- [Carolyn] It’s my pleasure to welcome back to physicaltherapy.com, our presenter, Jennifer Stone. She is a clinic manager and pelvic health orthopedic physical therapist for the University of Missouri Healthcare System, as well as the program director for Evidence In Motion’s Pelvic Health, and Advanced Pelvic Health Certificate programs. Jennifer has a passion for caring for complex patients and demystifying the pelvic floor to patients and therapists alike. Jennifer, it’s great having you back with us today and I’ll turn the microphone over to you.

- [Jennifer] Thanks so much, and thank you everyone for taking the time to be here. I know the world is a little bit crazy right now, so hopefully this can bring somewhat of a sense of normalcy to your day, just getting to step away for a moment and take a CE course. So here are some of the learning outcomes of this course. At the close of this course, we’d like you to be able to list at least two changes in the pelvic floor muscles that are the result of hormonal shifts with normal aging. Discuss at least two techniques to improve utilization of the pelvic floor muscles during daily activity and exercise to optimize performance. And then also identify at least two pieces of dietary information that can be beneficial in mitigating symptoms from pelvic floor dysfunction in older adults.

And we also want you to be able to discuss at least two pelvic floor disorders that are common in older adults, okay? And, really, the focus of this class today is to give tools to people who, well, to two categories of people, really. Individuals who treat older adults for anything and have realized that, hey, pelvic floor dysfunction is actually really common. You’re not necessarily a pelvic floor therapist, but you would like to have just some really practical tips and guidelines that you can offer to your patients. And then other category is pelvic floor physical therapists who feel very comfortable with the pelvic floor, but maybe don’t necessarily feel they have a full grasp of some of the changes that happen just during the normal natural aging process that may impact
your patients. So we’re gonna try to cover both of those groups of individuals today. I’m always very happy to take questions, and sometimes I feel like it’s easier to clarify things when we’re in that section, so don’t feel like you have to hold your questions till the end, feel free to put them up there. If it’s something that I’m going to cover later, I’ll make a note of that and move on, but if it’s something that I’m not, then we’ll go ahead and stop and answer that question at that time. There will be time at the end as well for anything else that comes up.

Okay, so why are we talking about this? What is the impact of pelvic floor dysfunction on the older adult? Well, as with many prevalence estimates for everything, let’s be real honest, it has to do with the human body. The prevalence rates here are going to vary depending on which study you look at. But the overall prevalence of some version of pelvic floor dysfunction is thought to be somewhere between 60 and 80% among women over the age of 55, and about 20 to 40% in men over the age of 55. And then, as you go up through the decades, that prevalence does increase, okay, 'cause I looked at some of these studies and I’m like, "55 isn't an older adult." But, again, as you go up into the 60s, the 70s, the 80s and beyond, these do increase.

And this really refers to people with what is thought of as a primary pelvic floor disorder. So we’re talking diagnoses such as incontinence, pelvic organ prolapse, constipation, and sexual dysfunction, primarily. There are also lots of potential impacts on the musculoskeletal and orthopedic structures from pelvic floor dysfunction that we'll chat about a little bit later. There is no possible, well, there is a possible way to look at this, but no one has looked at it yet, so we don’t know what the likelihood of pelvic floor dysfunction is in our older patients who have, say, back pain and hip pain. We do know that pelvic floor dysfunction is very common post-hip surgery, so total joint replacement, which we know is quite common. So I don’t have an exact prevalence estimate for you on what is the contribution of the pelvic floor to orthopedic dysfunction, but we can sort of extrapolate from other studies to assume that it’s fairly
high, okay? We also know that approximately 60% of institutionalized geriatric individuals have some form of incontinence, and this could be fecal or urinary. When I say incontinence, I'm referring to any involuntary leakage of either of these substances, okay? And then approximately 40% of institutionalized geriatric individuals have a form of pelvic organ prolapse. Both of these issues, incontinence and pelvic organ prolapse can contribute significantly to morbidity in this population, and some people will even argue for mortality, and the reason why is they contribute to skin breakdown, lack of mobility, which then can lead to all kinds of other issues that I'm sure you're well aware of, including pneumonia, and just general deconditioning, balance issues, and that sort of thing. So bottom line being this is something that really does impact older adults very commonly, and the good news I have for you is there are a lot of fairly easy things that you can do to help address it, which we'll go over today.

Okay, so we do also have studies that show us that in older adults, and most of these are done in institutionalized older adults, so there's not as much information on community-dwelling older adults. But pelvic floor dysfunction has been shown to positively correlate with higher rates of pneumonia, functional disability, limiting their ability to leave the home, or leave their room, in the case of an institutionalized older adult, hip and back pain, balance deficits and falls, difficulty with mental orientation, and also skin breakdown.

So again, many of the challenges that we consider common in older adults are impacted by pelvic floor dysfunction. Okay, so let’s talk a little bit about just the aging process, and what does that do to our pelvic floor muscles, okay, because there's a lot going on here. There’s hormonal changes, there's skeletal muscle changes, and all kinds of issues that all come together to create this perfect storm of conditions for older adults to have more pelvic floor dysfunction. So why, what are some of these causes? Well, hormonal changes, both menopause and andropause, most people have heard of menopause, but I always get kind of a raised eyebrow when I mention
andropause. We’ll talk about that. But essentially, there is a male version of menopause that we just don’t talk about that much. There’s an increased likelihood in older adults, compared to younger adults, of that person having had some type of abdominal surgical procedure, including both prostatectomies and hysterectomies, which both directly impact structures that are close to the pelvic floor and interact very closely with it. And that’s just as we get older, things change, and we have more history in our bodies, okay? And then as people age, all people, for the most part there is a decrease in overall muscle function, strength, and balance. Now, this can be somewhat accommodated for by working on it, but if people, if you do nothing when you’re 40, and you do nothing when you’re 70, the outcome of those two things, as far as your functional strength, are going to be quite different, okay?

So we know that there's a process called sarcopenia, which refers to the loss of skeletal muscle mass, and it's quite a bit, it's about half of a percent to 1% per year after age 50, if that individual does not change their activity levels in order to counterbalance that. So if they start exercising more, and they're specifically working on keeping their skeletal muscle mass, they can do so. They have to work harder than I do at age 35, but it can be done. But if they don't do that, then they're going to lose half to 1% of their skeletal muscle mass every single year after age 50. And along with that, no surprise, will come some strength loss, and then also motor control and coordination loss.

And pelvic floor muscles are skeletal muscles, so they're affected by this as well, okay? Some additional reasons why older adults tend to have higher pelvic floor dysfunction incidence include increased likelihood of health problems, just in general. Again, there’s more history in our bodies, and maybe our lifestyle or genetics are catching up with us. And that leads to treatments that directly can cause pelvic floor dysfunction. So for example, cancer, a lot of the treatments for cancer, even if the cancer is remote from the pelvic floor itself, but a lot of the treatments from the cancer have somewhat
of a global impact, many of which can then lead to decreased function of the pelvic floor. Radiation is sort of notorious for causing scarring in the pelvic floor, and that sort of thing. Benign prostatic hypertrophy is something that happens in men that's just, again, part of the normal aging process, but that directly impacts the pelvic floor, higher BMI, diabetes, and so on and so forth. There's also an increased likelihood of health problems that lead to the patient needing to take medication, or other treatments that can indirectly cause pelvic floor dysfunction. Okay, so there are lots and lots of medications that can cause a side effect of urinary frequency, urgency, or leakage.

And also, so many medications, especially in the realm of pain control and nervous system function that can also injure, that can lead to constipation, and the constipation, again, can then lead into pelvic floor dysfunction. Okay, so let's talk a little bit about those hormonal changes that I mentioned a moment ago. So menopause, I think a lot of us throw that term around. I don't know if we all know exactly what we mean when we say menopause. So the process of menopause is the end of fertility for individuals who have uteruses and ovaries, okay? So the ovaries at this point will stop producing eggs and the menstrual cycle will no longer occur.

During menopause, people can go through an extremely fertile period at times, that's where a lot of those oops babies come from when, you know, people are like, "Oh, you know, my last kid just left for college, "and I just found out I'm pregnant again." So sometimes there's this extremely fertile period. There can be really large hormonal swings. This can lead to symptoms like hot flashes, irregular periods, so maybe they have a cycle every three months, or every five months. Some people will have headaches. Some people have really minimal symptoms. It's just like everything else to do with the human body, I can't give you any general statements, it's just, well, this is what happens for some people, this is what happens for others. The average age where people go through menopause is 51, but it can occur as early as that person
being in their 30s, or as late as that person being in their 60s. So again, I can't give you a specific for any given person, but on average, people are in their early 50s when they go through menopause. There's also medical menopause. So sometimes a physician will choose to induce a menopause-like state using injections. One of the common ones that I see in my area is Depo-Provera, but there are lots of other ones, or, because the person had a hysterectomy. And these are, again, typically to treat a medical disorder of some sort, often endometriosis, dysfunctional bleeding, cancer, uterine fibroids, there's a lot of different reasons why someone might do this, but if someone has a hysterectomy well before the age where they would have gone through menopause on their own, and it's a complete hysterectomy, meaning that they removed both the ovaries and the uterus, then that person will be immediately placed into menopause, and the function of those injections is also to completely place the person into a menopause-like state.

Now, I do see a lot more physicians choosing to remove just the uterus and leave the ovaries, provided that the person is not at high risk for ovarian cancer. And in that case, that person will not be placed into menopause, so it's important to know whether they had a complete hysterectomy, meaning ovaries as well, or a partial hysterectomy, which would be just the uterus, okay? So we say that somebody is postmenopausal, or they have finished menopause once they have had zero menstrual periods whatsoever for 12 months, okay? So if they went 11 months and then they had two days of bleeding, they're not postmenopausal, that clock starts over again after those two days of bleeding, okay? And so we talk about these stages as people go through menopause. So premenopause refers to their leading up to that process of menopause. They might still be really fertile, they might not. And most people don't really know when they're in premenopause, because the only way that it can really be diagnosed is if ultrasound is used to count how many good, they call them good eggs, or eggs that have potential to become fertilized, are left in that person's ovaries. Perimenopause is while people are going through the process of ending that fertility,
okay. So that's where we'll see a lot of those hormonal changes that I mentioned earlier, irregular cycles, hot flashes, headaches, so on and so forth. And then postmenopause refers to, okay, now we've gone 12 months and there have been no menstrual cycles, no bleeding. And again, this pre, peri, post, this refers to someone whose body has gone through menopause naturally, this does not refer to someone who has been placed into medical menopause.

Okay, so after menopause, so this is what happens, postmenopause compared to premenopause. So what happens in the person's body is that their estrogen levels are going to drop significantly. Some people do choose to supplement. That is a choice that is typically made by the physician and the patient in collaboration, because there are a lot of potential downsides to supplementing. There are also some potential positives, and so they're gonna have to weigh those out to determine whether, in that person's individual case, it is worth supplementing.

