk a bit more about how we treat constipation, not in crazy detail, but just to give you some tips just because it is so commonly co-morbid with coccydynia.

All right, so pilonidal cysts, these can happen anywhere in the body. But what it is, is it's a cyst that forms in the hair follicle and can become infected, okay? There is a likelihood of forming these close to the coccyx and several of my patients very kindly allowed me to share these photographs with you all so you could see what they look like, okay? So what happens is that hair follicle becomes inflamed and irritated, potentially infected, and then there's a cyst here. These can be quite large, I had one patient who had one that was the size almost of a golf ball or a small, tiny little orange, and then someone else who I did not see her at this stage, but she said hers got to the size of a grapefruit and she had a picture of it was quite, quite impressive. So the treatment for this is that they will drain it, so they will open just a hole through here and try to drain it out. Unfortunately, these are really, really likely to recur. So if they do recur, then they will actually excise them, so they will cut them out surgically, the entire follicle, and if they have to do that, oftentimes, they actually have to leave the wound open and let it slowly heal from the inside out. So people may have a history of having had an open wound right alongside of their coccyx, for weeks or months, depending on the severity, okay? The symptoms of a pilonidal cyst can actually mimic coccydynia,

and so that's why it's sometimes it's helpful to look with your eyes or to feel with your hands, this will feel quite different. If you run over one of these, you will know it, it will feel kind of like this baggy inflamed area versus typically even on someone with a larger body, you can feel sort of the bony aspects of the coccyx, and there's not kind of this squishy, fluid-filled sac over it. The scar tissue following a pilonidal cyst excision, looks approximately like this, it's a big incision, and like I said, it may be very deep and had to be left open to a very large area of scar tissue. This can cause coccydynia, for sure. And so it may not be truly coccydynia in the sense of coming from the tailbone, but it feels the same to the patient.

And so for these patients, we actually need to do some scar mobilization, otherwise, they're not going to get better, all right, and I can't tell you how many patients will come in and be like, "Oh, yeah, no real history," and then I eventually find out, oh, they had a pilonidal cyst resection. That would have been helpful information, so definitely good to ask people about that 'cause if it happened a long time ago, they may or may not automatically think that that has anything to do with their tailbone pain. Okay, so let's talk about evaluating people who have coccydynia. So some things to ask about in your subjective exam.

Certainly mechanism of injury, as always, we would ask them what makes the pain better, what makes it worse, what's the pain behavior like, if you do this, does it cause some changes, how sensitive is it, does it take a lot to flare it up or just a little bit, when it flares up is it really, really painful or fairly mild, how long does it take to get better, all those fun things. And then, of course, very important to ask about functional limitations, coccydynia can be very limiting from a functional perspective, so it's important for us to talk about that. Some red flag things to ask about certainly a stress fracture, that's a really uncommon, but it's good to just kind of rule that out potentially. Cancer, very uncommon, so is infection and bowel red flags. By bowel red flags I mean things like bowel cancer, but just things to kind of keep in the back of your head that if

the patient does not present in a way that seems musculoskeletal that you may consider having their physician roll these out. Yellow flags that you will likely see are pain behaviors, and then whatever psychosocial factors be that workstation setup or whatever else. From an objective standpoint, I always like to do a gait analysis, I think that gives me a lot of really helpful information. I always screen the lumbar spine and the pelvic girdle because mobility problems here can potentially translate into issues with that coccyx. I will also do a hip screening, okay, so just to check because a lot of the musculature and flaxial connections to the coccyx do also connect into structures that connect into the hip. I look at how they breathe, we'll talk about that a little bit more in a little bit, and then I just check for any pain reproduction with springing over other bony structures.

And then I watch them do full body movements, because fairly frequently they have some imbalances in how they're moving and how they're controlling their intra-abdominal pressures, which are leading to coccydynia. Potentially, I will also do a pelvic floor internal evaluation, it's beyond the scope of this course to fully describe that today, but certainly that is a possibility. Okay, all right, so I will also palpate the coccyx externally. I typically will do this in sideline just because it's a little bit easier to get to. I have the patient curl their knees up fairly close to their chest, as you can see in that bottom picture there, so they're really in more of a fetal position. Be aware that when you are palpating the coccyx externally, it is likely much lower than you think it is, and it may actually be almost underneath the person, depends a little bit on their anatomy. But for the most part of people, and lab classes that I teach, are having trouble finding the coccyx externally, they're almost certainly just simply not low enough. So you really almost have to be inside someone's butt crack to actually get on top of that coccyx. I often will screen the pelvic floor externally as well. So I find that by touching onto the person's ischial tuberosity and then sliding in, this is more fully described in some other courses that I've taught, but this is a really good way to screen and just see if there is a really noticeable spasm on one side or the other, does

not give you as much info as an internal exam, so that's just something to be aware of. Okay, so coccyx palpation internally, if the patient agrees. Sometimes you can palpate this intravaginally, but honestly, it's usually best done intrarectally. I would always consider an external screening first, especially if you think there may be a lateral deviation or if you're not sure whether internal is necessary. I don't typically palpate the coccyx internally on the first visit, but if some of the other things I'm doing are not working, then I will attempt that. The patient could be in sideline, maybe hook lying, but it's a lot harder to actually get to the coccyx itself if the patient is in hook lying, which side-up sort of depends on what you want to do, are you evaluating, are you treating, are you trying to do some gentle mobilization, and then obviously, we can evaluate here, or we can treat here.

And we're gonna go ahead and show a video of internal coccyx evaluation. So we'll go ahead and pull that up. Okay, so I'm just gonna hit Play, and then hush, 'cause I had voiceovered it. So when you are palpating the coccyx internally, for some people, you can actually reach it intravaginally. That is going to have to be obviously a female patient, as well as someone who is relatively on the smaller side in terms of pelvis size and shape, and then also soft tissue that might be in the way. But if you want to do that, you just insert your finger all the way vaginally, and then you reach back as far as you possibly can, and, on someone this size, I would not be able to get to the coccyx, but sometimes you can.

So I typically, for most patients, am going to be doing an intra-vaginal exam first. The only reason that I would not do an intra-vaginal exam first would be, of course, my patient was male, but also if I had a patient who just had coccydynia and had no other pelvic floor symptoms whatsoever. And so that's just a decision that you're going to make on an individual basis with each patient. To palpate the coccyx intrarectally, the best way to do this is to have your patient lying on their side, because that's gonna be a little bit more we're comfortable. I will say one thing I don't like about having patients

on their side is it's a little bit harder to see your patient's face. So you have to make sure that you have this reasonable rapport with that patient to where you feel comfortable that they'll let you know if they are having a problem and that they would feel comfortable to speak up if that were the case. So you will have your patient lying on their side, let me turn this pelvis on it side here, so you'll have your patient on their side, then you're going to place your finger at the edge of their external anal sphincter, and then it's going to be the most comfortable for your patient if you instruct them to bear down as if they're having a bowel movement as you insert your fingers. So you'll say, "Okay, I'm going," and of course, you've explained all this ahead of time to them, you're going to say, "I'm going to insert my finger now, "I want you to bear down "like you're having a bowel movement."

What that does is it helps to open this external anal sphincter, and it's much less uncomfortable for you to go ahead and your finger at that point, okay? So you have done that, and give me just a second here because this pelvis does not open or stretch the way that an actual, or not the pelvis, but the actual anal sphincter. So now you've got your finger inserted. Now, do keep in mind that that external and internal anal sphincters are going to have quite a lot of activity in turn to them, that is normal, that does not necessarily mean they have a pelvic floor spasm, so what you feel around the outside of your finger that is surrounded by those sphincter muscles, is just the sphincters, and it's going to feel like that no matter what. That doesn't mean you need to stretch the living daylights out of that tissue. Now, if you feel tightness and spasm further in, so where your inside finger is now, sorry, I'm having some spatial issues. Okay, so if you feel some spasm in here, that's a different story, but not if you feel something along the outside of your finger, okay? So you can do a pelvic assessment here, just keep in mind that unlike when you're assessing vaginally, if that's something that you do, you are going to actually be closest to the deeper muscles here. And if you want to assess the more external or the Layer One and Two muscles, you actually have to turn your finger and reach way far forward. It's actually not that easy to assess those

rectally, so I wouldn't necessarily suggest that, unless you have a patient who, for some reason, prefers exclusive use of the back opening. So that could be the case for a transgender patient, it could be the case for a patient who has had some sort of trauma through the vagina, so there are situations where you might want to do that, but for the most part, I tend to work Layer Three intrarectally, and then if I have to do layers one and two without being intra-vaginal, I will tend to, at that point, to go ahead and do that externally if I at all possibly can.

