# Persistent pelvic pain

**Amy Steventon (00:00):**

Hello, my name's Amy Steventon. I'm a physiotherapist with a special interest in persistent pelvic pain and pelvic floor muscle rehabilitation. I have the privilege of working as part of an interdisciplinary team at Jean Hailes for Women's Health in the persistent pelvic pain service. It's here that my passion is to empower women who are suffering with persistent pain with some information about their pain, so that they can better understand it, and then to give them tools and strategies to help them better manage their pain. I think any of us that have helped people with persistent pelvic pain understand what an incredibly challenging cohort of patients these are, and also how hard it is to understand the pain science. So today I would like to go through with you what pain is. Then looking more closely at what persistent pain is, and persistent pelvic pain. Then looking at persistent pain with a particular focus of endometriosis, and then how physiotherapy can play a role in helping manage these patients with persistent pelvic pain.

**Amy Steventon (01:14):**

So to start with, let's have a look at what the definition of pain is by the International Association of the Study of Pain. Pain is an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage. I've underlined a few keywords in this definition. We need to consider both the sensory and the emotional components of pain. Both of these are equally as important. And we also need to understand that pain can be generated from actual or potential tissue damage, and that's something that we'll talk quite a lot about as we go through our presentation today.

**Amy Steventon (01:58):**

So what is pain? Pain is a really personal experience. It is influenced by biological, psychological and social factors. Pain and nociception are different phenomena, and again, this is a concept that we'll talk a lot about that's really important. Individuals learn the concept of pain. A person's report of an experience of pain should always be respected. Pain serves as an adaptive role, and can have adverse effects on function, social and psychological wellbeing. If we look more closely at what persistent pelvic pain is, this diagnosis is pain in the area of the pelvis, present on most days, for more than six months. In Australia, it affects between 15% and 25% of teens and women, and in Australia it's more prevalent than asthma or lower back pain. The cost to Australia in 2011 was $7.4 billion annually, so that would be significantly more now.

**Amy Steventon (03:03):**

As we know, these are a uniquely challenging group of patients to treat. They often present with multiple comorbidities and have often experienced fragmented care. Persistent pelvic pain is not only a huge cost burden to the healthcare system, but also to the woman personally. It affects her as an individual, her family, the family's work and schooling. And while absenteeism in this group may not be enormous, presenteeism certainly is. That's when someone is there but not actively or industriously engaged in what they are meant to be doing. We often find persistent pelvic pain in the setting of overlapping other persistent pain conditions. Often these ladies will present with multiple pain conditions, suggestive of an oversensitive or upregulated nervous system. If we have a look at this diagram, and particularly at the top of it, we can see that there are four persistent pain conditions that originate in the pelvis. Interstitial cystitis, irritable bowel syndrome, vulvodynia and endometriosis. As well as those four, we have chronic lower back pain, which again is in that area of the pelvis. So there's the suggestion that possibly there's neural crosstalk in the spinal cord in the pelvic area, which is feeding these persistent pain conditions. There's also research at the moment trying to work out the phenotypes that are suggestive for persistent pelvic pain.

**Amy Steventon (04:40):**

So let's have a look now at our nociceptive or pain system, and the different types of pain there are, and currently there are three definitions for pain. Nociceptive pain, neurogenic pain, and nociplastic pain. Nociceptive pain is where there's activation of nociceptors. These are sensory receptors that detect signals from damaged tissue or tissues under the threat of damage. These receptors indirectly respond to chemicals released from damaged tissues, and the pain may be mechanical, chemical, or thermal pain. This is in injuries such as tissue injuries, lacerations, fractures, or inflammation. It may be putting your finger on a hot stove or spraining an ankle. Neurogenic pain is a different type of pain. This is a lesion or disease of the somatosensory nervous system. We see peripheral or central neuropathy, and a clinical observation of somatosensory dysfunction. Nociplastic pain is our more persistent or chronic type of pain. In this type of pain, there's no clear evidence of actual or threatened tissue damage, or evidence of a disease or lesion in the somatosensory system. In this type of pain, we have abnormal sensory processing, and sensitisation of our nervous system. We have dysfunction of the endogenous or the internal pain modulation mechanisms, where we see an increase in excitatory and a decrease in the inhibitory control of our pain. So it's as if the pain dial has been turned up and patients experience more pain.