Most of the research right now, and this is what I see clinically as well, most of the research says that if the person is very young, either they naturally went through menopause at an unusually young age, or they were placed into menopause at an unusually young age, that that person would probably, the benefits of estrogen at that younger age, probably outweigh the potential negatives, whereas for someone who's on the older, the more average side, it may not, okay? And that is a whole thing of its own, but that's probably sufficient for you all to know for the purposes of this course. So some of the impacts of those estrogen levels dropping are a decrease in the natural lubrication that is produced during sexual intimacy. We don't always talk about this with menopause, but testosterone drops as well, and so often there is a corresponding drop in libido, because that is largely driven by testosterone in both males and females, okay? There is decreased blood flow to the pelvic flow musculature and skin, and some people will call this vaginal atrophy. I personally really dislike that term because I think it doesn't sound very nice to patients and it gives them some incorrect ideas, but
that’s how their medical providers will often refer to it. The way I explain this to patients is, you know how, you know, I’ve got a four-year-old, and she’s got these adorable plump pinchable cheeks that have really good blood flow, and oxygenation, and all this. Her skin looks really, really different than my 90-year-old grandmother’s skin. And the reason for that is because she has really high estrogen levels, one of the reasons, anyway, really high estrogen levels, really good blood flow, and my grandmother’s body is just in a different state. It’s not a good thing or a bad thing, it’s just kind of this is how our body responds to this situation, okay?

We also see a decrease in urethral stiffness. So our urethra, being the tube that brings urine from our bladder to the outside of our body, that urethra has some inherent stiffness in it, and that is one of the things that helps us to maintain continence. So postmenopausally, that urethra will lose some of that inherent stiffness, okay? And so that can be one of the reasons for the rate of incontinence increasing, and, again, that is driven by estrogen levels. There’s an increased risk for bone density problems as well as heart problems. There’s also often some hair loss, some people notice this, some people don’t, it sort of depends on how thick the person’s hair was before they began menopause. And then, there’s also a tendency to gain weight, especially in the midsection. A lot of researchers think that this is because weight in the abdomen actually produces estrogen, whereas fat, I should say fat, not weight, fat in the abdomen produces estrogen, whereas fat in other places in our body typically does not. And so some people think this is the body’s way of trying to at least maintain some level of estrogen in order to counterbalance a little bit for the loss once people go through menopause. So I mentioned hormone supplementation.

This used to be prescribed all the time across the board. You’re having hot flashes, you’re gonna have hormone supplementation. But, again, clinical trials have shown that especially in older women, the risks might outweigh the benefits, but it really depends on the specific situation, okay? It is absolutely not recommended for any
women who have a history of cancer, particularly breast, ovarian, or uterine cancer, because all of those are somewhat estrogen-driven, so we wanna decrease the amount of estrogen that people have in their bodies, or people who have a history of stroke, or people who have a history of deep vein thrombosis, okay? Because some of the known possible downsides of estrogen supplementation are that they can predispose people to developing a stroke, or a DVT, okay?

And then smoking while taking hormone replacement therapy is highly not recommended for the same reason, that, again, we're having decreased blood flow, increased likelihood of clot, so we don't wanna build those two risk factors on top of each other. Okay, so what are some of the ways that you'll see that people will supplement, 'cause you will see people who are supplementing, okay? Sometimes it's systemic, so that would be patches, or pills, or something along those lines. That's the most effective way to handle systemic system management.

And this is typically going to be an estrogen/progesterone combination unless the woman doesn't have a uterus anymore, and the reason for that is that if you just supplement estrogen on a systemic level, and don't counterbalance it with progesterone, and this person is no longer having menstrual cycles to shed the uterine lining, then that uterine lining can get really, really thick and that can cause a whole lot of other problems, okay? They typically don't recommend super long-term use for this, but some studies do suggest that if you use it in the early phases of menopause, there could be some cardioprotective effect. So you'll see some physicians tell people, "Okay, we're gonna use this as you're going through "this sort of perimenopausal period, "and then once you're completely done with it, "and everything sorta balanced back out, "then we'll take you off." There are also low-dose vaginal options, typically these are considered topical, and these can be rings or compounded creams that people can just insert, okay? This treats urinary or vaginal symptoms, but it doesn't typically cause any systemic impact. So the risk is much, much lower with these
options for hormone supplementation. And you’ll see, especially in your patients who are complaining of urinary symptoms, or vaginal dryness and lubrication issues, that this is often an initial go-to for their doctors to try. Okay, I mentioned andropause earlier. So this is the term that is used medically to describe hormonal changes in men which are related to age. Unlike the way that menopause typically goes down, this is a slow, steady decline. So there's not necessarily a specific point, and part of this is because there's not the obvious symptom of, "Hey, I'm not having cycles anymore, "I'm not menstruating anymore."

But there's not a specific point that we necessarily point to, that we say, "Oh, this person is post-andropausal, like we would say that someone's postmenopausal. But, this is a recognized phenomenon, and what it refers to is a steady decline in testosterone levels that starts pretty young. It starts after age 30. It's about 1% per year, and so a lot of people don't notice it, at least not right away, or not until sometimes years down the road. There is such a thing as testosterone replacement therapy, but it’s controversial, and it’s pretty risky, unlike estrogen therapy where we know, okay, here's some really specific things that are helped by this person being on estrogen. With testosterone therapy, we kind of don't necessarily always know that, okay? However, it can be used sometimes to manage some of these symptoms.

Part of the reason that it’s controversial is because it can stimulate growth of the prostate, which the prostate grows anyway as individuals age. That’s, again, just part of the normal aging process. We typically don't want to speed that up, because that can cause significant problems with urination as well, okay? And also, andropause can stimulate growth, or, sorry, can contribute to cardiovascular disease as well, which, as we all know, that is much more common as people get older, so both of those are reasons why you wouldn't necessarily just say, "Oh, let's give you testosterone therapy "for any given symptom." Okay, so like I mentioned, not all men will ever really have symptoms of andropause, and then some will have them early on. This is because all
individuals have varying levels of testosterone to start with. So if you start and you're fairly high, you may not notice that decline until quite a ways down the road, or maybe never. But if you start somewhat low in testosterone to begin with, then you may notice some of these not so pleasant side effects earlier on, okay? So some of the symptoms that people will notice is a decrease in testicular size, decreased libido, fewer nighttime erections, there's often erectile dysfunction, which, erectile dysfunction is also due to changes in blood flow as well as just hormones, but that is certainly contributed to by this decrease in testosterone.

And then infertility, varying as to whether people will notice that one in terms of whether they're trying to actively conceive once they hit this point. Often, people will notice either insomnia or sleepiness, and, again, there's a lot of things that can contribute towards that, so don't assume that that's just from decreased testosterone, but either of those can be a sign of that. They will often also see increased body fat and decreased muscle bulk, as well as loss of bone mass. That's not quite as sharp most of the time as what we see in women as their estrogen levels decline, but it can be something that is noticeable. And then depression is a fairly common side effect for folks who have reached that point.

Okay, so let's talk a little bit about pelvic floor anatomy, okay? So the pelvic floor is a group of muscles, for those of you who aren't necessarily very familiar with it, that is at the base of the pelvis, so thus the name pelvic floor, it's literally the floor of the pelvis. They're both, all people, regardless of their type of genitalia or anatomy, have pelvic floors, okay? And really the pelvic floors are shaped fairly similarly, so there are some outer layers that go around here that basically surround the rectum, and also the urethra. And then in individuals who have penises, the muscles help to suspend the penis, or to hold it up and support it, as well as contain a lot of the important blood vessels that we need for blood flow there, okay? Both of them also surround the rectum as well. Then there's a deeper layer of pelvic floor muscles that actually form
the basement of your core as well. There are three layers of skeletal muscle here, so all of these are skeletal muscle. Layers one and two are responsible for squeezing when they turn on, and then also opening when they relax, or elongate. These outer layers are composed of approximately 70% fast twitch muscle fibers. So if you'll remember, all the way back to your physiology courses, that means that these muscles are capable of squeezing quickly, squeezing hard, but they don't necessarily have a whole lot of endurance involved, okay? The primary responsibilities of these muscles are incontinence, elimination, and sexuality. And all of these muscles, whichever layer they're in, one and two, or layer three, which we'll talk about in a moment, can be either overactive or underactive.

This is a slight oversimplification, but to keep it fairly straightforward for those who don't necessarily want to turn into a full-blown public health physical therapist, overactivity often leads to difficulty with elimination. So that could be difficulty with urinary retention, or difficulty with bowel movements, either one, and also can lead to pain with insertion for people who are having insertion, or with erection, for those who are becoming erect, it can also lead to pain with elimination as well. Underactivity, or just straight up imbalance can lead to leakage of urine, or leakage of stool, which we know is quite common in these individuals, and then also difficulty either achieving or maintaining an erection or orgasm.

And again, that's a little bit of an oversimplification, but that's kind of where your brain can start going, okay, maybe with this group of symptoms, people tend more towards being overly active in these muscle groups, and with these groups of symptoms, perhaps they're underactive, or weak. Okay, layer three, so that deepest layer that I talked about being the floor of the core, is responsible for lifting, okay? And unlike layers one and two, this is the reverse. So it's 70% slow twitch muscle fibers, only 30% fast twitch. So really what this layer is supposed to do is create a lower level muscle contraction in terms of strength or force, but create a longer, more of an endurance
type of activity. So this is part of the core. It assists with maintaining organ positioning. It's not the only thing that promotes organ positioning. Our organs are suspended on ligaments, and then also visceral fascia that helps them stay where they're supposed to stay. But this also does help with support, because we're bipedal, we move around against gravity, and so we do have gravity acting on our organs all the time. It also helps us with appropriate breathing, coughing, and sneezing patterns, and then as it turns on it forms part of that dynamic structure that we call the core. And if you want a whole lot more detail on its role in core function, and how to retrain that aspect of it, I'd encourage you to go check out maximizing core retraining, that's a two-part course that's in the continued library, but that has so much detail, because that's much more than I can cover in any kind of helpful way in this course, okay?

So inappropriate activity levels in that third layer can lead to any number of musculoskeletal problems, many of which probably look familiar, so this can include back pain, hip pain, pelvic girdle pain, or some people call this SI joint pain, as well as chronic pelvic pain. Pelvic organ prolapse is another common issue that we see when people have over or underactive third layers, as well as some issues that can contribute towards that difficulty maintaining continence.

And I have a question that says, "Can working with people's pelvic floor "help with people who have hemorrhoids?" It can, hemorrhoids are issues with blood vessels being inflamed, and typically from chronic straining, that we often see with constipation. And so working with people to have appropriate pelvic floor control as well as abdominal mobility and dietary assistance, which we'll talk about later, can really help a lot with the pressure that leads to hemorrhoids. Hemorrhoids are caused by too much pressure through the abdomen, often because this bottom part, or this floor part is not doing its job ideally. Okay, so could we go ahead and pull up that video, please? I can talk through some stuff while that's getting pulled up. So in an ideal world, when the pelvic floor turns on, it, again, is considered part of the core. So it
helps to maintain and balance intra-abdominal pressure. So how much pressure is there with inner abdomen that is helping us to maintain support for our spine, support for our pelvis, all those important structures that we need to be able to move around? I do have a question that asks if anal fissures are associated with pelvic floor dysfunction. Sometimes, there's a lot of different possible causes of anal fissures, and that is certainly one possibility. Here's the bladder, pelvic floor muscles, okay? So when they activate, the bladder's gonna come up, when they elongate, it will come down. So down, that's with an inhale, and then with an exhale it lifts, okay?