Okay, so here, and this makes it look like you have to reach really far back to get to the tailbone, you don't, it should truly be right on the tip of your finger. If it's not, then that tells you something too. So what you're going to look for is just relative position, is it more or less midline? Now, if it's a little bit off center, and you're like, "I can't really tell for sure "if it's midline," that is not necessarily concerning of itself, okay, but you want to see is it relatively midline, and will it wiggle a little bit for me, and/or is it tender to palpitation, do the muscles on one side feel significantly different than the other in terms of tenderness or tightness? Now, do keep in mind if you have a patient lying on their side, by definition, the top and bottom muscles are going to feel a little bit different because the bottom ones are weight-bearing and the top ones are not.

So just kind of keep that in mind when you're determining whether this is something that is a problem or considered an issue. All right, so that is just the quick and dirty of how to evaluate the coccyx and a little bit of the pelvic floor as well for a patient who has coccydynia. Again, this isn't an appropriate environment for me to try to fully teach you all the possible ways to evaluate the pelvic floor, so that's just your quick. If you don't already have pelvic floor assessment training, I really would recommend that you go and do that, okay? So here's just some verbal queuing or some written queuing that's saying a lot of the same thing. So I was saying during the video, you want to work before you examine, of course, and then really what you're looking for is anything major that looks wrong, so big skin irritations, bright red skin, anything like that. You

may see hemorrhoids, those just look like these little, they're swollen veins basically, so they just look like these little bumps, almost, in the skin. Those are not a contraindication to an internal exam, nor are they really something that's hugely concerning other than they tell you the patient strains a lot. So you may need to work on intra-abdominal pressure control. And then fissures, if the patient has a fissure, meaning an open bleeding crack in their skin, you should not do an internal examination that day. If they have a history of fissures, that's fine, okay? So, again, you want to explain the exam process, you want to use water-based lubricant. I like slippery stuff, but there are other water-based lubricants out there that are fine as well. Use non-latex gloves, there's just enough people at this point who have a latex allergy, you don't want them to find out they have a latex allergy because of your exam in this area, okay?

And then of course, we do informed consent, we allow time for questions, we try to give them enough information, but not freak them out by making it sound like, "Oh, this is gonna be this really uncomfortable exam." What I usually tell patients is, "This is not the most comfortable exam in the world, "what it feels like is it just is going to make you feel "like you have to poop, "that's just because my finger is stretching out the nerves "that are around your sphincter muscles "or your opening muscles. "And because we're getting that little bit of stretch, "that is going to make you feel like you have to poop." "Don't worry, you will likely not poop by my finger, "and it's, again, just because "of that stretch on those nerves." Again, you are instructing the patient to bear down, that helps to open the external anal sphincter, and then because that's open, it's just a little bit less pressure for you to go through, okay? So here's just some photos of anatomy, just to let you know what you're looking at, okay? And so the things you're looking at; position, tenderness and mobility, and then soft tissue mobility of the pelvic floor muscles. So we talked about all of that already, okay? So the coccygeal movement has, I really like this test, it's a really good way to try to get a screening or a general concept of what the coccyx is actually doing and what the pelvic floor is

actually doing. So what you do, you can do this in sitting, you could do in sideline or in standing, but what you're going to do is place your hand in such a way that you have a finger on the coccyx, okay, again, make sure your low enough if the person is sitting, they really probably need to be sitting on your hand in order for you to be low enough. And what you're gonna do is you're gonna ask them to squeeze their pelvic floor. Try to pretend like you're trying to not allow yourself to pee or pass gas, okay? If the coccyx scoots forward, that means they're activating their pelvic floor correctly, and then if the coccyx pushes backwards, then it tells you the contraction is incorrect, and then if it doesn't move, then they're probably not doing anything with their pelvic floor.

For coccyx purposes, it's helpful to know is this painful at all, regardless of what they're doing. I often will also ask people to show me what they're trying to do when they go to the bathroom. So acts like you're trying to start a bowel movement. A lot of people will actually squeeze their pelvic floor and pull their coccyx forward, so that's super helpful information for me, and then if they also have pain with that, again, that just tells me, okay, this is definitely something that we need to retrain and work on from a motor control standpoint. I also will do a functional assessment, here are some of the things that I look at, just balanced intraabdominal pressure regulation.

It's, again, beyond the scope of the class to fully elaborate on that, there's a two-course series here on physicaltherapy.com called Maximize Core Retraining that goes over this in great detail. So if you feel like you would like more detailed information, feel free to check into that. I do functional movements as well. Again, I like to really just see what people's strategies are for movement. And then the ASLR test can be really helpful just to see how people are transferring load across their pelvis. And if you don't know how to do that, there's a fantastic explanation of it with pictures at this blog that's linked. Okay, so that is your evaluation piece, okay? So what you're looking at is the things that you probably are already looking at in patients with spine and pelvis problems, okay, how are they moving, what does that look like, and then the

added piece is some coccyx palpitation, some functional assessment at the level of a coccyx with that coccygeal movement test, and that coccyx palpation might be external or it might be internal, okay, and these are the things that are going to drive your treatment. So now let's talk a little bit about treatment, okay? So just as a reminder, conservative treatment is usually successful. So this is very reassuring information to share with our patients, okay? So I'm going to go through some different options for treatment, just kind of by category. So we will start with manual therapy. All right, so joint mobilizations, this is probably a fairly obvious one. So you can mobilize the hips, lumbar spine, pelvis, and sacrococcygeal joint. All of these contain soft tissue attachment points that could directly impact the coccyx, okay? You also might want to consider assessing and treating the lumbar spine. So a study in 2017 took a couple of different, or three different groups actually, group one just stretched the piriformis and iliopsoas, that's it, just only piriformis and iliopsoas stretching.

Group Two did that piriformis and iliopsoas stretching and then they also received rhythmic oscillatory thoracic mobilization over hypomobile segments in their thoracic spine. Group three used seat cushions, and sitz bath, and phonophoresis, so kind of old school conventional treatment. Groups One and Two were significantly improved over Group One, Group Two was also improved compared to Group One. So adding those thoracic mobilizations did also seem to improve more so than just the stretching. One thing to be aware of is that was not a statistically significant difference, however, it was enough that the authors felt it was clinically significant. The reason that this could be a factor is that our thoracic mobility certainly has a great impact on our sitting position, and then also breathing, as we've mentioned already, is certainly very highly correlated with movement in that coccyx, and so if something is going on with your breath pattern, that may be affected by the thoracic spine that may be applicable. Do I think you should automatically do thoracic mobilizations on all patients with coccydynia? No, I do not, but I do think it's worth taking a look, watching their breathing patterns, potentially just doing some springing and assessment and if it's

tight, probably a good idea to work on it. Okay, so we can do some coccyx mobilizations, there is an external technique called the Stuck Drawer mobilization, which I believe we'll talk about here in just a minute, yep, and then there's also some internal techniques that we can use as well. With an internal technique, you can mobilize the coccyx via distraction, and distraction often provides a lot of pain relief, or you can also use your inside finger to grasp and put your thumb on the outside and grasp it to do some A to P, or you can use two hands to do A to P. You can also do some lateral mobilizations with that internal piece. And you can also do a Grade Five mobilization or manipulation.

So typically, what you'll do is you'll bank your finger into a hook, do some distraction, and then at the end range of that distraction, do a little thrust. I honestly don't do coccyx manipulation very often, because the distraction hold with a slight oscillation at end range seems like it is one of the most effective ways to relieve that pain, but if we have a muscle spasm going on and I can't get them to stop spasming, then I will potentially do a Grade Five mobilization. So let's go ahead and show that second video. So there's a video here that I recorded to show you all just some tips on some internal coccyx mobilization.

So we'll go ahead and look at that now. So, for an external coccyx mobilization, as, and you saw the picture as well, but for an external coccyx mobilization, you'll essentially just place your fingers along what would be the outside of the coccyx, and you can just do a little bit of a gentle maneuver. I'm gonna try to show this without dropping the pelvis or breaking it apart. So you'll just do a gentle maneuver this way. Now, am I certain that this is an actual sacrococcygeal joint mobilization, no. It very well could just be a ligament release, soft tissue mobilization to the pelvic floor, either way, it can provide that neuromodulation effect, which is what we're really going for most of the time with manual therapy anyway, okay? So for an internal coccyx mobilization, then, you'll again have your finger inserted intrarectally, let's see if I can

show this to the camera, again, spatial issues, okay? And so what you're gonna do is you will get the tip of the pelvis, and I apologize, it's a little hard to see what this model, but you will catch the tip of the pelvis with your finger, and then what you're going to do is a distraction mobilization. So you've got the tip of the coccyx hooked here, what I'll actually do is I'll pull this pelvis apart, so we just have half of it to show you 'cause I think that's a little easier to see. Okay, so you have your finger intrarectally now, you've got your finger on the tip of the coccyx, so your patient is probably in sideline, okay, but I'm gonna show it this way just so you can see, and then you're hooking your finger here and pulling so you're gently distracting, you want the pressure through your finger pad, because otherwise, you're just really stretching and pulling on the sphincters in the pelvic floor, which isn't necessarily harmful, but it may not activate the coccyx, or it may not distract the coccyx as much as you would like, if that's your goal.