**Amy Steventon (06:24):**

Looking at our nociceptive or pain system, with a particular focus on persistent pelvic pain, it's often a mixed picture, with components of each type of pain. Often the pain will start with a nociceptive or acute stimulus, which can then coexist and/or it can progress to other types of pain. But we also, as well as thinking about our pain, we need to look a bit more broadly than that as well. We need to consider the psychosocial aspects that influence pain perception, as well as the context that the pain's been experienced in, because that can influence the pain perception as well. So there are lots of things we need to consider.

**Amy Steventon (07:10):**

If we look now at our nociceptive system, or our pain system, and we look particularly at nociceptive or acute pain. So this is going to be looking at our system when our pain is working well, our system is working the way it should be, with acute pain. So in this situation we have a noxious stimulus that is in our finger. That noxious stimulus stimulates sensory receptors, or 'nociceptors' they're called. At this stage, they're not pain messages, but sensory messages. And that's a really important concept, they're not pain messages, they're just sensory messages stimulated by the nociceptors.

**Amy Steventon (07:58):**

Those signals are then sent to our spinal cord, via the dorsal horn, and up to our brain, via the thalamus to the cerebral cortex. Once these signals reach the cerebral cortex, they're processed in conjunction with higher centre cognitive control processes. These are things like our memories, thoughts, beliefs, social influences and stresses. And the brain processes and interprets the combination of information, so that coming from the periphery, from the nociceptors, as well as that that's part of the highest centre cortical control process. With both of those informations, we then have some internal modulating mechanisms, or like a dial that can be turned up and turned down. These are our excitatory to turn up the volume, inhibitory to turn down the volume, and these are ways internally we can modulate what our brain is producing. So now it's the combination of all of that that gives us an output from the brain. And that output, in this case, is a perception of pain, which leads to that individual feeling pain. So it's a really complex mechanism, but the thing to take home from this is that it is the combination of the input of the nociceptors, remember they're sensory receptors, not pain receptors, and higher centre control cognitive processes that give an output from the brain of pain.

**Amy Steventon (09:37):**

This is the contemporary understanding of how pain is generated. So what that means is pain perception is quite different from the stimulus, and that can be affected by our environment, by fear, by distraction, by turning up or turning down that pain amplifier, depending on what those inhibitory and excitatory input are doing. This is a really important concept to explain to patients, particularly those with persistent pelvic pain, so that they can understand how our pain system works. It's really important to give them an understanding that noxious stimulus is not the cause of pain, it's not that direct cause. It's that combination of factors that leads to the output, from the brain, of pain. So it's the brain that produces the pain, not the noxious stimulus, that's only part of the picture. By understanding this, it empowers patients incredibly to understand that there are parts of that pain system that they can affect to change and alter their pain experience.

**Amy Steventon (10:47):**

Let's have a look now back at the nociceptive system again, but now looking at nociplastic pain, or more our chronic or persistent pain. So this is what happens when things don't go as well as they should and pain becomes chronic and persistent. So we've got the same anatomy. We know that nociplastic, or persistent pain, occurs when a system has been exposed to ongoing noxious stimulus for more than three to six months. It occurs because of plasticity in our neural system, that our neural system will change depending on the input that it's getting. What we see in nociplastic pain are lots of changes within our nervous system. We see increased synaptic activity, both in the peripheral and central nervous systems. We see structural brain adaptations. We see changes to the homunculus, where we get bigger parts of the homunculus of the affected areas. We see cortical smearing, and so we get a crossover of where pain is experienced. And we see an increased size in the amygdala. We know that the amygdala has a role in establishing persistent pain, and its related symptoms of negative emotion, autonomic maladaptations and widespread sensitisation. So if our amygdala increases in size, so do all of those unhelpful aspects of pain.

**Amy Steventon (12:15):**

We also see maladaptive changes in higher centre cognitive control areas. So we see maladaptations of that internal modulating influences. The dial's turned up. We see increased excitatory input and reduced inhibition, again which is very unhelpful. We see strengthening of normally ineffective synapses. So now low-threshold stimulus can also activate those neural pathways. We also see inflammatory mediator release in the microglia, so now we have an immune system involvement as well. When our immune system is involved, this enhances the response to noxious stimulus in amplitude, duration and spatial field. So now our pain is becoming more broad and more widespread. So all of this gives us an indication that we have a sensitised nervous system with amplification of that pain, so our pain becomes stronger and more widespread. And that's indicative of an overprotective pain system with both structural and functional changes that have occurred.