And this is gonna be really important later, because one of your best cheats for pelvic floor function is to remember that breathing actually helps turn on the pelvic floor, okay? So we can go ahead and go back to the slide. Okay, so again, when the pelvic floor turns on, it helps you to balance that intra-abdominal pressure, it helps to direct appropriate pressure for coughing, lifting, and sneezing, okay? So if you cough, and your pelvic floor is driving that, your cough will go up and out of your lungs. If you don't have that pelvic floor activation, that pressure’s gonna go somewhere and it’s going to follow gravity, so it’s gonna go down, and go through your pelvic floor, which is why people often have issues with leaking with some of these activities.

Pelvic floor is partially a respiratory muscle, like we saw in that video just a moment ago. In an ideal world, we control both the concentric, or the shortening and the eccentric stages, and we'll talk more about that later when we talk about helping people optimize their pelvic floor function. Relaxation of the pelvic floor refers to dropping the pelvic floor. So when you saw that inhale on that video, that was the pelvic floor actually dropping to where it was elongating longer than its resting length. It’s difficult to stretch the pelvic floor, because it's really not attached to very mobile structures, right? So I can't do what I do with my hamstring and move my leg to stretch my pelvic floor, because it’s attached to the front and back of the pelvis. And so really that deep inhale, or that deep diaphragmatic breath, where you see that pelvic floor
drop, is about the only way that you can ideally elongate or maximize the length of that pelvic floor, okay? So in an ideal world, your pelvic floor, here, so just to orient you all, here’s the spine in the back of the pelvis, here’s your abdominal muscles, oops, sorry, I didn't grab my pointer. Could somebody drop the pointer onto the screen, pretty please, it seems to be stuck, thank you. Okay, so here’s your pelvic floor at the bottom. Here’s your pelvis, spine is here, here’s your abdominals. Okay, so in an ideal world, when you inhale, your diaphragm’s sitting up here, so you inhale, the diaphragm drops and the pelvic floor drops, and you should have control of that. It shouldn't be this precipitous drop, so we're maintaining pressure. When you exhale, the pelvic floor rises, as does the diaphragm.

That, in combination with this 360 degrees of muscle that surrounds the torso, creates that intra-abdominal pressure system, and then that rise and fall of the diaphragm and the pelvic floor help to make it possible for us to do a functional active movement and still have support from our spine. Let’s go ahead and play the videos of the pelvic floor activating, really quickly, before we move into commonly seen pelvic floor disorders. So you can just watch this animation, just to see what that pelvic floor piece looks like. So just to orient you, we are looking down into the pelvic floor from the top. So here's the top of the sacrum, here's the pubic symphysis, or symphyses, and here’s your pelvic floor, okay?

So what you’re gonna do, as you watch this turn green as it activates, watch what happens to the rectum, and watch what happens to these muscles, okay? As one would expect, it's lifting, which, I know, is a little hard to see in a two dimensional representation, but you can see that those holes and structures are shrinking in size, and then also that is lifting up towards us, okay? So we're gonna look at one more angle, so we'll look from the bottom, where we were just looking from the top. And again, as it turns on, you can see that those muscles tighten and pull together, and they also lift up towards the person’s head, okay? I like to show this just because I
know, for many of us, we haven’t really thought that much or realized that much about what the pelvic floor actually does before taking some of these courses. So just to give you a visual, I think, is helpful. Okay, so we’ll go ahead and go back to the slides. All right, so that’s your quick and dirty pelvic floor primary. And like I said, there is certainly so much more that we could talk about, I could probably talk to you, quite literally, for hours about pelvic floor function and dysfunction, but that gives you enough to understand, I think, this next little bit, okay? So now we’re going to talk about commonly seen pelvic floor disorders in the older adult, okay? And realize, some of these can also present in younger adults, and even children, but for the purposes of this course, we are going to just focus on what we commonly see in older adults. Okay, so in individuals who have penises, okay, there are some red flags that we need to be aware of.

So we need to know about cancer red flags, okay, and part of the reason for this is that one of the most common forms of cancer in people who have penises, is testicular cancer, and another one is prostate cancer. And both of those can have symptoms that are really similar to some of the common versions of pelvic floor dysfunction that you will see in the same population, okay? So just be aware of your cancer red flags. Older adults, over age 50, typically, so everyone that we’re talking about here. Unexpected or an unanticipated change in weight, often weight loss.

And then, you know, there’s all kinds of other red flags that we can talk about with that, so you just need to be aware of this. I have a question about how people should do kegels. We will definitely get to that in just a little bit, so hold that thought, but that’s an excellent question. Okay, so if there is urethral discharge of a sudden increased quantity, a strange color, or odor, and especially if it’s accompanied with fever, systemic fever, or redness anywhere, that is a red flag. So that person doesn't need to be in your clinic, that’s not pelvic floor dysfunction and they need to get checked by a medical professional. If there is inflammation with acute onset of testicular pain, or
abrupt onset of scrotal pain with swelling or edema, along with exquisite tenderness, nausea, and tachycardia are possibilities, but that exquisite tenderness is going to be there. That is something called testicular torsion, again, not a pelvic floor dysfunction, that is a medical emergency, they need to be seen and have that surgically repaired really quickly. So again, that's not someone that you can help by working with their pelvic floor. If they have any symptoms of cauda equina syndrome, again, not their pelvic floor. And then if there's any blood in their urine, again, that needs to be cleared out, okay? Red flags that you may see in people who have vaginas, again, you wanna watch for cancer red flags because uterine and ovarian cancer, and vulvar cancer, too, are unfortunately very common in older adults. If you see discharge, or they report discharge that has a foul odor, or a strange color or appearance, bleeding, and we don’t have an explanation for where that bleeding came from.

Sharp or acute abdominal pain, or pelvic or abdominal pain with no apparent musculoskeletal cause, and then, again, hematuria, okay, blood in the urine. So those are all things that would tell you, okay, this person needs to see a physician. They are not necessarily going to be helped by therapy. So let’s talk a little bit about aging and sexual health. And why are we talking about sexual health? Because the pelvic floor is very commonly involved with sexual health. And so if people are reporting some of these things, it may give you some clues as to what their pelvic floor function is, okay? So we talked about this a little bit earlier, but it's really common for older adults to have decreasing libido, okay?

Both men and women can experience this. It's typically more of a sharp change in women, but, again, that's going to depend on the individual. In both, that is due to the decreasing levels of testosterone. Many older adults do remain sexually active, but not everyone, and I often will have conversations with people who, you know, really what we’re saying is what actually works for your relationship? If that’s not something that you want, if that's not an activity that you want to participate in, that's okay, that
doesn't mean your relationship is bad. Obviously, both individuals, or all the individuals, if it's more than two, in their relationship need to be okay with this, but at the same time, we're not necessarily being sexually active is not always the goal, okay? If that is something that is desired, then absolutely we work towards that, but if it's not, that is okay. Some of the common sexual challenges that we will see as people get older are dyspareunia, that means painful insertion, okay? And typically that refers to vaginal pain with insertion. Some other names that you'll see for it are vaginismus, and sometimes they'll just say vulvar pain with insertion. Painful ejaculation can occur, for sure, as can premature ejaculation, and also erectile dysfunction. Okay, so these are things that we see as people age.

There, as I'm sure you can tell from the list, as well as what we talked about earlier with hormones, there is definitely a hormonal component to most of these, if not all, but there can also be a blood flow and/or musculoskeletal component to them. Now there's a picture of a baby that has wonderful estrogen levels. So we talked about this earlier, where that impacts the elasticity and the plumpness of the skin, as well as the ability of the muscles to work, okay? So dyspareunia is often due to lacking the former level of lubrication. So the amount of lubrication that they had prior to going through some of these hormonal changes may go away, okay? And so that is a change for them, and so there can be a lot more friction and that is not always comfortable for people.

You also can see a tightening, or a decrease in the elasticity of both the pelvic floor and the skin due to that estrogen loss. And then the blood that fills up the invaginations in the vagina, so the vagina is named the vagina because it has all these invaginations, which just refers to these structures. They're really similar to rugae in the GI system, but it refers to all of these little sort of hills and valleys, and what those are for is that as the person becomes stimulated, or aroused, those will fill with blood, and it actually causes the vagina to elongate, okay? And so it essentially forms a tunnel, a longer
tunnel, to fit the elongation of the penis when that person becomes aroused, okay? But, as people get older, as I'm sure we all are aware, there are also some nervous system changes that we didn't cover in detail, but it may take much longer for that process to occur as people age, and they may need more stimulus to get there, and that's not always something that they realize. Unfortunately, if their partner is male, and happens to also be having issues with erectile dysfunction, that can be a tough combination for people. They also sometimes will have developed autoimmune issues, such as lichen sclerosis. So lichen sclerosis is a type of skin issue that is driven by an autoimmune disease, and it causes fragility of the skin and scarring. Okay, so there is that possibility that increases postmenopausally the likelihood of developing lichen sclerosis. And so there can be issues with the actual skin itself that needs to be managed for people as well.

And then, if they have a history of cancer, radiation scarring can also occur and that can cause that actual size of that opening to decrease, so people often need to do work to increase the size of the opening again if that is their goal. I have a question that says, "Does premature ejaculation "increase with age?" It can, and for some people it decreases with age, so it really depends on the person, unfortunately. So I see, I don't see many middle-aged individuals who have issues with this, I see really young, and then older individuals who are struggling with premature ejaculation.

Okay, so treatment for dyspareunia, or some of the things that you might educate them on, or encourage them to do in order to help with this, if they're complaining about it, are the use of topical estrogen, or systemic estrogen. Most of the time, I see topical estrogen used because, as we discussed earlier, it's much, much lower risk. And really, for the purposes of dyspareunia treatment, it will treat it just as well as systemic estrogen. If they're on systemic estrogen for other reasons, then it also will help with dyspareunia. Obviously, this means to be in someone who's a good candidate, so this is a conversation that needs to be had with their physician. I'm often talking to the
physician and trying to advocate for my patients if we feel like this is maybe a component. They may need to use lubricant, even if they've never needed it before, and the conversation that I will have with people is, "Look this doesn't mean that you like your partner less, "that you're less attracted to them, "or anything else, this is purely hormonally driven, "and so you may find that use of this lubricant "makes things much more pleasant," and that's really the goal, is for everyone to be enjoying themselves preferably. You really want them to use water or silicone-based lubricant, though. There's a lot of lubricants out there that can cause issues with vaginal pH changes, which can predispose people to having infections, which we obviously don't want, because those can be really common in older adults anyway, and then there are some that just don't really work well with people's skin. So water or silicone-based lubricants are your best bet. Not K-Y, K-Y is a petroleum jelly based, and it was actually developed for insertion of medical equipment, so it actually increases the like sticky, tacky friction sensation, and so if your purpose is to decrease that sensation, it often will actually make things worse.