You also can come up more over to the side and sort of hook the coccyx that way, and pull with more of a diagonal, if you think that it needs to come more towards midline or be encouraged to stretch towards midline, that is also an option, and you can do a Grade Five mobilization or a manipulation, where you just get into that distraction position, and then instead of oscillating, you'll just do a quick thrust. And it's not a lot of force, truly, it's just kind of the speed of that maneuver that makes it a Grade Five. Another thing I will sometimes do is to have your finger internally, and then you've hooked the coccyx here again, and then your other finger is on, or your thumb is on the outside of the coccyx, or your other hand, it depends on the size of your patient. So sometimes this is going to be my thumb, more commonly, it's actually going to be my other hand, and then you can do some distraction or some P to A, or you can actually do some lateral gliding as well, in that position. So we'll go ahead and go back to the slides. So that is both internal and external. I'll show a picture too here, with some external mobilization. Again, just some written tips that can hopefully serve as a little bit of a reminder, and typically in the clinic, I will be starting with an external technique, the one that I showed, or this other one that I'll talk about now, but I'll start with

external techniques, and then if I am not getting anywhere fairly quickly, within a couple of visits or so I'd say, then I will propose and potentially move into an internal technique. Now, that doesn't mean the patient is better in a couple of visits, but if we don't feel like we're seeing progress, okay? So an external coccyx mobilization then. So another way to do this is actually called the Stuck Drawer Technique. So you get the patient in a very, very similar position to what you would use for the coccygeal movement test. So you're sitting typically, and you're going to try to hook your fingers under the tip of the coccyx. So you can hopefully see here, with these photos of my colleague, that her hand is really far under this patient's bottom, okay? The patient's going to slump, so I usually tell them, "Acts like you're a teenager with really bad posture," so they'll slump, and then they'll sit up.

As they sit up, the therapist is going to try to help the coccyx glide posteriorly and then potentially with a slight amount of distraction. So you can hopefully see on this picture, let me see if I can get my arrow down, I'm having a little trouble with that, so someone could drop the arrow on the page, that'd be awesome, thank you. And so she is hooking her finger here, patient is slumping down, and then if you want, you can do a little bit of anterior pressure actually here too. The name of this mobilization is based on the idea, you know how like if you have a stuck drawer, literally like a dresser drawer in your house, sometimes what works best is to like, wiggle it in that stuck position and then pull on it. So that's the idea here, is that you can put some pressure this way, it doesn't have to be a lot of oscillations, it can be, and then as they sit back up, you're pulling with them, okay, and helping to distract into that more extended position, okay? This is obviously only for people where you think that they have some tilting in a direction that that would be appropriate, okay? And then here's a picture of that external coccyx. I would not do this over jeans, by the way, but my model person just ended up wearing jeans today, we were taking pictures, but in a real patient scenario, I would want the patient to have pretty stretchy clothing on or potentially go into a room and do this over just underwear, okay? And again, just make sure that you are far

enough down or else you'll be on the sacrum, not the coccyx, okay? All right, so those are just some joint mobilization techniques, okay, and which one you choose really depends on your patient. If you are trying to get a really quick change in the coccyx pain itself, I would suggest a direct technique, could be the stuck draw technique, or be that an internal technique potentially. A lot of the other things we talked about with pelvis, spine, hips, that's more to address some of the either the underlying causes of why they developed a coccydynia, or the some of the secondary effects, so just keep that in mind, okay? So soft tissue mobilization can also be super helpful.

Pelvic floor mobilization, I use very frequently, I sometimes do this internally, I sometimes do it externally, but many, many of my patients who have coccydynia have unilateral pelvic floor spasms, or sometimes bilateral, but unilateral seems to be the most common thing that I see. These patients, again, it could be the chicken, it could be the egg, I usually tell them, it doesn't really matter if you have a pelvic floor spasm, and you have pain in your coccyx, we probably need to treat the pelvic floor spasm before we treat the pain in the coccyx, okay? So, again, I do this intravaginally, most commonly, but you could also do intrarectally, or externally, in some of those same positions that we were using to evaluate the pelvic for externally, okay?

You can do trigger-point release, you can do myofascial release, with sort of some holds, you can do some contract-relax, if that seems like that's what's working best, you can do stretching, and then you can also do scar mobilization if there is scarring. Certainly patients who have a history of an injury, especially a Grade Three or Four tear during delivery, often will have scar tissue, okay? Someone asking me if we can do mobilizations for acute coccydynia. I would say it depends on how acute we're talking about, and what the mechanism of injury was. So if the patient fell, or had a delivery, where we're concerned that possibly there could be a fracture, or something along those lines, I would hold off and I would do soft tissue mobilization, at least for the first several weeks to let things calm down. And truthfully, if it was a fall, even if it wasn't a

fall, if it's really, really acutely painful, it's gonna be based on what they can actually tolerate, okay? So sometimes it's helpful. So I have had some patients who are like, "Yeah, I don't know why it started, "but it started and it's really, really painful." And so sometimes those patients, I will do some coccyx mobilization initially, but if there was a traumatic mechanism of injury, I would hold off both to let the inflammation settle down, and then also to rule out the likelihood of a fracture or something that you could possibly make worse with mobilization. Wendy, I will be talking about stretches in just a few minutes here, so hang tight, and we'll get to that. Okay, so where was I? Oh, yeah, so we were talking about scar mobilization can be helpful here as well, so consider that, okay? So, again, just a reminder of the position, we showed this earlier for evaluation, but this is the position that I tend to use for mobilization.

From an external perspective, there is some likelihood of getting a little bit of mobilization along the lateral border of the sacrum, and so sometimes I will do that here, again, probably not with the person wearing jeans, I can have the patient in hook lying, and again, my hand is on the ischial tuberosity, and then I'm scooting into get onto muscle. I've described this more fully in some of my other courses, but that is something that it can be potentially helpful, okay? And then you also could have the patient in sideline, potentially, okay? As far as I have a question about how many mobilization sets we need to do, honestly, I do not have a general rule for you for that, because I base it on the patient's comfort level.

So when we're talking about whether it's joint mobilization or soft tissue work, I will spend a few minutes just gently doing a intrarectal mobilization, be that, again, muscle or joint. I don't tend to spend a lot of time there, because, again, it's not the most comfortable thing for the patient, it's not awful, either, but it's just not as comfortable. And so if I spend more than maybe five, six minutes in a session intrarectally, I'd be surprised when I'm treating these patients. So just a couple of minutes worth, if you're not getting some pain modulation within a couple of minutes, it's probably not the right

technique, okay? Soft tissue mobilization is a little different. It depends if you're trying to work on trigger points, that is one situation where you might be there a little bit longer and holding a little longer. I don't tend to work on trigger points intrarectally, because it doesn't seem to work all that well, and so those I will typically do either intravaginally or externally, okay? All right, so like I mentioned earlier, purposes of this course is not to give you a full primer on how one might do an internal pelvic floor mobilization. If you don't know already how to do that, I would encourage you to go to a course, you really need to go to an in-person course with a lab to learn how to do that. But you do want to just consider, if you already know how to do this and you're trying to use it for a patient with coccydynia, you need to use a very gentle touch.

So we're not doing anything fast or sweeping, we're using soft, slow movements, I really encourage supporting the patient because if they are activating, even to just try to hold their legs up, it's going to make it a lot harder for you because those muscles, again, are gonna be pulling on the coccyx. It can be super helpful too, to have your patient do some relaxation, some deep breathing before you do soft tissue work, or even during the soft tissue work. So trying to just relax their whole body and then specifically also their pelvic floor.

A seated position is better for you, and honestly, I think this is true whether you are doing internal mobilizations or even just evaluation, because if you are standing over the patient with your hand inside their rectum, or inside their vagina, either one, that creates a power differential where you're sort of towering over the patient, with your hand inside of them. That could be very triggering for people who have a history of trauma, and even people who do not have a history of trauma, honestly, it's not a very comfortable position for them to be in. So it's better for you to sit if possible. Hopefully you have access to a table that'll allow you to do that comfortably, okay? So pelvic floor mobilization definitely can be helpful. If the patient has abdominal adhesions or scar tissue, which can happen for any wide variety of reasons, whether that's surgical

and impacts-type injury, it's really common for my patients to develop abdominal adhesions or holding patterns from a fall. So, again, they slipped on the ice, they fell, they tweaked to their coccyx, and now their ads are rock hard because they're just girding and holding everything, okay? They can also form as a result of inflammation. So patients who have some comorbidities that cause inflammation in the pelvis, so a list there, but really, anything that can cause inflammation in the pelvis really can cause people, again, to develop these girding and holding patterns in their abdomen. Sometimes that's muscular, sometimes if it's been going on for a long time, there's an actual adhesive property to it, and then certainly surgical scars, such as the ones shown there can affect it.