**Amy Steventon (13:34):**

Let's have a look now at persistent pain and endometriosis with a particular focus. Persistent pelvic pain is the most common clinical manifestation of endometriosis, and it's the most common reason for referral to a women's health service. So we need to make sure that we are addressing pain when we are looking at endometriosis. What do we need to consider when we're addressing this pain? We need to consider pain in terms of it being a symptom, a cause, and also the sequelae of what happens with this pain. Because we are thinking about pain, we now understand that we need to consider the nervous system as well as anything else that's going on, pathology-wise.

**Amy Steventon (14:18):**

The nervous system may explain some of the endometriosis puzzles. It may explain the discrepancy between disease burden and symptoms, and we often know that the extent of endometriosis doesn't directly correlate with the extent of pain one of our ladies is experiencing. The nervous system may also explain failure to respond to lesion focus treatment. Again, we know that often if endometriosis is removed, a patient may still experience significant pain. So this may be the nervous system having a disease in its own right, which is a pain disease rather than a pathological disease, which we need to consider. The nervous system may explain comorbid pain conditions, as we talked about before, and also hypersensitivity to situational stimulus such as noise, light, clothing and stress. Again, all indicators of an oversensitive nervous system.

**Amy Steventon (15:16):**

So let's have a look at persistent pelvic pain again. Similar anatomy, but what happens when we have endometriosis, or another aspect that is giving us persistent pain? We have endometriosis pathology, so we have ongoing noxious stimulus into our nociceptive or pain system. We have the sensitisation and amplification that we've discussed before. And then we also need to consider something called 'viscero-visceral convergence'. The pelvic organs, bladder, uterus, and bowel's afferents all converge to similar areas on the spinal cord. Crosstalk on the spinal cord results in convergence of these messages and amplification of the pain experience. This occurs similarly in somatic structures with viscero-somatic convergence, and this can explain pelvic floor dysfunction, or part of that with an endometriosis presentation.

**Amy Steventon (16:15):**

We also need to consider the brain changes we've talked about, and the higher centre structures, and the psychosocial factors. So lots to consider with endometriosis. We have that increase in excitatory, and reduction in inhibitory factors, so our modulating system has also become malfunctioned. We've turned up the dial with the excitatory input, so the patient's experiencing more pain. So it's a very complex picture, and there are lots of areas we need to consider when we're considering these patients. But we can also understand that our sensitive system can remain when pathology has been removed. So if there's been surgery, endometriosis pathology has been excised, sometimes patients will still complain that they're in significant pain. That's because of the sensitive nervous system that's become the disease in itself, and the rest of those functions are still being there and present and needing to be treated. So we treat the endometriosis pathology, but we also certainly need to consider and treat the nociceptive or pain system as well. It's a really good thing to counsel patients on prior to surgery.

**Amy Steventon (17:36):**

So how do we go about treating these patients? The contemporary way of treating persistent pain is using a biopsychosocial approach. The biopsychosocial approach is the gold standard in management of persistent pelvic pain. In the area of lower back pain, there's been over 20 years of research into management of persistent or chronic pain, and we can extrapolate this to the persistent pain in the pelvis. Using this approach, intervention should not just target tissues, but also address a sensitive nervous system and the psychosocial aspects. So if we look at the diagram, the biological aspects are the patho-anatomical or end organ structures that absolutely need to be considered and treated. But we also need to consider the psychological components, the distress and the health beliefs of the woman, which can lead to hypervigilance and anxiety and depression, which we see a lot in these patients. We also need to consider the social effects, the effects on daily functioning, the social withdrawal, the low self-efficacy. Research tells us that low self-efficacy has poorer predictor of treatment success. So this is an incredibly important area that we need to address if low self-efficacy is present.

**Amy Steventon (18:56):**

Looking at it from a slightly different aspect, this is a biopsychosocial approach in response to endometriosis management. We can see on the right hand side, the biological or end organ issues that need to be considered and treated, and on the left hand side more the psychosocial issues. So there are lots of different components we need to consider in these patients. And similarly, looking at it from another different perspective, again, it just goes to show how many different perspectives we need to consider, using that biosocial approach when treating endometriosis, or any persistent pelvic pain patients. We know that a biopsychosocial approach to management needs to be interdisciplinary, needs to be multimodal, and ideally those multimodal components of treatment working at a similar time. Needs to be individualised to the lady. Both us, as clinicians, and our patients need to understand that there's no silver bullet and there's no one size fits all.