So people say, "Oh, we've been using lubricant." Ask them what kind, and then suggest water or silicone-based. There's lots and lots of really great brands out there. Some of the ones that I recommend frequently are called Slippery Stuff, or there's a silicone-based one that's really great, called Uberlube. That one is especially awesome for people who have any kind of scarring, so whether that's from lichen sclerosis or radiation, that helps a lot. There's other good brands as well. Excellent question from someone that says, "Well, what about use of coconut oil as a lubricant?" That is definitely something that some of my patients will use. There are some concerns about whether coconut oil can throw off vaginal pH and predispose people to developing bacterial vaginosis. So if that person has had problems with that in the past, then you definitely wouldn't want to use coconut oil. Otherwise, a lot of people actually really like it. It's minimally messy, it's cheap, it's easy to obtain, it's safe for ingestion if people are wanting to do that. The one complaint that I hear about it, particularly from my
older adults, is that it dries out fairly quickly so they have to reapply a lot. And so it kind of depends on if that’s a problem for them. If it is, then I suggest they move on to one of the commercial brands. But it works really great for a lot of people, so often I’ll suggest, "Hey, at least try it, "and just see," if they’re a good candidate for it. Other things that can help with dyspareunia are adequate foreplay, as I mentioned earlier. It often will take a little bit longer to get that blood flow going, and so it is certainly a really great thing to have a little bit more of that stimulation, or to plan for a little bit more of that stimulation, okay? I do also have someone who's saying, "Well, what about "aloe vera baby oil?" So baby oil is safe for most people, and a lot of people really like aloe vera, that's perfectly fine if it's working well for the person that you are working with.

So again, some people feel weird using certain things and prefer to use other things, but I don't have any issue whatsoever with an oil-based lubricant, either. The biggest complaint that I have from people with oil-based lubricant is that it's a little bit messy. Oh, and yes, thank you for reminding me that, yes, coconut oil is not good if you're using latex condoms, so if you need to use condoms for birth control, or for STD prevention, any oil, actually, will break those down, and so you don’t want to use that, you definitely want water or silicone-based, thanks for that reminder. So some other things that will help with dyspareunia are pain education, so helping people understand why they're having pain.

It can often be very just upsetting for people if they're having pain with an activity that they want to do with their intimate partner, and they can feel guilty, or their partner can feel guilty, it can lead to just some really difficult challenges for everyone who's involved. And so helping people understand what pain is, which that could be a whole course in itself, but what pain is and what the function of pain is, is really helpful. Without going into too terribly much detail, the explanation I will often use with folks is I’ll say, "Well, if you came in to see me, "and every time you came in to see me, "as
your greeting, I walked up to you "and slapped you in the face, "eventually you would, hopefully, "start cringing away from me as I walked up to you, "even if I hadn't done anything to you yet, "and even if I wasn't intending to do anything to you." And that's because your brain's number one purpose is to protect you. And so if you are doing an activity, any activity that is resulting in pain, and that happens more than a couple of times, your brain is going to send you some signals to try to prevent you from participating in that activity. Your brain will protect you really strongly, but it's not always as smart as we would like it to be. And so your reasonable part of your brain can't just tell that protective part, "Oh hey, calm down, it's gonna be fine this time." That doesn't work. And so the only thing that does work is to teach that protective part of your brain that it doesn't have to protect you from that activity anymore. And that often will just help people sort of make sense of it. And it's like it has nothing to do with attraction, or trust, or anything like that, it really has to do with just your brain has learned that it needs to help you avoid this activity, okay? Desensitization work can be extremely helpful for people.

And there is whole protocols that you can easily find online for this, but basically it typically progresses from the individual who's having pain, touching themselves in the area that is painful. So it's just like desensitizing any other body part, and then progressing into insertion of sometimes a finger, sometimes a dilator, which is just a silicone or plastic tool that can be used, or even a sex toy, for that matter, and then once they have progressed through that process, then they can repeat using their partners for touch. So sometimes people will start with a hand, sometimes they'll progress right to genitalia, it really depends on where that person is starting and what they feel like will be helpful. But going through a desensitization process, and as you are at each step of that desensitization process, having people tune into their bodies, breathe, what do you notice about what your body is doing right now? If you're feeling anxious, can you use breath control, or affirmations, or whatever resonates with that person? Are you able to use those to help control that anxiety? If you can't, then you
don’t progress on. If you can, then maybe you do progress on, okay? Pelvic floor and abdominal soft tissue mobilization helps a lot. Patients who are experiencing this are often holding a lot of tension through both their pelvic floor and their abdomen. And if you happen to not be a pelvic floor therapist who’s trained to do soft tissue mobilization there, I would not attempt it without having some training. But even just doing some abdominal soft tissue mobilization, especially in those patients who have a history of surgery there, be that a cesarean section, a hysterectomy, any type of surgery, truthfully, that utilizes the abdomen and can cause binding down there, that can help significantly. And then downtraining, and what downtraining refers to is just trying to get that pelvic floor to elongate. So as we showed earlier, that deep breathing really helps the pelvic floor to elongate and relax.

So often I will just start downtraining, just with giving people the assignment to do some deep breathing for five minutes out of their day. If they can't give me five minutes, I'll take two minutes. And often people will find that helps a lot with their anxiety, it also has been shown to help a lot with central nervous sensitization, if you're familiar with that concept. And so there's a lot of benefits to breathing. The amount that has been shown to be most beneficial for pain control has been a six-second inhale, six-second exhale, and again, that helps a lot with anxiety and depression as well, so there's a nice little side benefit.

Okay, so we, in addition to dyspareunia for the partner who is receiving insertion, you can also have painful erection or pain with ejaculation, and these are relatively similar as far as the PT-oriented treatment for them. This is often secondary to soft tissue tightness in the pelvic floor, abdomen, as well as the inguinal canal, and the penile suspensory ligaments, okay? So the process of erection is that the corpus cavernosum, which is just this space along the shaft of the penis, fills with blood, and then that causes enlargement or erection of the penis. With ejaculation, there is a spinal reflex that occurs, so obviously these both take some stimulus of whichever
amount or kind is needed for that individual person. And then, with an ejaculation, you get the spinal reflex that occurs that impacts both the deep and the superficial pelvic floor muscle, okay? And so what happens is those muscles, both together, so both the deep and the superficial, will have these rhythmic contractions, pretty fast, every 0.8 seconds, and that forces semen out and through the urethra. Of note, if people have had procedures to remove their ability to produce or move semen through the process, then they won’t necessarily have semen secretion, but they will still have secretion. So if you have a patient who is experiencing painful erection or ejaculation, some of the treatment options include soft tissue mobilization of the pelvic floor, particularly layers one and two. So for those pelvic floor therapists out there, I typically will do that through the perineum. There's not any need to do that intrarectally. So that's a lot more comfortable for patients and it can really help a lot with blood flow.

It's actually a lot easier to mobilize layers one and two in people who do not have vaginas, believe it or not, because there's not that opening in the way. Also, soft tissue mobilization of the abdomen can be extremely helpful, as well as the inguinal canal. Pelvic floor downtraining, again, is really important. So that deep breath work and that pelvic floor purposeful elongation. And then pain education, again, okay? If they’re not responding because there are also some medical issues that can result in this, often I will then, as a next step, refer to the physician, because it is quite possible for individuals to have partial urethral blockages or strictures. If it’s a complete blockage, they’ll know about it, because they won’t be able to release urine either. I will ask people who have this diagnosis, do you notice if your urine goes straight ahead, or does it go to the side when you're urinating. And by the side, I mean in a different direction from where your penis is pointing. And if they do have that sort of sideways, or diagonal urination, then that’s a pretty good sign that there’s something going on inside the urethra that likely would benefit from physician intervention. That doesn't mean they won't benefit from working with you, but just that there needs to be more people involved, okay? So we mentioned premature ejaculation a little bit earlier, so
we'll talk about it again here. So for premature ejaculation, that is defined as a much shorter than normal latency rate between erection and ejaculation. So on average, the amount of time between erection and ejaculation for individuals who are diagnosed with premature ejaculation is 1.7 minutes, versus, on average, again, that normal latency rate for individuals who do not have this diagnosis is 7.3 minutes, okay? And this, unfortunately, is a study that was taken in somewhat younger men, so I think the age range was 35 to 50 in this study. So realize that this may be a little bit different, just due to aging in older adults, but I cannot find any normative values anywhere, so if anyone's looking to do a study, that might be one to do.

But I can't find any normative values for specifically the geriatric population for this. We do know that it's most common in younger men, so gentlemen in their 20s and 30s, or younger, and also older men who are over the age of 70, as I mentioned earlier, okay? The etiology here is not completely clear, but the current thoughts are that it’s possibly due, in part, to a high sensitivity of the nervous system, especially either in peripheral sensation in the penis itself, or possibly in how, sort of, trigger happy that spinal reflex is that occurs, that causes the ejaculative response.

So some of the treatment, as far as rehab is concerned, for premature ejaculation, and, again, this is probably more so the pelvic therapists in the audience, but anyone feel free to use this as well. Desensitization protocols, or graded exposure protocols are extremely helpful. So this involves the person stimulating themselves and trying to progressively go longer and longer before they have that ejaculation. So they'll stimulate, and then once they are getting to the point where that's almost about to happen, they try to do some version of distraction. And so some of the things people will try, is they'll, you know, touch another body part, or get a sensation on another body part, typically warm or cold is what I see used, or what I suggest people use. So you get almost to that point, and then you touch this warm structure and you really focus on the warmness of it and see if you can delay that ejaculation from actually
occurring, and just try to kind of stretch it out longer and longer so that you can desensitize that nervous system response. Sometimes soft tissue mobilization can be helpful. That is typically needed more so in the inguinal canal and the abdomen compared to the pelvic floor, I find, in these patients. And then just overall CNS downregulation if needed. So what we know from neuroscience and pain science at this point is that there are individuals whose central nervous system just gets really, really ramped up for various reasons. It’s much more common in people who have anxiety, or just, you know, those type A personalities that they’ve always gotta be doing 15 things at once, and that sort of thing. I can make fun of those ’cause I am one, so making fun of myself.

But truthfully, if they are sort of in that really hyped up state, then doing some techniques to try to just bring their nervous system down, whether that’s deep breathing, purposeful relaxation, some people benefit from mindfulness oriented meditation, or just taking up a hobby that they find relaxing. Just anything they can do to decrease the amount of sort of hyperactivity of that nervous system can be incredibly helpful here, too, because if you get the whole nervous system calmed down, then some of these responses that are due to that heightened nervous system activity can be often decreased.

Erectile dysfunction is extremely common in older adults. So there’s about a nine to 40% prevalence by the age of 40, and then it increases by about 10% every decade after that. Okay, so you can see this could quickly become a problem for people, depending on where they start, okay? This is often the result of an actual medical diagnosis versus necessarily being simply just the aging process. However, the incidence of all of these things does increase with age in many situations. So anything that decreases blood flow can actually cause erectile dysfunction. ’Cause remember, the process of erection is actually for blood to flow into that corpus cavernosum. So if we have something that is decreasing overall blood flow, whether that’s speed, or how
much is flowing, that sort of thing, that can lead to erectile dysfunction. So common causes include heart disease and atherosclerosis. And fun little side fact, Viagra is actually a blood pressure medication, so that next one, where you see hypertension. Actually, it was developed as a blood pressure medication and then they realized, oh, hey, there's this side effect of it causes erections. We can make a lot more money with a drug for sexual health than we can for hypertension, and so then they marketed it that way. So hypertension can also lead to erectile dysfunction because of the changes in blood flow. Diabetes, again, due to changes in blood flow, is strongly, strongly correlated with erectile dysfunction, as is obesity, also neurologic conditions, that's more so because of the impact on the nervous system, not necessarily blood flow so much, but any type of neurologic condition.