The reason you want to consider these for patients with coccydynia, is that remember the coccyx has that attachment point into the pelvic floor. The pelvic floor is part of a system and it is included in the core system. So if you have anything that is impacting the ability of any portion of the core to do its work, in this case, the anterior portion or the abdomen, it can certainly lead to overloading or just non-ideal mobility when it comes to the coccyx, okay? So these are things to ask about, they're things to look for. I always do an abdominal mobility assessment, whether there's visible scar tissue or not, just to see if there's something there that's going to lead to issues.

Another really important thing to consider with this is that if the person's abdomen is not moving appropriately, a lot of times that can lead to an increase in intra-abdominal pressure, which often will have sort of this downward pressure force-producing effect on the pelvic floor and then also the coccyx, and so that pressure and that force itself can also lead to some pain, okay? So some things to do in the abdomen if you do find that there are soft tissue mobility problems. Abdominal adhesions can definitely impair bowel function too, I didn't mention that earlier, but keep that in mind too, because we know that constipation and coccydynia are often very interrelated, so that's another reason to look at this. So what you're doing is you're looking at the structures involved,

where's the restriction, is anything tender? It's not uncommon for me to find some replication of the coccyx pain with lower quadrant palpation as well. So is there anything where there's that sort of radiating or referral pattern, okay? So you can do a fascial and muscular release here, I really like skin rolling as just a way to get things gently moving again, and then I do a lot of desensitization work too, if there's an actual scar, often scar tissue in the abdomen, the pelvis, the pelvic floor, or even that posterior pilonidal cyst scarring is super, super sensitive to the touch. So even just getting those nerves in that region calms down, can be super, super helpful, okay? So scar mobilization, I'm sure you all know how to do scar mobilization, if not, again, a lab course is really my recommendation for that. But you want to work into this as tolerated, you can do anything that you would normally do to treat a scar, it's just in this area. Do remember, especially in the abdomen, that there's a lot of layers with different things going on, so is it the skin layer that's restricted, is it down into the muscles, or is it even underneath the muscles into the visceral fascia?

I don't recommend that you do visceral fascial mobilization, unless you have attended a course where you have been trained in visceral fascial mobilization. So that's just something to consider as well, okay? So that is manual therapy treatment. If anybody has any questions about just some of the things that you would do manual therapy-wise, feel free to throw those up there, we can back up or review anything that we might need to review, otherwise, we will step into exercise, okay? So just remember that the purpose of manual therapy is really to help with pain modulation, and then help people reset their motor patterns in that area, okay? So exactly what you're doing, for how long, it's honestly really going to depend on both your assessment, what did you find that was problematic, and then also your assessment of how the patient is doing with your treatment. You might be able to get good pain relief in five minutes, or you might have to do 10 or 15. So it just, again, really depends on that patient that's in front of you, but those are just some techniques that are very helpful in that area. Okay, so let's go ahead and move on into exercise, okay? So here are some stretches. Now, any

stretch that helps to open the pelvis can be helpful with the pelvic floor. So my little models here are trying to show you that doing some hip flexor stretching can be really helpful. This has actually been studied that patients who have coccydynia often will also have hip flexor tightness. And so, doing some iliopsoas and hip flexor stretching, can be helpful. So this position, the Thomas Test position works well. I also like the yoga pose called Pigeon. If my patient has the the hip and lumbar and knee mobility to be able to comfortably get into that position, or again, any other stretch that you can think of where you are actually stretching and moving the hip flexors, can be beneficial. Piriformis stretching is another one that has been studied to be beneficial in these patients, most likely due to attachment points onto ligaments and fascia, that then attach into the sacrum and then therefore have some downward impact upon the coccyx.

This is a position called Happy Baby, it's a yoga pose, but basically what it is, is you get your patient in deep knee flexion, they hang on to their feet, and then their knees need to be at least shoulder-width apart. If they can go wider, that's fantastic. This position is the closest that you're probably going to get to stretching and opening the pelvic floor. It can be a tricky one to stretch because it attaches to relatively non-mobile structures, and there's not really a way for a patient to pull their tailbone back to stretch them. So this position, gets that pelvic floor nice and open, and then I will often combine this with some deep breathing and that breath work to hopefully open up the pelvic floor, which we'll talk more about breath work here in just a few minutes. This position could also be done with the patient upright, so you can have them get into a really, really deep squat position. That one I believe is often called Prayer Pose in yoga, but basically, instead of being on their back like this, they're on their feet, but they're in this really deep squat where their bottom ends up being basically in between their heels. So if you're patient has the mobility to be able to get into that position, that can also be really good. One caution with that deep squat position, though, is that if you use that, you want to make sure that the patient is not using a lot of their muscles to

balance, because then it won't be really a stretch. So sometimes I'll have people do that against the wall, sometimes I'll have people do this stretch against the wall too if they're tightening up and not really letting go. But the point of doing that deep squat, if you do it, isn't muscle strengthening or coordination, it's really truly trying to get that stretch and have gravity help you. So, again, if they're struggling with balance, or even if you just feel like they're firing a lot of muscles to keep that balance, you might want to have them do it against a wall or just with some support. I sometimes will even have patients like hold on to a countertop or something like that, to get some support for that. And then Child's Pose is another good one. So this is again, kind of that knees-to-chest position. I will often have people spread their knees a little bit more than you would for a typical Child's Pose in yoga, just because, again, I'm trying to open up the pelvis and have them do some deep breathing in this position. There is nothing wrong with doing other stretches as well, but these are just some of the specific ones that have been studied to be beneficial for stretching for patients with coccydynia. I have a question asking me to summarize the stretches.

I'm not totally sure I know exactly what you're wanting me to summarize, so feel free to put up there if there's anything more specific other than just these are some stretches that are helpful. You're typically going for relaxation and elongation, so I would recommend piriformis or hip flexor stretching to be in the 45 to 62nd-hold range. As far as the deep pelvic opening positions, this is really more of the thing where you want to allow some time for that opening and relaxation to occur. And so I typically will have people hang out here for a while, like even two to three minutes, and really focus on that deep breath work. These are all fairly comfortable positions to be in, whether it's that Happy Baby position, or the Child's Pose position, or even that deep squat, it should be pretty comfortable for the person to hold. So I'm not too concerned about that being a little bit more difficult, okay? All right. Okay, and then Sandra is asking, "Is the last pose on the slide called Prayer Pose?" Some people do call this one Prayer Pose, I call it Child's Pose, because I learned it in yoga, and that's what they call it.

Some people call this Prayer Pose. Another thing that people will sometimes call Prayer Pose is a really deep structure position, okay, or, sorry, a deep squat position rather. Alrighty. So just taking a look, 'cause I have a few questions here. Okay, let me just take a peek here, because we have some questions about the test, and I just wanna make sure that there's not a typo. I had checked it this morning, so hopefully there isn't a typo on there, but it's always good just to quickly double check, because all four of these would be recommended for sure. So yeah, I apologize, that is a typo on there that I did not catch. So all four of these are recommended. So yeah, I don't know how that is usually addressed, but we will probably throw that question out, my apologies.

Okay, so breathing. Let me just double check and make sure. We'll just change that question to say all of the above, I apologize. You;d think that with all the times that we read through these that we would catch that, but you know, human error, so. All right, so, for breathing work, we've talked about breathing a little bit already, and really in the context of just remember that a lot of breathing, there's a lot of coccyx movement that is involved with breathing, okay? So when we breathe, or in an ideal scenario when we breathe, the diaphragm will drop down as you inhale, so you inhale and then your diaphragm, which is a muscle that comes up inside your ribcage, so your diaphragm will drop down towards your feet, your abdomen should expand and your pelvic floor should descend, okay, and your coccyx will extend back, okay, so it will drop back posteriorly.

Then when you exhale, the exact opposite happens, your diaphragm rises, your abdomen relaxes, or releases that expansion that it had, your internal organs actually rise by one to three centimeters, typically, your pelvic floor will lift, and then your coccyx will flex forward, okay? So hopefully that makes some sense there. I know it's a little hard with a 2D image, sometimes. You want to look for symmetry with this, it's actually fairly common in my patients with coccydynia to have a very different breath

pattern left and right, so you'll see that one side of their rib cage will expand and the other side really doesn't move that much. So I'll talk to patients a lot about, I want you to think about like you're opening an umbrella. So you want there to be this equal expansion on all sides and you really want a 360-degree rib cage expansion. I know sometimes people will talk about belly breathing, and trying to breathe through their abdomen. And while that is sometimes a way to get people to breathe down a little bit more, at the end of the day, if they're just breathing up towards the ceiling in this situation, so if she taught him, "Okay, breathe up this way," you're not really getting that 360-degree rib cage expansion, okay? Now, a lot patients with chronic pain, be that coccydynia or something else, will do all of their breathing up here in the chest. So watch your patients sometime when they don't know you're watching them, preferably, but watch your patients and see, a lot of folks will end up doing that really shallow breath pattern up in their chest, and then when they do that, they don't actually get that pelvic floor expansion, and they don't get that tailbone movement either, okay?