**Amy Steventon (20:02):**

Pain neuroscience is a very important part of the biopsychosocial approach to management, and that's the neuroscience that we've just discussed, on how pain works well, or how a pain system works well in an acute setting, and how things malfunction when there's that persistent input from the nociceptive level. Research tells us that pain education changes pain levels more than any other treatment modality, so it's really important that we explain this to our patients, and I'll discuss that with every patient that I see. You spend quite a lot of time on the neuroscience of pain before we start anything else.

**Amy Steventon (20:41):**

So how does physiotherapy fit in to helping these patients with persistent pelvic pain? The Clinical Practice Guidelines for the Diagnosis and Management of Endometriosis in 2021 state that 'interdisciplinary care may improve health outcomes and satisfaction'. With physiotherapy and persistent pelvic pain, let's go through the components of persistent pain and where physio can help. So we've talked about the components of persistent pelvic pain. We know that there's nociceptive stimulus from pelvic organs, or from another trigger, the central sensitisation of the nerve pathways, and then we haven't yet talked about the musculoskeletal response to pain, but we have discussed the psychosocial sequelae of the pain condition.

**Amy Steventon (21:32):**

Physiotherapy can help with that central sensitisation, that musculoskeletal response and the psychosocial sequelae to pain. Again, within that biopsychosocial management framework. Through understanding the psychosocial approach and through understanding the pain, we can help our patients reconceptualise her pain, help her to understand the nature of her pain, and the role that she can actively play in treating her pain. This understanding is incredibly powerful. It helps to increase her self-efficacy, so increase her potential treatment outcome success, and reduce catastrophising and reduce her pain, while we change the unhelpful thoughts, beliefs, and attitudes that she may have come with that have been perpetrating her pain. However, as we said, it needs to be individualised. We need to talk about the contemporary pain science within her condition and within her symptoms. This biopsychosocial approach is important both at an interdisciplinary team level, but also at a physiotherapy level as well.

**Amy Steventon (22:42):**

So when a patient comes to physio, what can they expect? I listen an awful lot. Listening is incredibly important to understand what that lady is coming with, to understand how she perceives her pain. I need to validate her experiences, that all pain is real, that it's not in her head, that it is real experience that we need to unpack. It's really important in that listening process to identify her pain drivers, what she perceives as threats to her pain, which will be driving her pain system, increasing that excitatory input, and also understand her belief systems so that we can change these if these are unhelpful for her. To empower her with education, and that's that pain neuroscience that we talked about.

**Amy Steventon (23:33):**

And also to give her a toolbox, and the toolbox contains three different aspects. The first one is to give her skills and strategies to help her reduce discomfort day to day. The second component of that toolbox is to give her some tools to help if she hits a speed hump. Some people describe this as a 'pain flare'. I think that's quite an emotive way to describe it. I prefer to describe it as a 'speed hump' where yes, we've hit a bit of a challenge, but we will work up and over that speed hump, and down the other side, and continue the road to recovery. The other component of that toolbox is to help her understand and to start to do things that are good for her, that make her feel good. If we can have endorphin release, that helps to dial down that excitatory input and increase the inhibitory input, So it works at a chemical level to help us reduce that pain perception, and it's really important that she understands that as well. Often these patients come in not doing anything that makes them feel good because they're feeling so unwell, but it's really important that we start them on that positive road to recovery.

**Amy Steventon (24:44):**

To normalise and threaten the diagnosis. These patients often come in really scared, so for them to understand their pain, understand how it works, and understand how they can intervene, as well as de-threaten their diagnosis, can be incredibly powerful for them. To set both realistic short- and long-term goals. It's important to get some wins on the board quickly with these patients, so it's important to set goals that they can achieve realistically and easily to start with, again to turn that wheel into a positive one. And above all, to manage expectations. For the patient to understand that we may not get them 100% better, but we can certainly help them to manage their pain so they're experiencing it a lot less than they'll experience at that first consultation. And to begin the process of self-management via a home program. If patients have skills and strategies that they know that they can help themselves, that helps to build that self-efficacy, and again, to improve the potential chance of treatment success. And above all to offer hope and a way forward, that there are skills and strategies that can help, that they can help to empower themselves with and manage their pain better.