Treatment for prostate issues, which we'll talk about a little bit in a bit. And then prescription medication, mostly those intended to change blood pressure potentially can. Some of them will decrease it, some will increase it, so you have to find the right one. Tobacco use, because, again, that impacts your blood flow. Alcohol and substance abuse, and then psychologic dysfunction, including stress and depression, and so on. I have a question of, "Does more sexual activity "help with erectile dysfunction?" Not usually, actually. And, again, that's because it is usually a blood flow issue or at least partially a blood flow issue. So frequency of sexual activity does not necessarily seem to change the picture a whole lot there.

Obviously, individual people may experience different things, but on the whole. Okay, so treatment for erectile dysfunction. The bulboabdominosus, which is one of those layer one muscles in the pelvic floor, so those external-most muscles in the pelvic floor, plays a really big role in allowing for engorgement of the corpus cavernosum. And so if that muscle is really overactive, tight, has scar tissue through it, then that can really decrease the ability of that corpus cavernosum to receive the blood supply that is coming to it. The ischiocavernosus is also really important in both achieving and
maintaining an erection. And so exercises that target the person’s ability to contract and relax specifically those two muscles, so those outermost muscles, can be extremely beneficial, okay? So the cueing that you would give people to work on this is actually for them to lift their testicles, or to raise their penis. I have some gentlemen who refer to these as penis pushups, if that’s how the wanna think of it, awesome, that works for me. But you literally tell them to try to lift it and then let it lower, and try to lift and let it lower. And remember, these muscles are 70% fast twitch fibers, so my goal is never for them to be able to hold it in that position for a long time, because then we’re not targeting that group of muscles anymore, it’s just to get that strong activation to raise and then let it down, and then strong activation to raise, and then let it down. And it’s really important that they’re able to relax the muscles after they activate them, too. So if it is a person that I think has a tendency towards overactivity, or some people will call it high tone, that can also cause erectile dysfunction, as you see on that next bullet point, and so I may have them do a lift, let it down, and then do some of that really deep diaphragmatic breathing to make sure that it relaxes all the way, and then do another lift, okay?

So that can be personalized, given whatever that individual person needs. General aerobic exercise is actually also extremely beneficial, because that, in and of itself, results in increased blood flow, and also better cardiovascular health. So I get a lot of these patients started on walking programs. Or, you know, if they prefer swimming, cool, whatever. As long as it’s general aerobic exercise, and a lot of them don’t necessarily really feel like they have a good approach for that, or they know how to start doing that, so it can be really helpful just to create an aerobic exercise program. I find that a lot of these patients, at least in my clinic, which this could be regional, I'm not necessarily saying this is directly correlated with the diagnosis, but a lot of these patients that come into my clinic, either don't exercise at all, or they like lifting weights, but they really don't do any cardio. And so just giving them those tools to start doing whatever form of cardio they find most pleasant, can be extremely helpful with that just
overall blood flow. Okay, so that's sexual function. Does anybody have any other questions about sexual dysfunction? You guys did a really great job of just tossin' 'em out there in the appropriate sections, that's awesome. I don't see any more. If they pop up, we'll answer them. Okay, so let's talk a little bit more about urinary health and aging, okay? And could somebody drop my pointer onto my screen please? So with urinary health, bladder volume and then also just the ability to contract the detrusor to allow it to empty, could both decrease, okay? There's also a behavioral component as well, which we'll talk about in just a moment here.

But just realize that with just the aging process, your bladder does often get smaller, okay? And then when we say contract the detrusor, people are like, "What is a detrusor, "and why would you contract it?" So there's a muscle that surrounds the entire bladder, and it's called the detrusor. This is an organ muscle, it's not a skeletal muscle, it's smooth muscle, so you don't necessarily completely have control over it, but it is a muscle, and what it does is it stretches as the bladder expands and fills, and then when you're ready to urinate, it will then contract, and it will allow for emptying, assuming that you have also relaxed your sphincters in your pelvic floor. So that does change as the person gets older.

The behavioral components are multifactorial, but one of the most common ones that I see in older adults, is that people will, they will wait too long to go to the bathroom when they're younger, typically when they're working, teachers, health care providers, really, really bad about this, but they will teach their brain that that signal isn't important, and then eventually their brain will stop telling them when they have to go to the bathroom, basically until that detrusor is stretched to capacity. Okay, so that's one common thing I see. Another common thing I see is the opposite problem, of people who are like, "Well, you know, "the bathroom at Walmart is really dirty, "so I don't wanna go there, so I'm going to go in my house "before I leave." And that's called just-in-case voiding, but if you do that too frequently, it can contribute to your bladder
volume actually decreasing. And then you also can set yourself up, a really common one of these that I see is the people who are like, "Oh, I have to go "to the bathroom, I'm about to leave work and go home, "so I'm just gonna wait, 'cause my bathroom "is more comfortable and cleaner, "I'd rather pee there." And so it makes their bladder hold for too long, and then the sound of the garage door opening, over time, if they do this too much, the sound of the garage door opening, or them opening the front door of their house, can actually trigger a Pavlovian response, where their brain's like, oh, I know that sound, that means it's time to go to the bathroom, and that can cause leaking. Also, food, drink, which we'll talk more about later.

Some common challenges that we see with urinary health and aging are stress incontinence, urge incontinence, urinary frequency, overflow incontinence, and urinary retention. So what in the heck are all of those things? Stress incontinence is when you have leaking with a change in intra-abdominal pressure. So you leak when you stand up, that I see very commonly in older adults. You leak when you sneeze, you leak when you cough. If you are not already asking your older adult patients if they're experiencing this, start asking them, and I will bet that a whole lot of them will say, "Oh yeah, that's me, absolutely."

Urge incontinence refers to the person feeling like they need to go, and then when they get that sensation, they've got, and people will tell me, "I've got 0.2 seconds to get to the bathroom." Okay, so they don't have very much of a heads up between the signal saying you have to go to the bathroom and actually needing to void their bladder. So they'll actually have some leakage, typically on the way to the restroom. Urinary frequency is often linked to urgency incontinence, but that's someone who has to go to the bathroom really, really frequently. And then normal voiding interval, or urination interval for the average older adult is about an hour and a half to 2 1/2 hours. Some people are gonna be a little bit longer, some people little bit shorter, but I'll have people who come into my clinic and they can't make it through, you know, 15 to 20 minutes of
subjective history without having to use the bathroom, okay? So as you can imagine, that very much will be difficult to work around in terms of just living life and being functional, okay? So that’s problematic for people. Overflow incontinence refers to the person leaking and not realizing it. They don’t get a signal that they have to go to the bathroom, they don’t even realize that they have gone to the bathroom until they maybe go to toilet and realize that their underwear are wet, or they look down and they realize their pants are wet. This is often a sign of neurologic dysfunction. So if you don’t have a patient who has a pretty good reason for possibly having this overflow incontinence, they need to get checked out.

And really, the only pretty darn good reason for this, or that makes it make sense that people would be having this is if the person has had a prostatectomy. So the prostate is a structure that goes all the way around the urethra, in individuals who have prostates, obviously in people who don’t have prostates this is not a thing. But, if the person has prostate cancer, or just a significantly enlarged prostate to where they have to have that removed, they have then lost one of the structures that really helps with support for that urethra and maintaining continence. And so it is pretty normal for them to have overflow incontinence for quite a while, and unfortunately for some people, forever after they have that surgery.

If they have not had that surgery, there’s not a whole lot of good reasons why they would be having overflow incontinence, so they need to get that checked. Urinary retention is the opposite of everything that we’ve been talking about, and as I’m sure you can guess from the name, that refers to people not being able to start the flow of urine. So once people get over the age of 60, the residual volume, or the amount of volume that people have left in their bladder after they void, because your bladder’s never completely empty, you don’t want it to completely empty because then it could collapse in on itself. So residual volume on average is about 50 milliliters until you hit about 60, and then it’ll vary between 50 and 100 milliliters, depending on the person,
mostly because, just like our other muscles, the strength and integrity of that detrusor muscle does decrease a little bit with age. And we do have a comment that bladder cancer surgeries also include these issues, since they also take supportive structures. That’s absolutely true. So yes, definitely if they have had bladder surgery, that’s another reason why they might have overflow incontinence. So stress we talked about, so we talked about the difference between stress urge and overflow incontinence, so there they are, just laid out for you, okay? And then the other reason that sometimes people will experience overflow incontinence is if they have had a catheter in for a really long time. It can take a while, sometimes, for those sphincter muscles to actually return to their normal size.

Okay, so what are some treatment options that you can incorporate for people who are complaining of these types of problems? Okay, so for stress incontinence, so just as a reminder, that is the type of incontinence that typically occurs with changes in abdominal pressure, so movement, coughing, sneezing, jumping, running, laughing, that sort of thing. The biggest thing you can do to help these people is help them improve their intra-abdominal pressure regulation. So most likely they are not doing a good job of appropriately timing their pelvic floor activations to where the pelvic floor is lifting at the right time, and dropping at the right time, and so that is something that you can work on with them.

And, again, I’ll refer you to other courses, including the one on continued for super-specific details on how to do that, but what it really boils down to is teaching people how to activate their pelvic floor and then how to coordinate it with the rest of their abdominal muscles, and then to use that for movement, okay? You can also teach people how to utilize breathing. So the question earlier was, that we said, well, we'll defer that until we're talking about treatment, was essentially, "So should people be doing kegels "or isolated pelvic floor activations "with an inhale or with an exhale?" You want them to do it with an exhale, because when you exhale, your diaphragm
rebounds and lifts up towards the ceiling, or up towards your head, and so should your pelvic floor. So you start that pelvic floor activation just by exhaling, and using your diaphragm to exhale. And so you can use that to help people get a stronger pelvic floor activation. It is definitely more complicated than just having people do kegels, but that is a good starting point. You can teach people to do what is commonly referred to as the neck, okay? And so the neck is essentially squeezing your pelvic floor muscles, and we're trying to get those layer one and two muscles that are primarily fast twitch muscles, so you wanna teach them how to squeeze those tightly and then hold it right before they cough or sneeze, if they have time.

Obviously, sometimes those catch us out of nowhere and that's not an option, but you want to teach them to try to do that. And that serves two purposes. One is that it helps to support the urethra in that moment, so that they hopefully don't have leakage in that moment, but also what we're hoping to do is teach the brain that, hey, when this person coughs or sneezes, you might wanna turn these muscles on. And so the hope is that, over time, right now, this person's having to do it by thinking about it really consciously activating, but hopefully over time that person would then be able to just not think about it, and the brain just turns it on for them, okay? Make sure they're voiding at appropriate intervals.

So again, between 1 1/2 and four hours, depending on the person, average two to four hours is kind of what you'll see in the literature. With older adults, you can drop that two average down a little bit, just because they do have that decreased ability, typically, to hold larger volumes, okay, and also larger residual volumes, so they've taken up some of their space already. But if people are holding for too long, then that can compromise the integrity of some of those muscular structures as well. In general, if their overall core and pelvic girdle stabilizers have better function, they'll likely have better luck with urinary continence. So that means that people's cores, and pelvic girdle stabilizers, and pelvic floors, and abdomen, all of these things are not just strong,
meaning it’s not just about can they squeeze those muscles individually, but also coordinated, that’s the key for prevention of issues with incontinence. Topical estrogen in people who have vaginas may help with urethral stiffness. So we talked earlier about how one of the consequences of that loss of estrogen is actually that the urethra becomes less stiff, so there’s just less integrity there. And so for some people, training the pelvic floor and getting that stronger will support the urethra enough to where they don’t have issues with incontinence. For others, though, it may be that the pelvic floor is not fully able to accommodate for that increased flexibility and mobility within the urethra. If that's the case, just a very small amount of topical estrogen applied right around the urethra can take care of it, and help significantly.