So a lot of what we're really trying to do is teach them how to breathe all the way down through their abdomen into their pelvis, okay? I will often put my hands on my patient, I usually will place them laterally. So she has her hands in an evaluation position right now, so she's just looking to see, does this hand move a lot, does this hand move a lot, what's going on? Sometimes we will start breath retraining in this position. So we'll say "Okay, patient, put your hand here, "put your hand here, and I want you to try "to make these rise at the same time and equally." So you don't wanna see this one rise first and then a pause, and then this one rise, that's another pattern we'll often see just to get things started. And then once they can actually get that breath down there, then we start working on that 360-degree expansion. So we put hand here, hand here, typically, and I'll tell them, "Okay, I want you "to breathe into my hands," or sometimes I'll say, "I want you to imagine "that your abdomen is a balloon "and I want you to blow the whole balloon up, "not just the front of it." Sometimes I'll also use a TheraBand, and I will have the TheraBand wrapped around their waist, not really for any kind of

resistance, it's more to allow proprioception and facilitation. And I'll tell them, "Okay, pretend that their band is a balloon, "and I want you to blow up that balloon," okay? Really important to teach breath work in multiple positions. We breathe in lots of different positions, and so it's great if my patient can breathe while lying on their back, but we don't live life lying on our backs, so as much as we might want to on some days. And so what we will have the patient do instead is okay, we start on our back so that we're not doing anything else, and then, okay, now let's do it in sitting, now let's do it in standing, now let's do it while we're walking, now let's do it while we're exercising, okay? All right, so I'm going to show you what the pelvic floor actually does. So we'll go ahead and pull that video up.

So I'm gonna show you what the pelvic floor does when we breathe, just so that you can see how we can actually use breath work once we teach people how to do it with their pelvis, or all the way down to their pelvis. We can use breath work actually also as a stretch for the pelvic floor, and a backward sort of mobilization stretch for the coccyx. Okay, so just to orient everyone, this is an ultrasound image, okay, and I know a lot of us aren't necessarily used to looking at this, so just so that you know what you're looking at throughout this process, this is the person's bladder right here, and then right underneath this is going to be the pelvic floor. Now, when I'm looking at the pelvic floor on ultrasound, we're not necessarily really watching the muscles, you can't see it in that level of detail, so what we're watching is the impact of what the muscles are doing on the bladder. So if the muscles squeeze, the bladder will lift and compress, if the muscles elongate, then the bladder will drop, okay?

So in this video, the person that we're ultrasounding, which is me, is going to just do some breath work. So throughout this entire video, I am not doing anything purposeful with my pelvic floor, I'm just letting it do what it does with breath, okay? So this is just with normal quiet breathing, not really doing the diaphragmatic breath. So you can see how it rises and lowers a little bit, okay, and then here, I'm doing a diaphragmatic

breath, where I'm dropping that breath all the way down into the pelvis, okay, and here's another one. So you can see how, again, I'm not purposely trying to expand my pelvic floor, but I'm dropping down quite a lot, just because I'm taking that deeper breath, okay? And then when we drop back, or when we drop the pelvic floor down that far again, the coccyx will extend. And so if we need to get coccyx into that position and doing those extensions, and/or if we just need more mobility or more stretch in the pelvic floor, diaphragmatic breath work is actually a really, really beneficial way to do that. So we can go ahead and go back to the slide, okay? So that is one of my favorite techniques to use, and I often will start teaching this day one, because this is something that's really very easy for patients to do, and so I will have them do it. The trickiest part, honestly, is to get them to actually do it and buy into the fact that breathing can be helpful. I am spoiled because I have these ultrasound units in my clinic, so I can show them on the ultrasound unit, what is actually happening, and that's very, very helpful. If you didn't, then I would just go into a more detailed explanation.

And I do this too, even with the ultrasound units, but I go into detailed explanation of, "This is what happens with your pelvic floor muscles, "this is what happens with your coccyx when you breathe." And so they are hopefully going to buy in at that point, okay? So some progressions, once you teach people how to do this breath, here's some things that you can do to get them to expand their rib cage and drop down into the pelvis more so you can do wing arm, which is this one on the left-hand side. My pointer is not dropping down, so if someone would drop that down for me. So on the left-hand side, you can see my colleague is doing sort of this positioning with her hands into external rotation. So what you'll do with this is you start with your hands in front of you, so your hands could be even touching potentially, and then as you inhale, you bring your hands into the position where my colleague is now in this picture. And then when you exhale, you slowly bring your hands back together. And what that does is it, again, just helps facilitate more expansion, and then they're able to hopefully get

even more of that breath down into the pelvic floor. You can also have them side-bend with the breathing, then as, I mentioned earlier, we'll just bump back so you can look at these again, but I will do that type of breath work, especially with the pelvic floor-oriented stretches. So whether that's the Prayer Pose, the Child's Pose, or that Happy Baby pose, okay, so you can do that breath work there, because then you have the double benefit of the pelvis is in more of that open or stretched position, and you have the breath work causing that movement within the actual muscles themselves. All right, so another thing that can be helpful is pelvic floor downtraining, which essentially means teaching the pelvic floor not to squeeze all the time. And as we mentioned earlier, pelvic floor spasm, and overactivity is really common in patients who have coccydynia.

Sometimes it might be the cause, sometimes it might be the effects, but either way, it's helpful to address it. And with the downtraining, what we're trying to do is teach the patient to actively elongate the pelvic floor or relax the pelvic floor. I try not to use the word relax, just because that word can be problematic for patients who have a history of trauma, but I'll talk to them about this is a way for you to be able to make your muscles longer. I really like to use other muscles when I'm talking about the pelvic floor just to take away the mystery of it. So I'll tell them, "Okay, think about your biceps. "If your biceps is squeezing and squeezing all the time, "then it's really, really hard "for you to be able to stretch it.

And so what we're doing "is the equivalent of putting your arm "in that elbow extended position "to allow that biceps to go back to a normal length, "and then we could stretch it at that point, okay?" So I will also use mindfulness as an aid. It's beyond the scope of this course to go into super detail about mindfulness, but essentially what mindfulness is, is being aware and present in your body, knowing what is going on with your body and inside your body, and trying to purposefully work with that, okay? So just tuning in, do you think your pelvic floor is squeezing, does it feel like it's okay, and

then they can go from there. Deep breathing exercises, super helpful. I'll sometimes, in addition to the things we've already talked about, I will have patients try to do an open glottis exhale. So that's just an exhale with the back of their throat open essentially, it's like a , as opposed to a or a blow. And what that does, again, it just kind of helps with that gentle movement within the pelvic floor. I also will tell patients to try to open their pelvic floor around a perceptive input. So that could be my finger, it could be their finger, it could be a dilator, or it could be a tampon, lots of different options here. And then I will use some different verbal queuing, too. So I'll talk to people about, "Okay, we're going to think about your pelvic floor "like it's an elevator. "If your ground floor is just kind of where it is "when you're not doing anything, what we're going to do "is we're just going to gently take "that pelvic floor down into the basement, "or that elevator down into the basement, okay?"

We're not going to push down as hard as we can, it's not this super secret facility with 27 floors underground, we're just going from the ground floor into the basement, okay, so I don't want people bearing down, they're just gently dropping and stretching. Sometimes it also works better to talk to people about a trampoline sag. So say you know how when you step on a trampoline, it just gently sags down towards the ground, but it doesn't drop you all the way down to where you're touching the ground, that's what we're trying to do with our pelvic floor. And again, what we're trying to do is just gently get those muscles to elongate, that are used to squeezing all the time, okay? It also might be beneficial to do pelvic floor uptraining. This typically doesn't start until the coccydynia has started to resolve, but remember how I mentioned earlier that prolapse could be, or pelvic organ prolapse could be one of the contributing factors to having this tailbone pain, and not just because of the hooking of the organs onto some of the fascial structures that can again directly pull on the tailbone, but it may be beneficial and helpful to try to support better with the pelvic floor once it's not in spasm, okay? And so we'll work on both pelvic floor strengthening and we'll also work on intraabdominal pressure regulation. And my tendency is to start with isolated

contractions, also known as Kegels, but you can't stop there, because that's not actually how the pelvic floor functions in real daily life, so we'll start with some gentle isolated contractions. Once they've managed those, then we'll start adding some movement to it. So I'll tell them, "Okay, you're gonna contract "and then we're gonna move your leg, "and then we're gonna work on being able "to control the up and the down "because for the pelvic floor to work, "ideally, it needs to be both a controlled concentric "or contraction phase, but the eccentric, "or lengthening lowering phase "should also be controlled and supportive."