**Amy Steventon (26:05):**

So when I'm talking about pain with my patients, and I'll start, that's my starting point with most of my patients, I will discuss that pain neuroscience education, to help them re-conceptualise their pain. And it's quite a big jump for them. It will often take multiple consultations to discuss and to go over again and again so that they can understand that pain and nociceptive system. To talk about their pain experiences, and that expectations of their pain will affect how they perceive and feel their pain. For them to understand about fear and anxiety, and how that often this will lead to fear avoidance behaviour, where they stop doing things, or they stop moving, they have kinesiophobic attitudes, simply because they're scared that when they move they're going to make their pain worse. And we need to unravel that, and show them, through gentle exercise programs, that they can move again and they can feel okay doing that. Again, to understand that pain gives them back a sense of control and empowerment. And also to discuss with them the concept of neural plasticity. That yes, at the moment their pain system has changed in ways that are unhelpful to them, but with a change of input, and some positive input, we can change that pain system back to a more helpful way, and dial down that pain experience. And again, that can be something that's incredibly empowering for a patient to understand.

**Amy Steventon (27:32):**

We also, at a patient level, need to validate that pain, as we talked about. The pain is always real. For the patient to understand that pain is always an output of the brain. It's not that noxious stimulus that's causing the pain, that's a component of it, but there are the other components as well. And it's other components that our patients can help to change. That pain is not a reliable indicator of tissue damage, that there may not be any ongoing tissue damage, but still that nociceptive or pain system is upregulated, so that's why the pain is there, rather than any potential damage to the tissues. And again, that can be quite an empowering conversation to have with patients.

**Amy Steventon (28:15):**

That pain does not need to be feared. It's a protection or a danger signal, it's not a sign of tissue damage. That our pain system can become oversensitive, like a car alarm. When a car alarm's working, well, it goes off if someone's trying to break into our car, but when our pain or our car alarm system is overactive, that car alarm will go off if someone walks on the other side of the street. And again, patients then can understand how super-sensitive their nervous system is, and that they're experiencing pain with little or no input when they really don't need to, simply because that system is so wound up at the moment. The pain will decrease when the perceived level of threat to the tissues decreases. And again, that concept of neuroplasticity, that our circuitry is constantly adapting based on the experiences we're putting into it. So if we can put more beneficial input into our nervous system, our nervous system will respond and adapt to that, and therefore the reduction in the pain perception.

**Amy Steventon (29:21):**

So how do we do all of that? To start with, we need to downregulate that super-sensitive nervous system. And as we've talked about, again, that's where our pain neuroscience comes in. It's also, diaphragmatic breathing is a very powerful tool to teach patients. This helps our patients to understand about maladaptive breathing patterns. Typically, we have shallow apical breathing with braced abdominal walls with patients that have been in pain for a while, they hold themselves very tightly and breathe very shallowly. What we want to try and do is encourage lateral, costal and deep diaphragmatic breathing. By breathing deeply, that helps to downregulate our sympathetic nervous system and the responses that it has. So again, that helps to reduce that overactivity of a sensitive nervous system.

**Amy Steventon (30:23):**

We also need to manage anxiety and hypervigilance, and mindfulness and meditation are a great way to do this. There are just three examples of some evidence-based apps that are available that patients find helpful. We need to encourage those activities to make them feel good, again, to encourage that endorphin release, to turn down the dial on the pain. General exercise is very important, both for endorphin release, and to start getting these patients moving again, to reduce that fear of kinesiophobia. Body scanning can be a very helpful stress management tool, and sleep is very important to help us manage our stress levels better, and our pain better. Jean Hailes has a great sleep and persistent pelvic pain resource that's on the website, and this is for patients, and it's easy to print off to give to patients.

**Amy Steventon (31:17):**

So all of these techniques help to increase the inhibition or the inhibitory input descending from the brain to the spinal cord. This can help to downregulate our sensitive nervous system, and limit the impact of that initial nociceptive stimulus. We know that exercise and self-management techniques enhance adherence and encourage self-efficacy. So again, really important to treatment outcomes.