So that’s not a, that's not, oh, you know, I should’ve been able to get them there, but we just couldn’t, that’s not a failure on your part or their part, it just may be that their hormone levels and their body’s response to their hormone levels are such that it’s necessary, okay? Appropriate fluid intake is also really important for anyone with incontinence, and for older adults in general, okay? So if we have urgency incontinence, so again, these are the people who say, "Oh, my goodness, I have to go to the bathroom, "and I've got two seconds to get there, "I've got one second to get there." Or, "As I’m running, I’m peeing my pants."

These are people who will say something like, "Oh yeah, I never go anywhere unless I look all around, "and I know where all the bathrooms are, "'cause I might have to run for one any given moment." This is often caused by habits, to be totally honest with you, or bladder irritants are the two most common causes of this. Okay, so the habits are that just in case urinating that I talked about, or that the person has a history of waiting far too long to actually go to the bathroom, and so then their brain has learned to tune out those earlier signals, and just says, "Oh, I guess those aren't important, "so I won’t send it through until your bladder’s screaming." The bladder’s still sending the signals, brain’s just not processing them and bringing them to the person’s conscious
awareness. All right, so the first thing you want to establish when you're working with these patients is are they voiding at appropriate intervals? And again, there's that range there, so that it's not that there's a perfect amount of time that everybody has to use, but if your patient says, "Oh well, "I go to the bathroom three times a day." Well, that's probably not great, they're probably really overstretcing their detrusor, or they're not drinking enough. Or, if they say, "Well, yeah, I have to go "every 10 minutes." Or they'll say, "Well, I go, and then I stand up "and I immediately feel like I have to go again." Okay, so check what their voiding interval is, and if that's not appropriate, then that's a good opportunity to do something called timed voiding, or also sometimes known as bladder retraining.

And so what this is, is you establish, okay, where is your patient? How often are they voiding? Let's say they are my patient who goes every 10 minutes. And whether they truly feel like they have to go every 10 minutes, or they have anxiety, so they just do go every 10 minutes, whatever. But you say, okay, 10 minutes is how long you can go before you really feel like you would have leaking, so we'll start there. And then what people need to do at that point is they need to set themselves a timer for three days, and this is a pain in the butt, so I tell my patients in advance, "I'm sorry, this takes a lot of time, "but I promise it's worth it."

But what they do is they go when that timer goes off. So every 10 minutes they go to the bathroom for three days, and then after that three days, they up that timer by a little bit. Maybe it's two or three minutes, maybe it's five. I don't usually have people increase the time interval by much more than five minutes, because I want them to be successful, but they go ahead and they go. And, yes, that is an excellent question, "What about at night?" No, I do not have people do this throughout the night, so thank you for pointing that out. Yeah, so this is during waking hours. And in point of fact, it is not normal, by the way, for people to urinate at night, especially multiple times. So if they are, that's also something that we work on. So we're increasing that time interval.
by let’s say five minutes every three days, and they continue to do that until they get to a more normal, or more functional for them, voiding interval, okay? And you have to keep in mind when you’re doing this, where did your person start? What are their desired activity levels? And also, how old are they? I’m going to expect to be able to get to a larger voiding interval with someone who’s 55, than someone who’s 85, okay? So make sure that your expectations are realistic. But we also want them to have something that’s functional for them, because people who have really bad issues with this urgency incontinence will often avoid leaving their house, avoid exercising, avoid socializing, and so we really want to get them to a point where they can say, "Yes, this is functional for me."

Another really common cause of urgency incontinence is bladder irritation. And so we often will actually look for dietary irritants. When I say dietary, I mean anything that the person is putting into their body. So this could be a drink, it could be a food, it’s commonly both. And so I will have people keep intake/output diaries for me. So with my older adults, they tend to prefer paper. There are also lots and lots of tracking apps that you could use, though, that are free. Basically any dietary tracking app, you can do this.

But you essentially want the person to write down everything that they put into their body, and then everything that comes out of their body, as well as whether they had urgency and/or leakage with that, okay? And what you’re looking for, is you’re looking through this bladder diary and you’re typically, I ask people for at least three days. I say, "Give me two work days and one weekend day," or if they’re not working, and they say, "Well, all my days are fairly similar," then, okay, fine, just three, any given days that you want. But track that for me. And what I am looking for is pattern. So I’ll look at it and I’ll be like, "Oh, you know, every time you had coffee this week, "you had leakage a couple of hours later." Or, "Hey, every time you ate grapefruit for breakfast, "then you had some leakage in a few hours." So you’re looking for something that is showing up
consistently, and, yes, there are definitely certain substances that are sort of notorious for being bladder irritants, caffeine is one of them, acid is another. But, also, individual people have stronger or less strong responses to those, so there are some people who really don’t have that strong of a response to caffeine, but alcohol, man, that will make their bladders really irritated, and cause them to have to go really frequently until they flush that out of their system, or the other way around. And so sometimes if people aren’t willing, or aren’t able for various reasons to actually keep a bladder diary for me, then we’ll just go process of elimination, "Okay, I want you to try not having coffee," if they’re willing. So this is a tough one for people. So obviously this has to be with patient consent. But if you’re willing, can you try going without coffee for me for a day? Or can you try going without your, you know, your nightly nightcap for a couple of days, or for a week, just let’s see if you notice a difference.

And what I always, always tell people with dietary irritants is, "Just because we figured out "this was irritating your bladder "doesn’t mean you have to completely stop using it. "It’s up to you, it’s your choice, "but at least that way we know "that this is the correlation," and then that can take away some of the anxiety that is associated with this urgency. If we say, "Okay, so I’m choosing to drink some wine, "and I know that red wine really makes my bladder irritated, "and that’s okay, I just know "that I’m going to be peeing a lot "for the next several hours, "but then I should go back to normal." That really helps people a lot, okay?

Mindfulness and voiding delay can be very important, and very helpful for these patients. So what mindfulness is, is just being really aware, in this situation, is being really aware of what your body’s actually telling you. So do you actually have to go to the bathroom, or do you just have, you know, maybe some anxiety, or you did open your garage door, or something else that triggered it, but do you actually have to do to the bathroom? And so I’ll have people kinda tune in, or I’ll have them do a distraction technique. Maybe they’ll do some kegels, maybe they’ll rub their leg, or give
themselves another sensation to pay attention to. And then if they still have to go to the bathroom, by all means, go ahead and do so, but if you didn't actually have to go to the bathroom, if your brain was just sort of being tricked into thinking that you had to go to the bathroom, then doing that distraction technique will take care of that, typically. And then, you wanna ensure, again, that appropriate fluid intake. And in this case, a lot of patients with urgency and frequency will significantly decrease or limit their fluid intake, because they understandably think, "Well, if I don't drink as much, I won't pee as much." Actually, the opposite is true, because if you don't drink enough, your urine is going to get very, very concentrated, and that irritates the living daylights out of the bladder lining, okay?

And so if people are not hydrating appropriately, their bladder's just gonna be constantly irritated, constantly telling them they have to go to the bathroom, even though the volume output will not be that high, okay? So I actually often will tell my people with urgency and frequency issues to drink more, which sounds so, so counterintuitive, but a lot of times if you explain about the bladder lining and the irritation, they'll understand why. Overflow incontinence for those who have it, and, again, this is people that we know are not concerned about any neurologic components or undiagnosed neurologic components, I should say, so people who are well medically managed.

So some options that you can do here, timed voiding can be really important, and this is sort of for a different reason. The purpose of timed voiding for overflow incontinence is not to stretch the bladder, necessarily, but rather to prevent it from getting overly full to the point where it overflows. This is a really, it's a very fine balance, because if you do timed voiding too frequently, you can cause their bladder to shrink, but if you do it too infrequently, then they're gonna have incontinence. You have to work with each person to figure out where that fine line is for them. Avoiding dietary irritants helps because then they don't have that irritation that can cause them to need to empty
more frequently. Pelvic floor strengthening can definitely help, especially of those layers one and two musculature. Urethral support, if they need it, can be helpful. There are a variety of devices and options for that out there on the market. If it’s due to a progressive neurologic deficit, they might need to increase their catheterization frequency. That is a conversation that you need to have with their doctor, and the reason for this is because if you catheterize more frequently, there are some downsides to that, including increased possibility for UTIs, as well as possibly shrinking the bladder, but a lot of patients can have really strong autonomic nervous system reactions if their bladder is allowed to be overly full as well. And so that is, again, a fine balancing act that needs to be a conversation with multidisciplinary, all of their care providers.

And then, again, they need to have appropriate fluid intake. The consequences of dehydration in older adults are not something to mess around with. Okay, so urinary retention, so we're gonna switch gears from talking about incontinence or leakage. So urinary retention is defined as the inability to void or to fully void. So sometimes people can start a urine stream but they say, "You know, I just don't feel "like I'm getting it all out" or, "I know I have to go "more than that, but only a little bit will trickle out." Lots of different possible causes of this.

Some of the more common ones are benign prostatic hyperplasia, which is the process by which the prostate enlarges over time with aging. This is normal, the prostate never really stops growing. For some people, they start out with a small enough prostate that, as it grows, they don't have any symptoms, and then for others it can actually grow to the point where it will kink off, or completely occlude the urethra. If it does that then it has to be removed. Prostate cancer also causes prostate enlargement, so again that is a situation where that urethra can actually be physically kinked off and they may not be able to pass urine through it. If people use in and out catheterization to void for a long period of time, their bladder and pelvic floor and all of these other structures that need
to activate and/or relax to cause urine elimination, may lose their ability to coordinate that and/or it is possible for them to build up scar tissue or sort of some sclerosis within the urethra due to the frequent in and out catheterization. So that can also lead to urinary retention. Pelvic floor muscle spasm can as well. And I didn't put this on here, but severe uterine prolapse can also cause an inability to void as well. Certainly, if there’s an injury or a surgery that directly affects the urethra, there’s a possibility for scar tissue and/or trauma there that can lead to issues with urinary retention. Also, anything that would injure the bladder as well. That, typically, you will see post-surgery, if anything.

And then, sometimes due to a neurologic deficit as well, typically, a central nervous system problem. Okay, so treatment for urinary retention. Soft tissue mobilization, especially of the pelvic floor and abdomen can be very helpful, and specifically bladder mobilization, if you have been trained in visceral mobilization, can make a huge difference for these folks, as well as urethral mobilization. But these are both things that you should only attempt if you've been trained in how to do them. Pelvic floor downtraining can help if pelvic floor spasm is a component of that urinary retention, which it very often is. Timed voiding, again, can be helpful, potentially. And then, toileting position.