And then we eventually will then move into more functional movements like transitions, or running, or whatever the case might be. Pelvic floor uptraining is a whole topic of its own, that Maximize Core Retraining course that I mentioned earlier, does have a lot of cues and tips for doing this, so if you want more detail on that, that's definitely there for you, but that's another good thing to work on, okay? And then it may be that they don't have a major issues with spasm or strength, but that they just need to balance out their musculature. Is something just a little bit too tight, what's not activating quickly, or what's not activating ideally, what's activating too quickly, is there a muscle that's powering through and overwhelming all of the other muscles, and that muscle needs to chill out a little bit, and the other muscles need to learn to activate slowly?

It's not uncommon for my patients to need to learn how to chill out with their muscle activity, especially in the pelvic floor. So it's fairly common for people, especially with coccydynia, that they may not have a resting spasm, so their pelvic floor may not just be sitting there super tight, but they will do a maximal pelvic floor contraction every time they move and that's really not ideal or appropriate, you should have a graded contraction. So the amount of muscle force that you're creating should be directly related to how hard the thing is that you're trying to do. So I should have a totally different amount of muscle activity when I stand up from where I'm sitting right now, as I did this morning, when I was doing squats with 80% of my maximum weight, okay?

So a lot of times, what we're doing is it's not necessarily that we're trying to stretch out the pelvic floor primarily, or even downtrain it so much is just teach them, "Hey, it doesn't have to be all or nothing, "you can do a little bit of a contraction, "let's work on that, okay?" And then of course, they might need individual muscle strengthening, sometimes outside the pelvis too. It may be that they need to work on their glute med strength and the fact that they don't have adequate glute med strength is indirectly leading to the pelvic floor being overloaded and then tight, and then, again, leading to coccydynia, okay? So basically, you treat what you find, which I know is always true for us, but just keep in mind, I know a lot of the things that we're looking at in this specific lecture are specifically related to pelvic floor and coccyx, but just keep in mind that there may be other structures that you also need to address. Sandra is asking what is pelvic floor pistoning? So pistoning just refers to the fact that the pelvic floor moves up and then moves down, okay, and with that diaphragm. So we tend to refer to that as positioning, it's like diaphragm and pelvic floor go down, diaphragm and pelvic floor go up. So it contributes to intraabdominal pressure regulation, okay?

So when we say pelvic floor pistoning, we're talking about are the pelvic floor and the diaphragm moving together, is the diaphragm moving, but the pelvic floor is holding really rigid and not moving, okay? Hopefully, that's helpful. If not, feel free to ask again, and I'm happy to do that, or to explain further, actually, okay? And do we need to retrain pelvic floor pistoning? Certainly if it's not happening appropriately, then yes, it can be, and is necessary, to actually retrain the patient's ability to control that, okay? All right, so that is your exercise section. If anyone has any other questions on exercise, feel free, again, to throw them up there, or if you think of them later, we can certainly come back. Okay, so the next part of treatment that we're going to move into is talking about some of these other things that are beneficial. So they're not necessarily things that we do with our hands or with exercise, although components of them could be, but just some other things that are beneficial and helpful for these patients, okay? Constipation, we have talked about a little bit already, at the beginning,

and we talked about, okay, this is something that you really, really have to treat in patients who have pelvic floor dysfunction, okay? So I'm just gonna give you a general overview of some fairly generalized things that you are able to do to help your patients with constipation. This could really be a whole course on itself. I do teach whole courses on constipation, so I realize this isn't necessarily fully comprehensive, but at least will hopefully give you some tools, okay? So behavioral modification really should be the first line of treatment for constipation before we start talking about taking medications or anything else, okay? So toileting posture, super, super important along with potty mechanics.

So my five-year-old here on the right, I don't know if someone can drop a pointer in for me, my doesn't seem to be working, if possible. So my five-year-old there on the right-hand side, hopefully you can sort of see, is sitting on the toilet and she's got her feet on a stool and her knees are a little bit higher than her hips, okay? So that is the ideal position for us to poop in. The reason is that if our knees are out or below the level of our hips, it actually tightens up a muscle called the puborectalis, which is part of the pelvic floor and loops around behind the bowel. So if that is pulled forward, it actually makes the opening for our stool to go through smaller, so basically we're pooping through a funnel.

If you have never seen the Squatty Potty commercial, I linked to it on your handout there, it is hilarious and well worth a watch, but not if you like ice cream. But really, it's super helpful, and they have some really good animation that shows exactly what I'm talking about. So you want your knees up a little bit higher than your hips, and then what you want to do is instead of sitting there and straining, 'cause if people hold their breath and do a valve salvo, what's going to happen is their pelvic floor is gonna contract, they're gonna bear down, they're putting themselves at risk of prolapse and all kinds of other problems. So they will sit down the toilet, and I usually tell them to do some deep inhale/exhale first, so, again, doing that diaphragmatic breath work to try to

get their pelvic floor a little bit more mobile, and then what I tell them to think about is you wanna think about widening your waist. So not pushing down as hard as you can but think about widening your waist. And it can be very helpful for them to make a noise. So if they're willing to make a noise along lines of or , or , all of those are noises that help to open the glottis and help to allow them to stool a little bit more easily, hopefully. If patients are not okay with making noise while they're pooping, which I wouldn't do that at work, or in some other places either, so I get it, I will have them carry a makeup compact mirror with them, and ask them to think about fogging up the mirror. So hold the mirror in front of your face and blow on it in such a way that the mirror fogs up, and that will also accomplish a very similar thing, okay? Fiber and fluid intake are super important for constipation regulation. Most Americans are quite deficient in fiber intake, and so trying to encourage people to ingest more, whether that means eating foods that have more fiber in them, or even taking a fiber supplement, psyllium husk fiber, brand name is Metamucil. I tell people buy the off brand, but that can be super helpful. Drinking enough water is crucial.

If you don't have enough fluid in your system, you won't have enough fluid in your stool either, so you are going to be constipated. Having multiple meals throughout the day can be helpful. And then aerobic exercise, even walking can help with peristalsis or help with moving food through your digestive tract, and so that can be really, really helpful, okay? I will have patients do an intake output diary as well. So I'll look at what they're eating, and when, or what they're drinking and when, and then what their stool is like. I'll have them make a note of where they were on the Bristol Stool Scale, how much straining did they have to use, and that can help me identify if there are certain foods that they're eating that are contributing to that constipation, and conversely, sometimes there are foods that they're eating that are helping them to go better. And so sometimes that is helpful just for them to get that immediate feedback on their own bowel and ingestion habits, okay? Some other things you can do is you can actually help them with their mobility. So you can do bowel massage. That abdominal

mobilization work that we were mentioning earlier, can be super, super helpful with this, but you can also do bowel mobilization, okay? The only reason you would not do abdominal mobility work is if the patient has had abdominal surgery within the last six weeks. If they currently have a bowel obstruction, so they shouldn't be in your clinic if they do, currently have about obstruction, but if they do, or if they've had radiation treatment directed towards the abdomen within the last six weeks, okay? So we talked a little bit about the open glottis exhale, okay? And I think, lemme double check and make sure that we have, yeah, so we'll talk about massage more here in just a sec.

So we talked about the open glottis exhale and the waist widening, and then the other thing to think about is just thinking about not using the abdominal muscles to squeeze but just to gently support and assist as the pelvic floor and hopefully also the external anal sphincter open. Okay, so bowel massage helps to assist with bowel motility, and typically how this has been studied is that it is done for about 10 to 20 minutes, and you do 10 circular motions going in the direction that the large intestine runs. So you can see that photo there on the screen, or that drawing there on the screen, and you can see that the large intestines starts on the bottom right-hand side of the person's abdomen, and then that comes up, then right below the rib cage, it goes across to the other side, then it comes down into sort of this little loop and comes out.

