Academy of PHYSICAL MEDICINE

Lumbo-Pelvic Pain: Sciatica and Piriformis

with Simeon Niel Asher

11th May 2020

TRANSCRIPT

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Steven:

Today you were in for the sixth in the series of presentations by Simeon Neil Asher. Simeon, welcome back to our zoom room.

Simeon:

Thank you very much. Thank you for having me. And thank you for the hard effort you've put into all of this CPD stuff.

Steven:

Not nearly as much hard work as you put in. And of course it's reaping its rewards. I mean, we're getting over a thousand viewers for each of your broadcasts. So that's a, that's a real, that's a real achievement. What are you going to talk about today?

Simeon:

Well, today I thought we'd explore the sacroiliac joint because it's, it's one of those interesting things that we do see a lots of, I see a lot of and then from there we will shimmy into piriformis syndrome, which of course the piriformis is one of those muscles that attaches to the sacrum, not the sacroiliac joint.

Steven:

So I thought we would we'd work our way in. That's the low extremity today. Lumbopelvic.

Steven:

OK and I see on your list that we're going to do sciatica as well, which is, one of the wonderful complaints that patients often complain of as having in their arms and things like that. But then.

Simeon:

It can be anywhere, of course, usually the buttock and of course, no star Wars jokes today. But no, thank you so much for having me again, and I hope we can, we can explore some useful stuff. So, so yeah. So let's let's get started. So we're going to start with the sacroiliac joint itself. Well, I've put up here, there is some controversy because there is, you know, there are, there are some authors that don't believe the sacroiliac joint moves at all. And in fact, we're going to the anatomy shortly. For those of us that have been in clinical practice for long enough, can, you know, it's a difficult thing, but certainly for me, I believe that the sacroiliac, I don't, I, I've noted that sacroiliac can be involved in a whole range of low back problems, lumbo pelvic pain. And again, it's not just me. Look. So SIJ, pain, common cause of axial, low back pain affects in 10 to 25% of people. This was a some evidence base. All the way up to 2007. I just read a very interesting article before here on, an anaesthetists sort of journal, anaesthesia journal talking about SI pain. US I dysfunction is the fourth most common cause of low back and pelvic pain. 6 to 13% of low back pain is pelvic referred to the lower extremity. And interestingly here, the sacroiliac surface is greater in males and females. And of course, when we think about what the sacroiliac wants to do, what the sacrum wants to do is to