**Amy Steventon (31:49):**

If we look more closely now at physio management, and now at a more an end organ issue of the pelvic floor. Because certainly we need to treat that upregulated nervous system, but we also need to treat any local areas or local tissues that had malfunction as well, because of the persistent pelvic pain. And the pelvic floor is absolutely one of these. From research, we know that there's an increased prevalence of pelvic floor muscle and obturator internus spasm and increased tone. We know that there are structural and biomechanical alterations to the sarcomeres in the muscles. We have nociceptors in the muscles and fascia, leading to local and referred pain. And we also have changes to muscle function. We have altered muscle control, dyssynergia and poor coordination, the reduced ability to relax the pelvic floor muscles, maladaptive habitual holding patterns of pelvic floor and abdominal muscles, and pelvic floor muscles that may contract involuntarily in response to threat, and that's often known as 'vaginismus'. So lots of changes that can happen locally in our pelvic floor muscles, that need addressing.

**Amy Steventon (33:03):**

As an easy screening tool for pelvic floor muscle myofascial pain, we don't need to do an internal examination. So in your clinics, there's research that tells us that pain on palpation at the sacroiliac joints, the ASIS on the medial edge, or the cephalad edge of the pubic synthesis, if there's pain present at one or more of these external sites, then there was significant association of pain of four or 10 or greater on internal palpation of the pelvic floor muscles. So if on your patients you're finding there's pain on palpation at one or more of these three spots, it may be worthwhile considering a referral to a pelvic floor physio for a more thorough look internally at the function of the pelvic floor muscles.

**Amy Steventon (33:55):**

What signs and symptoms may your patients come to you that may suggest pelvic floor muscle dysfunction? If we're thinking about the levator ani, or the deep pelvic floor muscles, patients often complain of stabbing pains in the vagina or rectum. They'll often describe a knife or a red hot poker in their vagina or rectum. They may come to you complaining of voiding dysfunction symptoms, of difficulty starting the flow of urine, difficulty with a stop-start stream of urine, or feeling like they don't empty properly, or have pain when they're voiding. They may also complain of difficult or painful defecation, or feeling like they are incompletely emptying their bowels. Obturator internus is another muscle that is often indicated in persistent pelvic pain. Patients, in this case, describe as stabbing pain in the iliac fossa. They often refer to it as 'my ovary pain'. With obturator internus involvement, there can be referred pain to the anterior thigh or back. Obturator internus pain is often aggravated with movement or prolonged positions, but eased with hot packs, and gentle stretching can certainly help as well.

**Amy Steventon (35:11):**

These are some pictures of an internal pelvic floor muscle assessment. On the left hand side is an assessment of a superficial or perineal pelvic floor muscles, and on the right hand side of the deeper levator layer of pelvic floor muscles. And both of these muscle layers can be indicated in pelvic floor muscle dysfunction.

**Amy Steventon (35:35):**

When a pelvic floor muscle assessment occurs, what do we look at? We assess both the muscles and the fascia. It's common when we're looking at the perineum to see it indrawn, with adductor spasm perhaps, or some vaginismus. We palpate for increased muscle tone, tenderness, tender points and pain. We have a look at how the muscle's working, how it contracts, how it relax, what's the coordination of this, and often we'll see slow, incomplete or staggered relaxation. There may be a post contraction incoordinate, rebound contraction, where that muscle just can't stay relaxed after the patient's tried to relax it, or there may be referred pain with palpation or with muscle contraction.

**Amy Steventon (36:22):**

Tone is often something that is difficult to assess. Pelvic floor muscles often have increased pelvic floor muscle tone in the setting of persistent pelvic pain. So a way that you can get an idea of whether those pelvic floor muscles have increased tone or are normal is to think about your thenar eminence. If we oppose our thumb and first finger and feel the thenar eminence, but have no pressure between our thumb and first finger, the thenar eminence feels quite spongy. That's normal tone, and that's how a normal pelvic floor should feel. If we increase the tension or the pressure between the thumb and the first finger, the thenar eminence will feel a lot harder and like a ridge, this is how pelvic floor will feel with increased tone. So it's just an easy way to try and remember how to palpate for increased tone. That can be, increased tone can be in a setting of pain, or it may not be. It may just be that there's increased tone.

**Amy Steventon (37:28):**

During a physio assessment, we'll also have a look at the other muscles around the pelvis. There's often abdominal muscle myalgia involved when we have persistent pelvic pain. And that will be involved with a positive Carnett's sign, or just palpation of the abdominal muscles. We'll also assess and treat any other muscles that need it in and around the pelvis, so our glutes, adductors, abductors, often also get tight and sore. Our internal hip rotators, again, often tight and needing stretching.