So I'll have people place their hand, first on that lower right-hand side of the abdomen, and do 10 gentle circular motions there, then scooch up just a little bit, like about a half hand, three quarters of a hand width, do 10 more circles and then keep doing that 10 circles all the way around for the whole track of the bowel. This helps to stimulate peristalsis and get the nervous system to hopefully move those muscles a little bit faster than they have been. And then after you're finished with that, sometimes I'll also have people do long, sweeping motion. So they'll just start again on that lower right-hand side, make one smooth, sweeping motion up to their rib cage, smooth, sweeping motion across, smooth, sweeping motion down, and I'll have them do that

maybe three or four times around, okay? So I will do this in the clinic sometimes, but I will also teach patients how to do this. And I usually recommend that they do it in the evening, so preferably right before bed, because a lot of times what our body should be doing at night is resting and digesting, right, and so I tell them, "Okay, this sort of primes the pump "and then hopefully that digestive process "happens really nicely, "and you have a bowel movement in the morning." Occasionally, I have patients who this works like incredibly well for, and they'll have a bowel movement within 20 or 30 minutes. If that's the case, then I tell them, "Okay, "just time that whenever is ideal "or best for you to actually go to the bathroom," okay? Ileocecal valve facilitation can also be helpful. The ileocecal valve is the valve in between the small intestine and the large intestine. It is located about halfway between the umbilicus and the ASIS, and it helps a lot with patients who have slow transit constipation, so patients who just aren't moving food through the system fast enough.

When you palpate it, you have to palpate it very gently. If you push too hard, you'll just push right through it, not feel it, but it feels like just a slightly thicker spot. And what you'll do is you'll just press down, release, press down, release, and then you should be able to feel it hopefully rotating and you can assist with that movement. Now, I always tell patients, this is not something where I'm making your ileocecal valve move, really what I'm doing is I'm drawing your brain's attention to it so that hopefully it can realize, "Oh, hey, "this is actually not moving as quickly as it should, "there shouldn't be my homeostasis," and then your brain can address it. So it's not like you're having to actually mechanically move it yourself, thankfully, but it's just more of a situation where it's helping the patient's brain to restore hopefully homeostasis, okay? So, again, those are just some quick and dirty suggestions that can be helpful for patients with constipation, there are definitely other things that you can do, or more detail we could go into if we had a little bit more time. Okay, so some sitting considerations, things to think about with sitting. You want to avoid cushions that are overly hard or overly soft, okay? So we talked about this earlier. Cushions, sorry, not cushions, but

even seats that are way too hard, too much pressure on the coccyx, way too soft, and they'll end up kind of rolling around not having the stability, and often those are also pretty uncomfortable. It can really be helpful to actually physically unload the coccyx. So you can use a donut cushion to do that, they also make wedge cushions that have cutouts in the back, and those can be super helpful as well. A little trick that I like to teach patients is to use a rolled up towel, 'cause I know a lot of young patients with coccydynia who don't necessarily wanna be carrying their donut cushion around and it's really obvious that they have tailbone pain.

And so what I'll have them do is just bring a couple of towels with you, roll them up, and then you want to put them underneath your femurs. So basically, the edge of the towel is under your ischial tuberosity, and then the rest of the towel goes lengthwise down your femurs. And when you do that, then it actually will lift you up a little bit and unload the coccyx from whatever surface you're sitting on. So the patient often will try that and they'll come back and they'll say, "Oh, that's so nice, it's helping me a lot "with unloading that coccyx "and then it's also not super crazy obvious," okay, that they're using something. And then I talk to people too about taking breaks with sitting, especially folks who have desk jobs. One of the things that can really irritate the coccyx is just not moving.

And so if it's at all possible to, even if you're just standing up, moving around a little bit, short little lap around your cubicle, and then sitting back down, that can be extremely helpful, because part of what's going on is that you have this constant pressure that you're never unloading off of that coccyx, okay? So that is sitting considerations, let me know if you have questions about this. I don't usually carry coccyx cushions in my clinic or anything along those lines, because they're easily readily available at all kinds of different drugstores and also online. So I usually just get patients recommendations, and then they go purchase, okay? All right, so another tool that's super helpful is mindfulness. We mentioned this earlier a little bit, but we'll talk about it in a little bit

more detail now. So what mindfulness is, is just you focus your awareness on the present, you acknowledge and accept your feelings, and thoughts, and bodily sensations, but without judgment, preferably, so you don't go, "Oh my gosh, my coccyx hurts, "this is terrible, I'm never gonna be able to sit again," you just go, "okay, I'm feeling some pain around my coccyx," and that's what that is. The goal here is to try to eliminate secondary suffering, meaning the emotional distress that comes from being in pain. And then we're also trying to combat something called cortical smudging, which happens when we're in chronic pain, okay? So if we are having chronic pain, there's this thing that can happen where our body, it may lose the ability to tell in detail where exactly that pain is coming from. So then it's just like, "Oh, that whole region hurts." So by using mindfulness to focus in hopefully we can help people to realize, "Okay, this is the specific part that hurts, "not just my whole body hurts, and this is terrible," okay?

You can also try to gently change how you feel, if you notice a feeling that is negative, you can try to think through, "Okay, how would I like to feel about this? "Am I able to get to that point," okay? And it also is just noticing the present, okay? It's very especially useful in patients with chronic pain, or people who have either depression and anxiety, or even just situational depression or anxiety about the fact that they're having pain, okay? They've done studies that show that people who struggle with any of the above things actually have lower traits of trait mindfulness and more difficulty with emotional regulation, and so helping them to train this can be helpful, okay? And then again, the more aware you are of your body, the easier your job as a therapist is going to be when you go to try to help them with neuromotor control retraining, okay? And brain is a really powerful tool, so if we can use it to help with some pain control, that's fantastic. All right, so some options for helping people with mindfulness, you can give people a mindfulness exercises to do. This is one of my favorite ways to do mindfulness is to tell people, "Okay, pick something "that you would like to do, or that you do regularly, "it could be washing the dishes, "it could be taking a shower, it could

be whatever, "just something that you do regularly. "And then I want you to sit there, or stand there, whatever, "as you're doing that activity "and I want you to run through a series of questions. "I want you to ask yourself, 'What do I smell right now, "'what do I feel right now in my body, "'what is the sensation in the case of washing dishes, "'what is the sensation that I'm feeling "'of the water going over my hands, what is that like?' "and just trying to describe it. "'Do I hear anything, do I see anything, "'do I smell anything?'" And so just trying to be very aware of the moment and the situation. A lot of us multitask all the time and it's easy to just lose track of that, so this can be helpful. There's lots of guided meditations out there, tons on YouTube, there's an app called Headspace that has some good ones as well.

Some people like to use a mantra, which is basically where they write down something that they find encouraging and repeat that to themselves during mindfulness, okay? You can also use that awareness, like we mentioned earlier, to combat specific thoughts that people will find distressing. We can also have them do a body scan to improve their awareness, okay, or we can have them combat anxiety with a specific activity. So you're feeling anxious so let's do some things to help bring that down. That could be deep breathing, it could be some of these mindfulness exercises, et cetera, okay? And then the other thing that's helpful, and again, this is true for anyone with chronic pain, not just coccydynia, but is pain education, and there are entire wonderful courses out there on this topic, so I'm not going to try to pretend that I can fully work with these or teach you completely about it, okay?

So chronic pain does change the brain structurally, as well as functionally and chemically, and it causes a decrease in brain matter. It also causes some changes in areas of the brain that are related to reward and aversion, and changes in levels of neurotransmitters, but we can help people rewire it, so that's the purpose of pain education, okay? So the critical element to be aware of here is that tissues do heal, but in people who have chronic pain, their brain does not realize that their tissues have

healed, so it continues to process sensations as if those tissues had not healed, okay? So you can do desensitization work, along with pain education, to help teach people to tolerate activity better, and to, again, help to rewire. The picture here is just showing that patients who have a resting level of chronic pain, feel spontaneous pain from a burn or heat, in this case, much more so than those people who do not have chronic pain, okay? You can couple pain education with manual therapy, the idea that as we're altering the input, we're providing education, and then hopefully, the output or pain sensation is better, okay? And then the other thing that's always helpful is just active listening and validation, but just also providing that education and that your tissues heal, okay? So some key components of pain education include patient's not crazy, it's not that they're making up their pain, it is in their head, because it's the brain that's doing it, as pain often is, but it's not that they're making things up or being too dramatic, or anything like that. You can talk about therapeutic neuroscience, there people who do a much better job than me of explaining that, so I'd encourage you to take coursework from them, and then you can use word pictures.