translate forces axially down into the femur. So it's this junction of the pelvis, for translating forces. So generally guys are bigger, and the, the forces will be larger, therefore the articular surfaces will be larger. And let's talk a bit about the why we've got it here. The, the articulation itself. Well, the joint is, part, synovial joint and parts in syndesmosis actually. So there's, there's two parts of it. There's an articular part which has got some synovial synovium on it. And what's really important is this, the ridges the articular surface of the ridges. And you know, we do get patients, I certainly seen them, I'm sure you guys have that have recurrent sacroiliac sort of, if you say subluxation for want of a better chiropractic word, where they sort of keep coming out on and on. And the reason is, is that when we look at the articular surface, especially here of the sacrum, there are, there's a reciprocal relationship, I think of it a bit like a mountain range. And we have whatever articular surface you see on this mountain range, you have the exact opposite in the ilium and they sit on top of each other. Now, in some people anatomically that mountain range is very large and it's a very stable joint, but it's some, it's quite flat. And what that means is that the, the articulation is less stable, especially in people that have hypermobility or, Ehlers Danlos type four syndrome. So the joint itself is unusual. It's unusual because there's no fibro-cartilaginous disc. It's taking this huge amount of force that comes through the axially through the spine, distributing it out through the hips. And the, I think one of the reasons why people sort of doubt whether it moves or not is it's just such a big solid joint. And to stabilize the joint, it's got this range, this plethora if I may, of ligaments. So I thought we'd go on to those next slide. So, so we've got a whole bunch of ligaments and these are really important also for trigger points. I should have mentioned we're going to be looking at in case you were wondering, we're going to be looking at trigger points later. So yeah, so we've got the, we've got the sacrospinous ligament, on this picture at the top here you can see the iliolumbar ligament as well and the Sacro tuberous ligament that's from the sacrum, down to the ilial tuberosity, and that blends the fibrous into blend with some of the gluteus Maximus fibres, and also biceps femoris. So hamstring and glutes have an intimate relationship with the sacrum, the sacroiliac joint, both the Sacrospinus and sacrotuberous are prevent posterior superior rotation at the apex of the sacroiliac joint around its transverse axis. And then we have the sacroiliac ligament. And as we said here, there's really three parts to it. We've got the anterior or ventral from the third sacral segment, so that lateral preauricular surfaces then we've got the second part, which is this interosseous sacroiliac, which is a huge bond between the upper parts of the joint themselves. And then we've got the dorsal sacroiliac, which partially covers the interosseous from the lateral sacral crest to the PSIS and the internal iliac crest. So you can see here we've got this range is this big range of ligaments that are there to stabilize and prevent sort of a dislocation or, or transverse sort of translational movements across the joint. Let's explore the muscles now. So let's move on to the muscles. So in terms of muscles, well we've got um environment, a Viva sort of a model here, which is quite nice. We can see that there's a, the erector spinae is so clearly the erector spinae go all the way down onto the sacrum. Now we talked about that last week when we looked at the spondylolisthesis. This, this is easy to forget that they're fibres of the erector spinae go all the way down to the Sacrum. But we've got the spinalis, ilio costalis and longissimus group, all the three groups come down and the multifidus, all of them extend through the sort of the fascia as well. And they actually blend into the periosteum and the fascia of the sacrum. And of course we said last time that the, the, their spinal extensors. So very much using the sacrum as a kind of fulcrum for spinal extension. Also, we have, other muscles that are attached to the nominate to that, to the hip, to the, the iliac crest, which are the obliques. We have the internal, external and transverse oblique. So they all have a potential kind of kinematic pulls on the, on the ilium and the sacroiliac joint. And of course the quadratus lumborum. Now, I've seen quite a lot of QL coming in at the moment because I think people have been sitting for such a long, I mean sitting at home for hours, you know, and I've seen a whole cluster of those come in. Um know a lot of, you haven't gone back to work yet, but you've got some,