**Amy Steventon (38:01):**

So that's assessment. What does pelvic floor treatment involve? We need to address pelvic floor muscle dysfunction. Usually in a persistent pain setting, the muscles are overactive, or have difficulty relaxing. If this is the case, downtraining exercises are what are required down. Downtraining exercises teach the patient coordination of a contraction and relaxation, but they also teach the patient how to relax these muscles. It helps with encouraging lengthening of the muscles and reducing of resting muscle tone. So it's not strengthening the muscles, it's more relaxation exercises for these pelvic floor muscles. Strengthening exercises can make the situation worse. Myofascial therapy is used when required, so if the muscles are tight or have increased tone, massage can be helpful, and/or using trainers or wands, and these can be helpful for massage or for gentle stretching. This is something that the patients will be taught in rooms, and then they can use it as a continuation at home.

**Amy Steventon (39:08):**

Biofeedback can be a very important tool and very useful for patients so they can get an indication of how their muscles are functioning. We can use biofeedback intra-vaginally, perrectally, or we can use it abdominally through the abdominal wall, or transperineally. So all of those can give us lots of information about how the pelvic floor muscles are functioning. Patients will most likely be given a home program, and this will usually involve some form of pelvic floor muscle downtraining exercises, if appropriate, plus or minus use of equipment.

**Amy Steventon (39:48):**

Physiotherapy will also look at exercise and a speed hump toolkit, as we talked about before. We need to address that fear of movement and deconditioning. There's often very much fear avoidance with movement, so we need to reduce that and get these patients moving. That general exercise program is so important to increase that endorphin release, and increase that self-efficacy. I'll give all my patients a gentle walking program to start with. I want them to come back to me after that first consultation and say what I've given them was easy, because we want to get them on a positive bandwagon, and we want to get them exercising and enjoying it. Stretches will usually be given, pelvic or neural stretches as appropriate, and often I encourage yoga. Yoga's great for stretching, the deep breathing is helpful to downregulate the central nervous system. Often we suggest avoiding Pilates in the short term while we are treating persistent pelvic pain. Pilates, as we know, activates the abdominal core muscles, which activates the pelvic floor muscles as well. If the pelvic floor muscles are working really hard, if we add a really strong core abdominal exercise to that, that's going to further enhance the work of those pelvic floor muscles and potentially make them tighter and make the situation worse. So usually yoga is a better choice than Pilates in the short term.

**Amy Steventon (41:15):**

We need to teach patients about pacing, to avoid the 'boom and bust' cycle. We absolutely want these patients exercising. We want them exercising continuously, not a little bit and then having to rest for a while. So pacing is an important concept for them to understand. Pain relief tools are very important, the use of heat or cold as appropriate. Massage for tight, sore muscles. And the use of TENS can be really helpful to reduce pain. TENS, however, needs to be used with care. Sometimes putting increased input into that afferent system can upregulate that nervous system further and cause an increase in pain. So while it can be very helpful in some people, in other people, it can upregulate them, so it's to use with care.

**Amy Steventon (42:03):**

Physio management will also optimise bladder and bowel health, address any incontinence, any dysfunction issues. And we also educate and give tools to address the physical responses to sexual dysfunction. This is a pain cycle that I discuss a lot with my patients, and it often has a lot of aha moments for patients. It can help to normalise the experiences they're having with painful intercourse. There's a past experience of pain which leads to fear, anxiety, and anticipation of that pain. The body automatically tightens the pelvic floor muscles as a protection, which leads to painful sex, and therefore avoiding intimacy, reducing arousal and desire, and around we go again. For patients to understand that can be powerful, and then for them to understand that we can intervene, and we can adjust that body's automatic response of tightening of those pelvic floor muscles. And it may be that there's, one of the benefits of working with that interdisciplinary team, that we can have psychology input and help to address the fear and anxiety around intercourse, or the unhelpful thoughts and beliefs. So we can work in conjunction with other healthcare providers in this instance, and that can be very helpful.

**Amy Steventon (43:24):**

Explaining pain to patients can be really difficult, but as we've talked about, really important to re-conceptualise that pain. So I thought I'd just share with you something that I use in my clinics that seems to be a helpful way for patients to understand their pain and how they can help. And that's by using a mind map. So I'll have a blank piece of paper, and I will draw on it a very rudimentary pelvis, spinal cord and brain. Then I will go through with them what's happening in their body to cause that pain. So that noxious stimulus or danger messages from their tissues, and I'll make that specific to what's happening in their situation. And then as we've talked about, the increased number of nerve endings and chemicals that happen in a persistent pelvic pain setting to transmit those messages, and that happens both in the periphery and at the spinal cord.