So the deeper squat that the person is in, the easier it is for them to eliminate, just from an anatomy and where everything goes when we deeply squat position, okay? So often, when I have people with really severe urinary retention, if they're able to do so, I'll actually have them squat in the shower. If they can't do that, then getting a footstool or something along those lines to get their feet up to where they can still be sitting, but their feet are up, and sort of emulating that squatting position can really, really help. For prostate enlargement, there is a limit to what you're going to be able to do with therapy. If the prostate gets to a certain point, there's really, unfortunately, at this time, the only fix for that is surgery. Okay, so that's your quick and dirty of urinary health.
Feel free to throw up questions if anything else came up, otherwise we’re going to go ahead and move into bowel health. I have a question, "What is the validity "of electric stimulation for urgency?" So there are, there's a lot of really mixed data out there, which I know is super helpful. That's often the case for pelvic floor issues. So there is a device called an InterStim that is typically implanted inside people’s body, and the purpose of it is for that e-stim, it's neuromuscular e-stim that stimulates the detrusor, so it makes that person only eliminate at certain points, or at least decrease the likelihood that they’ll eliminate at other than those points. I've had some people really feel like it was beneficial, and some people feel like it did nothing.

So it kinda matches the literature, unfortunately. It makes me kind of wonder, maybe we don't have a really great way to identify which patients will benefit from that. And then follow-up question, "Is e-stim at the ankle beneficial?" So yes, there are some people who also benefit from the use of electric stimulation around the peroneals, so yes, close to the ankle, and that's just because that's where that S1-S2 nerve root dermatome is.

I've also seen some people doing e-stim along with dry needling there, and I've also seen people do acupuncture or even just dry needling as well, and seemed to have gotten decent results from that. My feeling about all of that is it's hard to know who's going to really benefit, and so I sort of liked the idea of external e-stim on the peroneals, or dry needling, or acupuncture, more so than a surgical implant, just because it's less invasive, at least it's a first step. So I think that all those are something for people to try. I would prefer to see the InterStim used as a last resort instead of a first resort, just because, again, it is so invasive, and a lot of people develop really bad pelvic pain after they have it placed, and then they end up having to have it removed anyway. Question of whether there are at-home devices for kegels. There are, there's actually quite a few that will connect via Bluetooth to a smartphone, which I feel like as technology continues to be part of daily life, a lot of my older
patients are getting more and more tech savvy, and so sometimes they actually want those. There are also devices that just have like little flags or something that don’t require any use of technology. The downside of most of these is that they're kind of expensive. Price range is from, you know, in the $50 to the $300, and on up type of range. So I try to teach people in clinic if I can, but those types of devices can be really helpful. The one that I see most people really liking from a smartphone standpoint is called the Elvie. But I haven’t personally used that, but I've had quite a few patients who have done so, and really thought it was beneficial.

Okay, bowel health and aging. So there are a lot of changes that can, oh, sorry, the name again is the Elvie, E-L-V-I-E, and you can just Google it. So bowel health and aging. There are a lot of changes that do occur that impact our bowel health as we age. There’s often dietary changes, just due to a decrease in appetite, or, I mean, I know when my grandfather passed, my grandmother stopped eating as healthily because she didn’t want to cook just for herself, and I think that’s fairly common from the folks that I’ve talked to.

There are some digestive changes that happen with aging, that are just part of the aging process. So our digestive system tends to slow down a little bit. There can be autoimmune disruption, just as people get older, that’s, again, a little bit more likely from a statistical standpoint. Sometimes there's activity level changes. Sometimes there’s not, and that’s great, but a lot of people unfortunately do become less active as they get older, and that influences our bowel health. And so the challenges that we typically see here are, again, two opposites, either constipation or fecal incontinence. Let’s talk about constipation. So what’s the impact of this? It’s poor digestion which can lead to a whole host of problems. It can actually increase the likelihood of urinary incontinence because the bowel takes up space, and so if you have a lot of stool sitting in and enlarging the bowel, it actually will press on the bladder and it can decrease the amount of space that is available for the bladder. So the two can and do
occur in concurrence with one another, especially in older adults. Constipation increases the likelihood of pelvic organ prolapse, because, again, of pressure and heaviness of that really full bowel. And then it can lead to discomfort from abdominal bloating. Some of the common causes of constipation include diet, decreased activity level, decreased mobility, which can make ideal toileting more difficult, and then pelvic floor overactivity. Now, I do wanna mention, these are the causes that we can affect. There are other things that can cause constipation, including some medical issues, so I don't want you to hear me saying that these are the only causes of constipation, but if we're assuming that people are not having other medical issues, then these are the most likely causes, okay?

And do remember that a lot of the meds that our older patients are on, many of those have a side effect of constipation as well. That's not necessarily a reason to stop taking the meds, because I would certainly rather deal with constipation than, you know, pass from a stroke because I stopped taking my blood pressure medication. But, at the same time, we may need to realize that there could be some external factors that we need to be aware of as we're trying to help people work on this. So what are some of the things you can do to help people with constipation? Adequate water intake is crucial. If your body does not have enough water in it, you will not be able to pull that water into your stool.

That is the last step of forming stool, is kind of modulating how much water is in it. And so if you don't, if your global body does not have enough water, your stool is the last place that your body's going to put that. It's going to instead send it to your brain, and send it to your organs, and your stool will be the last place, and so you'll end up with potentially really hard, difficult to pass stool. Aerobic exercise helps a lot. Aerobic exercise results in improvements in abdominal motility and mobility, meaning how quickly your bowels actually move the food along and do that digestive process, so that can help significantly. Bowel massage is super helpful as well, as is pelvic floor
soft tissue mobilization. Adequate fiber intake is really important, and I see this really being a challenge, sometimes, for older adults, especially if they’re eating a lot of prepackaged foods, or eating in cafeterias a lot. Adults should intake about 25 to 35 grams per day of fiber, and we have studies that say that older adults average more like 10. So that can cause significant problems as well, because fiber is one of the way, another way that your body modulates how much water’s in your stool. So if you have enough water in your system, but you don’t have enough fiber in your stool, you may not be able to use that water, okay, and then toileting mechanics, also. I have a question, "What is a recommended amount of water "for patients to intake?" That is a great question, it’s also a really hard one to answer because the need for fluid varies significantly due to lots and lots of different factors. I think the easiest way to do this, especially with my older patients, is for them to modulate it based on urine color. So if their urine is really dark, they need to drink more.

If it's light, then they’re probably doing okay. It does not need to be clear, there's a misnomer out there that, oh, the urine has to be completely clear. That is not necessary, but you do want it to be sort of this lighter, lighter yellow color in order for them to pass that. I tell them if it’s starting to look like lemonade, and definitely if it starts tending more towards sweet tea, that's not good. And I unfortunately do have some patients who are like, "Oh, well my urine always, "my urine always looks like some really weak coffee."

And it's like, okay, we need to start working on a plan to drink more. And I will say, too, when you’re having people drink more, it's really, really important not to have them go from drinking a really small amount to a really big amount overnight, because then they will be living in the bathroom, and they will curse your name and not do anything else you say. So I usually will have people increase by no more than six to eight ounces a day, and increase that volume about every three days, just to let their bladder slowly accommodate to that. So for fecal incontinence, this can be due to overall digestive
health, or due to a disease process. So Crohn's, inflammatory bowel disease, are the common ones that I see, and it can also be due to medication as well. If there's a history of a fourth degree tear with childbirth, a perineal tear, that can also be a component. Sometimes there's pelvic floor weakness and sphincter control, but more commonly I see that there are just issues with digestion in general. Constipation is actually also a really common cause of fecal incontinence. And what happens is that you've got this hard lump of constipated stool that's sitting there, kind of blocking things, and so the only stuff that scoots around it is the liquid.

And just, as we all know, there is actually a hole in our rectal sphincter, right, and so as anybody who's every had a tummy bug will be able to attest, if your stool is liquid, you can have the best controlled pelvic floor in the history of the planet, and you will not be able to control your stool. Okay, so the key with fecal incontinence is making sure that their stool is an appropriate consistency, okay? So this is the Bristol Stool Scale. There's lots of different versions of this out there. If you just Google for it, you'll find ones for kids, one for older adults, et cetera. But I show this to all my patients because it's not like most of us hang out in the bathroom comparing what our stool looks like, right? It's like, "Oh, how was your poop this morning?" We don't do that, even with people that we're really close to.

So I have a number of patients who come in and they say, "Oh, I'm not constipated. "I go to the bathroom every day." And then I ask them, "Okay, show me on this chart "what your stool looks like," and they say, "Oh, it looks like these little rabbit pellets here." That represents extreme constipation, and that is not normal, even if you're doing it every day. So I just show it to them, and I say, "Where is your stool typically?" And we really want it to be a type three or a four in most situations, where it has some form to it, it's not really lumpy, it can have some lumps in it, and that's okay, but it's soft, it's not super lumpy, and it's got form, it's not this mushy liquidy stuff, okay? If they are having either really liquidy, really hard, or if they're vacillating in between, fiber
is usually my first stop, because fiber just really helps to regulate all of that, by regulating how much water is getting pulled into the stool. Pelvic floor and abdominal mobilization can be beneficial as well. For the pelvic floor therapists out there, sometimes you may need to do some intrarectal mobilization as well if there’s a really hard scar from a perineal tear that’s causing the rectal sphincter to gap open, that can be helpful. And then eliminating bowel irritants, which commonly are fatty foods or acidic foods, but I use an intake/output diary, just like what we were talking about for incontinence with these patients as well, because, again, it’s gonna be different things that irritate different people. Pelvic organ prolapse, so there are various types. Cystocele means anterior prolapse.

Rectocele is posterior prolapse, and uterine prolapse is the uterus dropping down. Okay, there is also something called an enterocele, which is urethral prolapse and rectal prolapse. Enterocele and rectal prolapse are not anything that physical therapists can really help with, okay? Some of the causes of pelvic organ prolapse are soft tissue laxity. This is often due to mode of delivery, and, yes, I know, with our older patients, that was a long time ago, but sometimes this doesn’t show up until after the estrogen levels drop postmenopause. So the injury did happen a long time ago but they were able to compensate until those estrogen levels dropped, okay?

Genetics play a role, we know. Prolonged straining or poor intra-abdominal pressure regulation, so a chronic history of constipation is a definite possibility. Poor intra-abdominal pressure regulation, or pelvic floor weakness, or overactivity, all of these things can contribute to pelvic organ prolapse. Kinda hard to treat, because, as you can see, there’s lots and lots of possible contributors. But what you do for it is intra-abdominal pressure regulation, pelvic floor activity level regulation, are they too active, underactive, get that regulated out. Control constipation if it’s present. There are tools called pessaries that people can wear, it’s essentially an internal brace for those pelvic floor muscles and for the vaginal walls, and so those can be extremely helpful.
And there are also surgeries. Those should be reserved for the worst case scenario, but there are also surgeries that people can go through. Okay, so just a quick overview, and like I said, there are other courses that go into way more detail about how to retrain the pelvic floor. But the first thing you wanna do is decide is it over or underactive, 'cause you just heard me say several times, well, this could be overactivity or underactivity. So the way that you do this is by touching it, essentially. So you have the person lay with their knees supported. I would have both knees up. We just found, when we were taking these pictures, that you couldn't see what I was doing if both of her knees were up. But you wanna palpate the ischial tuberosity, and then just follow it just medial, where your hand is still on the ischial tuberosity, but the medial aspect of it. And then you can palpate on both sides. What you're looking for is symmetry, is there pain, are there trigger points?

You can also palpate the hip adductors, because those almost always mirror the pelvic floor activity, so if you have a really tight hip adductor on one or both sides, you can bet that that corresponding pelvic floor muscle is also really, really tight. And I will say, for those of you who are pelvic floor therapists and can do internal palpation, this is not as accurate as internal palpation, but it is a less invasive way to screen and assess that can be really helpful for those who don’t do internal exams, or for patients who won’t allow an internal exam. Internal exam is the gold standard, though, okay?