you've got some QL ready to come and see. A lot of acute low backs coming in to see me at the moment. And I think that's, the, the cure itself is a really powerful muscle side bender and in terms of trigger points, we say anyone that has sitting to standing pain, it's well worth considering the QL as part of that. And of course to the sacrum itself, the piriformis piriformis is an external rotator of the hip, and intimately related to the, to the sciatic nerve as we're going to explore later. So, so these are the kind of muscles that, that articulate through the joint. Let's look a little bit further at what these muscles do well. So the, the long head of biceps femoris as we said that what that's going to do is it's going to tilt and rotate the sacrum either to the same side or backwards or backwards to the same site. So trigger points in that, in that biceps femoris muscle will tend to sort of have a rotatory force sort of tilt the pelvis backwards to the same side. In terms of the multifidus and longissimus they tend to pull the sacral base. Superiorly and posteriorly, that's a strong pull. And I, as I said before, the sacrum is almost like the, the pivot point for the erector spinae to sort of do. It's sort of spinal extension. So yoga people that are, that are doing a lot of extension work there. In terms of the latissimus dorsi, which also kind of comes down to that thoracolumbar fascia and the gluteus Maximus that they come through and they work together to nutate the sacrum and also to extend the lumbosacral junction. So we've got these powerful muscles, of course, dorsi big muscle, superficial, really exerts a lot of power down on to that sort of a thoracolumbar fascia and, and the piriformis. So finally the piriformis that can anteriorly tilt and rotate the sacrum to the opposite side importantly. And it also works with the ipsilateral group Maximus as well too, to have an effect on the sacrum. So sacrum, big, strong, stable joint translates axial force down huge amounts of ligaments, but, you know, important not just for stabilization but as a pivot point for lots of motion that goes through the pelvis. And of course, locomotion being one of them, locomotion in humans being a, you know, fascinating, that you're going to ask me something good. Nope. We carry oh you're smiling. Okay. So let's carry on. So, so yeah, so look, I try to find my old Kapandji book. I love that old Kapandji . I don't know if you remember, I don't know if remembers the 1976 Kapandji yellow book, third a third in the series of books. And he has some beautiful diagrams in there about the 4 planes of motion through the sacrum and the sacroiliac joint. But there are certainly lots of variations. There's variations in the alignment of the joint itself. I've put some, some variations here from, from one of the papers I was reading and you can see that the sort of the articular pivot points are incredibly variable. Um, ethically. And also in terms of the, as we said at the beginning, this kind of reciprocal ridging of the sacrum and the, yeah. Together, they also variable as well. Um, t we believe, uh certainly, uh would, I would hold to be true is that there is a lot of motion that comes through the sacroiliac joint and that it can, uh articulate or sublux or, sometimes get stuck in various positions upper lower poles, things like that, that we learned about. Now, sacroiliac pain is incredibly, uh erse. Uh, we're going to cover some sclera terms shortly. But, um general, a kind of hierarchy of need in terms of the neurology of the body. There's some really good papers on it. Um, joint pain is right up there with the hierarchy of needs. So as soon as the body feels a disarticulation or some kind of joint dysfunction, it's going to fire all those nociceptors and it's just going to want to floor you. So, so generally when I, someone comes into me with a sacroiliac problem, it's a pain turning in, bed pain, getting in and out of a car, um it's a very excruciating, specific, deep aching pain that they have and normally classically fixed, uh a suitable adjustment. So that's another reason why I sort of believe it kind of happens. Cause uh, again, SI joints make a very specific type of, uh t's the word? Someone used the word for click. There was a, there's a better word for it, which one?

Steven:

Cavitation.

Simeon:

Cavitation there it is. They make a very specific cavitating kind of sound. It's a bone on bone sound, but it doesn't, it's not made by any of the other. In fact, I think I've come to the point now and don't know about you that if someone wants to play me a cavitation, I probably could tell you which joint it came from. Moving on. U

Steven:

I got different things on my iTunes, I'm afraid. But I'm going to ask you a couple of questions. Justin's asking whether you have any information about re swelling or nodules that occur around the sacroiliac joint in chronic low back patients.

Simeon:

Um I got some good papers. I can give you some references for those papers, which do have them. And of course, you know, I, I didn't mention it yet, but you just reminded me that of course sacroiliac can sacroiliitis or it can actually be a prodrome for many other conditions, certainly also immune conditions. Um and I've seen it with thyroid problems at six months before there'll be some kind of sacroiliac dysfunction, inflammatory bowel disease. So certainly when someone's coming in with an SI, what you suspect is an SI it may, it may be worth sort of exploring some of those things as well.

Steven:

Okay. If you let us have those references, we'll put them up afterwards. Luke has asked, could you explain how QL is implicated in sit to standing pain?

Simeon:

Well the, the biomechanics of it well certainly from a trigger points perspective sitting to standing pain, we always look at QL and the reason is that it's a pelvic stabilizer and actually it's intimately connected also to the psoas muscle. They share the same fascia and to the valsalva to when we are about to stand up a perform a valsalva manoeuvre, psoas and QL as well together, they both need to, hold tightly. So that's generally what happens. And also we see the QL in people that come in obviously with a list, scoliosis, you know, an acute disc pain where they're listing to one side either through an acute syndrome and that will be a QL as well. So yeah, that generally speaking, it's to do with sort of pelvic stabilization as we sit to stand. Okay.