**Amy Steventon (44:23):**

We also have, because of that, that increased sensitivity of their pain system. We also need to the brain changes that have occurred, as well as the processing of messages affected by their thoughts, beliefs, memories and stresses, and how that affects the input from the nervous system. I talk to them about the excitatory input, and the inhibitory input, and how in a persistent pain setting the dial is turned up, or there's more excitatory input, meaning that they are experiencing more pain. That brain output is bigger in pain messages because of that sensitized pain system, and therefore their experience of pain. So this is a way, diagrammatically, that we can explain to our patients what is happening for them, and how there are so many different aspects that are leading to the cause of their pain. Again, circling back to that pain is a brain output. It's not simply that noxious stimulus from the periphery.

**Amy Steventon (45:32):**

But I won't leave it at that. I'll get, on that same piece of paper, with all of that that I've just put on, I'll change my pen to a blue or a green, and then I'll talk to them about ways that they can help themselves. So I'll talk about, let's try and reduce the ongoing nociceptive input. If dysmenorrhoea is an issue, let's try and reduce the monthly windup. And here we use our medical health providers to help us. To reduce the sensitivity of our nervous system, again possibly with medication. To treat the musculoskeletal issues. And by doing those three things, we're reducing that noxious input into the spinal cord.

**Amy Steventon (46:15):**

We're also thinking about calming our nervous system. We're using our diaphragmatic breathing, our general exercise and our pacing. We're calming our central nervous system. We're changing our thought beliefs to more helpful thoughts. We're improving our stress, we're acknowledging and managing any stress that's there. And by doing all of that, we can change the output from our brain. That can be incredibly empowering for patients to hear and to understand, because they can see how many different areas they can actively intervene to manage their pain. So this has the combination of a reduced pain perception for our patients. I'll also talk to them about that speed hump toolkit, so that we've got a plan B when we need it. There's often an incredible relief on patients' faces when I go through this, because they now understand that they are in the driver's seat and that they can actively help to encourage a reduction in their pain.

**Amy Steventon (47:26):**

So we've talked about a lot, and I guess there are some key messages to take home from our presentation today that can help our patients to better understand and then manage their persistent pain. From more a clinician perspective, we need to understand that pain does not equal tissue damage. It's not a reliable indicator of the tissues. That noxious stimulus is only one part of persistent pelvic pain. That persistent pelvic pain can become the disease. We can excise endometriosis, we can treat the other end organ pathologies, but persistent pain may remain. That's when the pain itself has become the disease, and we need to treat that. That pain is always an output of the brain. A biopsychosocial approach to management is gold standard care. And that pain education changes pain levels more than any other treatment modality.

**Amy Steventon (48:29):**

Key messages more from a patient perspective is that we need to validate their pain and respect their pain experience. That we need to listen, and we need to understand their pain drivers. That often takes a few consultations to unpack, but we need to make sure that we understand those drivers so we can talk to them and change any unhelpful thoughts and beliefs they have. We need to empower our patients and increase their self-efficacy with education and self-management. And above all, we always need to offer hope for these patients. There is a way forward, that by understanding and self-managing, they will make their pain better than it is at their first consultation.

**Amy Steventon (49:13):**

There are lots of resources that can help you and your patients better manage persistent pelvic pain. On the Jean Hailes webinars, we have two persistent pelvic pain webinars already existing, and this third one will be added to it. Both of those are from a medical perspective, and they're for clinicians, and they're absolutely fabulous. We have our sleep and persistent pelvic pain handout for patients, and we also have a collection of helpful resources with a designated pelvic pain section coming soon. Other resources are other websites from other associations designated to treating and managing pelvic pain. These will all be in your slide pack. And here are some for clinicians and also for patients. So lots of resources to help.

**Amy Steventon (50:06):**

Thank you very much for listening. I hope the information that we've talked about tonight will help you and your patients better understand pain, persistent pain, and then some strategies on how to manage the pain using our contemporary method of a biopsychosocial approach. Thank you very much.

**End of transcript**

**Information about Jean Hailes for Women’s Health**

Jean Hailes for Women's Health is a national not-for-profit organisation dedicated to improving the health of all women, girls and gender-diverse people. For free, evidence-based and easy-to-understand health information, visit [www.jeanhailes.org.au](http://www.jeanhailes.org.au).

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