This is courtesy of Dr. Lowe, this picture that we show here, where before we have pain, we've got lots of margin for error, and then once we have pain, our sensitivity levels can stay high, and then our alarm system goes off with much less activity, okay? So I did get a request to review an exam question about the sitting modifications for patients will coccydynia. And yes, so the the ideal would be that we're not having people sit on an extremely soft surface, okay? All right, I have a question about cocccyxgectomy, and the person is asking me, what are we focusing on if these patients, so yeah, thank you for bringing that up. When we do sometimes have patients who come in, and it's not that they're coming in for post-op rehab after a coccygectomy, which is what we were mentioning earlier, but that just that they have a history of coccygectomy, or sometimes they do come in post op, not for rehab, but because they did the coccygectomy and their pain didn't change, okay? So when they come in, what are we focusing on? We're focusing on scar mobilization, we're focusing

on muscle retraining, that sort of thing, okay? Hopefully that clears that up, I apologize for not circling back to that. Feel free to let me know if you have questions about that, okay? So if anyone else has any questions, feel free to field those there, otherwise, we are going to go ahead and look at some case studies here. So what I'd like to do with these case studies, is we're going to go through them but I'd like you to go ahead and throw up there, in the Q&A box, if you have any thoughts along the way. So we're sort of going to work through this together, okay? So our first one is a 31-year-old female. She's three months postpartum from her third baby, she had a vaginal delivery and all three of her kids led to a second degree vaginal tear, or a perineal tear, okay? She's on maternity leave currently, but she is a respiratory therapist, so she does do some lifting and equipment moving with her job. She used to sing in a choir.

She began having this pain during her third pregnancy and it's persisted, she didn't have any fall or injury, it hasn't really changed after her delivery versus during the pregnancy itself. Things that cause pain are sitting, of course, and then also standing up after sitting and then some easing factors are both standing and lying down. She has had a course of chiropractic care but it didn't really help, but she has continued to see that chiropractor just for some generalized low back pain and pelvic floor pain. She doesn't really have incontinence, pain with intercourse, or paresthesia, okay? What else do you think you might want to know about this patient?

And while you guys are thinking and typing, I do have a question about where I got the pelvic model I used in my videos. I got that from Performance Health. It's a relatively expensive model but I really like it because it shows all the structures. So I think, I wanna say it's probably around $600 or so, but that's where I got it from, it's Performance Health. I believe the same one is also on Amazon but don't hold me to that. Okay, so what are some other things you might want to know? Amanda says, "How often is she going to the gym, "what's her exercise routine?" Definitely. Latoya is saying, "Were any instruments used "during her most recent delivery?" Totally agree

with that, I would also add during any delivery. Kim says, "Is she constipated?" Definitely want that information, very common for people to have constipation postpartum. Yep, we've got some other people saying bowel movement history. Jessica is asking, "Is she overweight, "what's her activity level," or Keiko is saying, "any weight changes?" yeah, these are all really good things to ask, good job, okay? So, posturely, she has a posterior tilted pelvis and some flattened lordosis, she also has some difficulty coordinating pelvic movement on it. So she does a lot of spine movement when she tries to move her pelvis, overactive glute max visible in standing. She has somewhat apical breathing, just meaning she has chest breathing patterns but she can easily breathe diaphragmatically with some queuing, okay, so she doesn't do it automatically, but it's pretty easy to get her to do that. Neurologic screen seems totally fine, totally clear, okay?

Range of motion for her lumbar spine is fine, not painful, not restricted, hip range of motion is restricted, both in extension and adduction, manual muscle test-wise, she has got some weakness in her glute max even though we do see that overactivity in standing, and then she is primarily using her hamstring when we have her do a posterior straight leg raise. Glute med, and hip flexors, and internal and external rotators are around four out of five for all, her ASLR is negative, so she transfers weight okay across her pelvis, hip flexion, adduction and internal rotation are negative, and then the FABERs are negative in terms of not replicating pain, but there is restricted mobility there, okay?

Palpation-wise, she does have increased tone in her adductors, also her tensor fascia latae, and vastus lateralis, glute max and med also have increased tone, and then she has some increased tone posteriorly kind of around the coccyx, more so on the right side than the left, as well as tenderness to palpation over that coccyx. She does not have any tenderness to pulpation over the sacrococcygeal joint line or on the tip of the coccyx, okay? So what else do you think you want to assess for this patient? Do you

think you would need to go to an internal exam, or are there some external screening techniques you would like to do, what are your thoughts with that? I'll go ahead and let you type some there, okay? So I looked at abdominal mobility, certainly, and I would expect that. Cheryl is suggesting stuck drawer. So yeah, the coccygeal movement test, stuck drawer is more of a treatment technique, that is a good treatment technique, though, and yeah, sorry, I have this slide pulled up, I should have probably stayed on this one. But yeah, so coccygeal movement test is a definite for evaluation, and then I do think a stuck drawer treatment technique would likely be very beneficial for this patient, okay? I would definitely recommend a pelvic floor screen as well, just even externally. I would probably not go straight to an internal exam on this patient, unless she was just wanting as faster results as humanly impossible, like let's try everything from the get go, but we probably don't need to go to that immediately. Hugo is asking me to mention the difference between Child's Pose and Prayer Pose stretch.

Child's Pose is where you're on your hands and knees with your hands out in front of you and kind of leaning back. Prayer stretch is like a deep squat position. Probably they're called the other name in some instances, that's one of the fun things about any exercise profession is that we all call exercises different names. Okay, so what ideas do we have for treatment for this patient? So we've mentioned stuck drawer or really any kind of external coccyx mobilization could be beneficial, as well as some tissue mobilization. What other ideas do you have for treatment? Are there any specific exercise things that you wanna try, or specific manual therapy techniques that you say, "Yeah, I think this would be "really, really good for this patient." Feel free to throw those up there as well as any additional questions you might have for me, 'cause we'll be wrapping up our time once we chat through some treatment here, okay? So Keiko says, "Let's do some breathing exercises," absolutely, 100%, partially 'cause she has an non-ideal breath pattern, and then also partially because she needs that breathing to get that stretching and that movement through her pelvic floor. Amanda says, "How about some ileocecal stretches?" Yeah, absolutely, we know that hip flexor stretches

are proven to be beneficial for these patients. Jennifer said, "Well, let's do some hip stretches "and strengthening," sure, absolutely 'cause we've seen that that's not ideal. Donna says, "Let's add some adductor stretching." Yep, I would agree with that 'cause we know that those are tight. Adductors and pelvic floor often mirror one another. Michael is asking, "Will Kegels benefit here?" And the answer is possibly, we want to make sure that we get her resting tone to be appropriate so the amount of activity in her pelvic floor needs to be appropriate first, so she needs to be able to elongate, but then after that, yeah, it looks to me like she has some difficulty with coordination of her intraabdominal pressure.

So most likely, at some point, we will want to move into some isolated pelvic floor contractions or Kegels and then progress that into functional control of both the contract and the eccentric elongate, okay? Amanda says, "Well, let's add in some piriformis "and Happy Baby stretches." Yeah, very good. And then don't forget that if we're having constipation, we wanna treat that, okay, so if we did have that, okay? So this patient's outcomes, she was seen six times over eight weeks, oh, and then Sandra said, "Also do a donut cushion when she sits," yes, definitely. And I don't know that I mentioned this earlier, but with my postpartum moms, if they have a breastfeeding pillow, or a Boppy, I will say, "Hey, you could just turn your Boppy backwards "and use that," if they don't wanna buy something.

Okay, so this patient was seen six times over eight weeks, once a week for four weeks, and then every other week for about two weeks. And then she ended up being able to sit comfortably for up to two hours on any hard surface, on any surface, sorry, and then when she was on a really hard surface, she would have some mild aching after more than two hours, which would resolve with stretching. So she felt like that was functional for her, I encouraged her to keep up with her stretching and flexibility work, and that that would probably continue to improve from there, okay? So feel free, if you have any other questions, go ahead and throw those up there. Tara is saying, "In a patient who

had a coccygectomy, "would my primary focus be scar "and soft tissue mobility work, "or pelvic floor strengthening?" We will eventually have to do pelvic floor strengthening, but when it comes to a patient with a coccygectomy who had pain, we really need to do that scar tissue and soft tissue mobility work, and truthfully, I would really focus on that before strengthening anyway, just because it doesn't help patients that much, or make much sense to overly try to strengthen a muscle that doesn't move through a full range of motion, okay? So hopefully, that's helpful, and there's a couple of people asking about that. So hopefully, that clarified, if it didn't let me know and we can definitely talk about it more, okay? And then with the question about the stretches where I made the typo, yes, I believe that the question will be fixed prior to the opening of the testing. Yep, Carolyn says it's already done, so we're perfect. All right, well, thank you all so much for your attention. I really enjoyed spending some time with you all this afternoon. Hopefully this was helpful. You're always welcome to reach out if you have any questions in the future.

- [Caista] Thank you so much for such an informative and engaging course, and all the great, really clear explanations and videos, and everything. And thanks to all of our participants for your questions and comments throughout the course. I just wanna mention, if you've ever had technical difficulties during the course and missed a few minutes, we usually post the courses about two days after the live webinar so you can review the on-demand recording. If you ever miss anything necessary for an exam, just send us an email. We want our courses to be about learning and not about test-taking. And you can reach Calista at editor@physicaltherapy.com. And I just want to thank you all and hope to see you in another course soon. Jennifer, thanks again for your time and expertise today.