So if you’re doing that, you wanna check for tightness in the tissues, tender spots you don’t expect, can they turn it on? Does it feel equal and symmetric, and does it return to baseline, and can they actively elongate? The coccygeal movement test is pretty cool because this is a really noninvasive way to see if people can activate their pelvic floor. So you have your patient sitting, sidelying, or standing, I prefer sitting. And then you place your hand to where your finger is on the coccyx, and ask them to try to contract their pelvic floor. So do a kegel for me. If the coccyx gently pulls forward, this is not a big movement, but if it gently pulls forward away from your hand, they’re
contracting it correctly. If it goes backwards, then they’re not contracting it correctly, they’re actually elongating it when they think they’re contracting it. And then if it just doesn’t move at all, they just don’t know how to turn their pelvic floor on. So that can be a good way for those of you who either don’t do this, or for patients who aren’t comfortable, to have at least some idea of what the pelvic floor is doing, okay? So if they’re overactive, you downtrain them, and sorry, I don’t have access to an older adult, but I have lots of access to little people, so that’s who’s in these pictures. So you can use deep breathing that we talked about earlier, and then opening positions for the pelvic floor. This pose in this picture is called happy baby. This can be done reclined if your patient can’t get in supine.

And if they can’t get their knees all the way up, that’s okay, it will still open the pelvic floor to whatever extent they’re able to do it. If they can get into a deep squat position, that’ll do it too, but a lot of my older adults are not able to do that. Or, a butterfly position is another good one, where your feet are together and you’re letting your knees come out to the side of the pelvic floor and then you just teach them to try to drop their pelvic floor, do that really deep diaphragmatic breath and try to let their pelvic floor drop, or I’ll sometimes tell them to try to widen their sitz bones and that’ll do it too. So we talked about the role of breathing, so that’s what that’s about.

Okay, for underactive pelvic floors, you gotta teach ’em where the pelvic floor is first, before you can teach them to turn it on. So this is where we’re using cues like, "Pull your sit bones together," or, "Try to pull your tailbone up to your pubic bone." Elevate your penis we talked about earlier, hold back gas, and the reason there’s like eight of these on here is because different ones work for different people’s brains. So I literally will just work my way through this combination of cues if my patient doesn’t learn, or doesn’t know how to turn their pelvic floor on, until I find one that they’re like, "Oh, yeah, now I’ve got it," and then they can turn it on. And we looked at how the pelvic floor looks when it activates. Then you need to teach them how to control that

continued
eccentric phase. So I said a while ago, back at the beginning of the course, that it's great if they can turn it on, but you also want them to be able to turn it off, right? And so, or sorry, you also want them to be able to control the descent, okay? So you want them to lift, and then what I'll tell them after they can lift is, "Okay, now I want you "to pretend you're riding an elevator "back down to the ground floor, "and you're gonna stop at every floor "between, let's say the fifth floor and the garage."

Because you don't want them to just turn it on and then turn it all the way off, they need to be able to have that control throughout the descent, and throughout that elongation as well, especially if they're having issues with stress incontinence with either movement or coughing and sneezing, okay? And for everyone, the amount of activation really should match how much effort they're putting into it. So if I am opening a door, the amount my pelvic floor should turn on is a whole lot less than what it should do if I am doing a squat with heavy weights. And someone says they see an arrow in the middle of the slide that's blocking words.

I don't see that, so maybe Kathleen or Calista can get that moved for us, sorry about that. Okay, so you can always go back to the breath cycles, you can always go through breathing, and then you wanna move into functional training. And again, there's a whole course that really goes through super details of how to do that, so I'd encourage you to check that out. I like to use the phrase, blow before you go, because, again, as you exhale, your pelvic floor turns on. And so for people who are having trouble, a lot of my older patients have trouble with leakage when they stand up, so I'll tell them, "Exhale as you're standing, blow before you go," and then they'll be able to do that. If they don't want to do that, or they don't feel comfortable talking or singing as they move will also cause the same thing to happen. So they can do that. And then if you know of the functional problem, or the functional movement that causes the problem, it's going from sit to stand, or stepping up on a step, use that to your advantage. Do pelvic floor activation as they do that functional movement, and work through that.
Cough training can also be helpful. So you wanna teach them to drive the cough from the bottom up. So start your cough from your pelvic floor. Squeeze it really tight, and then let the cough come up through your diaphragm and then out through your lungs. And that actually, oops, can help to decrease incidence of pneumonia as well, and that's been shown to be really beneficial in nursing homes, especially. For older athletes, because a lot of my older patients are also athletes, they do CrossFit, they run, it's awesome. You wanna train to their sport. What I will often see in older athletes is that they have a habit of just maximally squeezing their pelvic floor with everything that they're doing instead of having the ability to modulate it.

If you maximally squeeze your pelvic floor all the time, then eventually it's not going to functionally support you very well, because your body adapts to this maximal squeeze. So sometimes I'm actually working on getting them to learn to let it go just a little bit, and to balance those muscles out, and again, that maximizing core retraining course helps a lot with that and with specifics. Okay, lifestyle adaptations, we talked about a lot of these, but we'll just go through them here with some more detail. So coughing and sneezing, tell people don't suppress your sneeze or cough.

If you do that, that pressure's going somewhere and it will go down if you don't let it come up, so it's actually better to cough or sneeze very forcefully than to do the little tiny kind of more graceful sounds that people do when they're trying to muffle them. And we mentioned, but if you can do the knack beforehand, or that squeeze of the pelvic floor beforehand, that really helps a lot. Here's a picture of those intake/output diaries, which we explained earlier, so I won't go into super detail of that again. But it just shows how simple it can be. It's like, what did you drink, what was your output? I will often have people do food also, but sometimes I do just do drinks. So it just depends on what your patient feels like they can really do. It also lets me monitor for how much water they're taking in and/or how much fiber they're taking in, so I can give them better recommendations. Timed voiding we talked about. So here's just your
slide that talks about how to actually do this. Toileting mechanics, we mentioned knees higher than hips being ideal, so that is the position that allows you to eliminate with the most ease. It opens up your pelvis, opens up your pelvic floor, and allows for the bowels at least to have a straight shot down. The urethra pretty much always has a straight shot down. But it allows your body to not have to strain hopefully. If your patient has a history of having a hip surgery or something where they cannot get their knees higher than their hips, then just have them at the same height, and that's fine. You also can have people do diaphragmatic breathing on the toilet, that can help their pelvic floor to relax. And then an open glottis exhale, so people could talk, they could sing, I often will have people fog up a mirror and that really helps a lot, or they could blow bubbles. I use that more with my kids than older adults as well. And someone said, "Please define knack again."

So knack is just to squeeze the pelvic floor really tightly before you do a sneeze or a cough, to try to help with driving that force up and out instead of down. And someone's asking, "Is it not good "for people to try to hold a sneeze?" It's really never good to try to hold a sneeze, because, again, that force will go somewhere, okay? Sleep is something we haven't talked a whole lot about, but it does play a critical role in musculoskeletal and organ health and functioning. We recommend seven to eight hours of sleep for people who are over 65 years old, and there's a lot of things that they can do.

It's hard because at this age, a lot of times people also start suffering from insomnia, and so just some recommendations to help improve sleep. If they wake up at the same time daily, that helps to set their circadian rhythms, so that's super helpful. Some of my patients need a go to bed alarm. So great, set a go to bed alarm, that's awesome. If they're able to limit how much light exposure and brain activity they have for an hour before bedtime, that's great, so read a book instead of watching TV, if you all can. Blue light is the worst, for sure. But you wanna kind of give your brain that signal that it's
time to calm down and go to bed. Getting an hour of direct sunlight during the day is super helpful. Not napping is also helpful, or limiting the length of naps is helpful. Having a relaxing bedtime routine. And then if they’re lying awake and they’re feeling anxious, it’s better to get out of bed, go do a quiet activity and then try again than it is to lay there being anxious about not sleeping. And then realize that there are some sleep disorders, insomnia and apnea being the most common, that can be much more common in older adults, so they may need a referral out if they’re having that. And then we talked about the role of aerobic activity, so aerobic activity, resistance training, and then balance or control-oriented movements are also all really helpful lifestyle adaptations for people to go through.

Okay, so we are at our time limit. So rather than going through the case study, I’ll take questions now, if people have any more. And then otherwise, I appreciate your attention. Okay, so do I have any recommendations about how to go about pelvic floor interventions, I can’t see the rest of that question, is there a way for me to expand that box at all? Awesome, thank you. For patients who have dementia or cognitive deficits, that’s really, really hard. A lot of times what I will do with those patients is just try to trick their body into doing it with me.

And so you know that if you have them exhale or blow out, that’ll turn their pelvic floor on. If you have them use their adductors, that will also turn their pelvic floor on. And so a lot of times I will have them just incorporate that into exercises with me, and I hope that there’s some subconscious carryover to allow that to continue happening, but it is much harder with patients who have dementia, just because they may not have that conscious carryover, and I, unfortunately, don’t have an easy answer for that. I always try to help teach their caregivers as well, as best as possible. You know, "Hey, could you help me out "by reminding them to breathe out when they stand up" and that sort of thing. And also, you know, any of the lifestyle adaptations that the caregivers are able to help with as well. Do I recommend yoga or active breathing for my patients? I
definitely do. Anything that helps with breath control can really be super beneficial. Some of my patients are really into yoga and some of them think it's a bunch of hooey, so it depends on what they're comfortable with. I also don't necessarily live in a part of the country where yoga is very popular, so that's just another thing to keep in mind. It all has to be, if your patient's not willing to do it, it doesn't do them any good to learn about it, so I try to get that feel from them. Some patients don't understand pelvic floor contraction. Do you use pillow placements? I do sometimes.

If they have the balance for it, too, I will sometimes also have them sit on a PhysioBall because the pressure from the ball up against your perineum can be a really good biofeedback, actually, and so I'll try to get them to lift up away from the ball but without squeezing their butt cheeks together, which is not necessarily easy for people to learn. The exhale will turn the pelvic floor on, as will activating the adductors. And so I will use those sometimes to trick the pelvic floor into turning on so that they can learn how to feel it, and then the goal is to be able to wean away from that. So that's kinda some of my little tricks there. I also am spoiled, because I have access to an ultrasound unit, so I can look at it that way, and that's helpful. I have a question about bedwetting in young males. There's actually a pediatric course that talks a ton about norms for bedwetting, incontinence in children, so I'd recommend you check that out, because I would have to talk probably for another 40 minutes or so to really fully answer that question, and I don't think that, think I'll get in trouble if I do that. Absolutely, all right, awesome. Well, if there are not any more questions, I'll turn it back over to Carolyn. Thank you all so much for your attention, and I hope you got some enjoyable tips or helpful tips for treating your older adult patients.

- [Carolyn] Thank you so much. This has been a great course, and what a wonderful photo to end on. Miss those days, my little baby turned 20 today, so. Thank you, thanks to everyone who took time out of your day today to attend this course as well, and as Dr. Stone said, there's several other pelvic floor courses in our library, so we
invite you to check those out. Wishing everybody a great rest of your day. Thanks again, everyone.