Steven:

And Nina's last one on pregnancy.

Simeon:

Oh yeah. Good point.

Steven:

Obviously relaxing effects the SI joint, she says but have you any particular explanation as to why women experience lateral hip pain when lying on their side? What biomechanics changes biomechanical changes cause that particular effect?

Simeon:

And that's a really, good question. I didn't cover it actually a really good question, but we presume that relaxing affects the sort of the give, especially of the sacroiliac joints because of course the, that's the function of the head coming out. We need to sort of stretch through the pubic bone. Actually there, I'm going to show you some referred pain patents from the SI joint some sclerotomes and also a referred pain pattern from QL. And QL actually mimics a SI pain. Exactly. And I suspect that lying on the side is actually to do with the QL because the weight of the bump as it gets heavier is dragging down and causing a slight bending of the spine. So QL is a really interesting muscle. Its quite good to needle QL, just saying moving on. So I thought we'd now have a little look. So, so having these planes of motion, look, I'm not going to go into, I see, I just had this flashback when I was teaching you sacroiliac stuff. Upper pole, lower pole. I'm not really going to go into that so much. Now suffice to say that there are different theories and different models as to how the sacroiliac goes into dysfunction. Suffice to say that when it does, it kind of benefits from correction. Of course. The other thing of course, the other thing is that there are some genetic or anatomical variations with the sacroiliac joint. And I just thought we'd put some in here just to show you. So we can get a sacralization of L five. We can get a partial sacralization of L five as well. I didn't put that in and we can get a lumbarization of L1 we do get these, sort of anomalies and they're a lot more common than we think. I read. Somewhere that up to 10% of people can have some kind of genetic anomaly. You got to remember, I guess the body's a really complex thing to make. So a lot, there's a lot of chances things can go wrong. Interestingly, when we an anomaly down at the sacroiliac, often it's associated with a triangle of hair above the sacrum itself on the skin and, or café au lait spots or some kind of a skin discoloration. So, so that's always a bit of a clear sign. There's something going on. Of course. The other thing is that I don't think I put it here as we can have a medial ridge, conditions of come on, help me. The lack of folic acid, the spina bifida occulta or spina bifida itself, so we can have some spinal bifida or occulta, conditions that affect the sacrum itself. So, so all of these things have, have a variability on the sacrum and they are of course all worth exploring if someone's coming in with lumbopelvic or sacroiliac pain. So what about trigger points? I heard you ask. Thank you.

Steven:

So we're all, we're all here because of trigger points.

Simeon:

Thank you very much. I love, yeah. Okay. I think we've already established, I like trigger points. So a trigger point is a exquisitely or hypersensitive spot in a taut band of muscle. You can actually find that taught band. And interestingly, when we're, when we're doing needling techniques or inhibition compression, you can actually do it anywhere on that taught band. You don't have to be in the trigger point, but usually there is a hyper sensitive spot, which when you hold it for five to 10 plus seconds, will cause a referred pain. Interestingly, I, if I may share, I had I had a needle done on my iliopsoas this week, 10 centimetre needle from a chiropractor friend of mine. And wow. I felt this jolt of pain all through my adductor. And it wasn't, it wasn't nerve, I mean, it wasn't L4 or anything. It was straight into the, through that. So, so the, when you find the trigger point, the referred pain is not that of a dermatome or something different. And of course trigger points don't occur on their own. They're part of the myofascial continuum. And we've put some pictures here from the anatomy trains book by Meyers to show that we have to see them in context of, especially in the sacroiliac joint, actually, of the myofascial kind of continuum. Okay. so what, what's your next line? Just that, I mean, just perfect. Now we're going to talk about something a little different now.

Something we haven't explored before and that is attachment trigger points. Now in general, we, when we're looking at trigger points that mostly they're found in the belly of the muscle and that's because that's where the sort of density of sarcomere sort of contraction occurs. We know that when we've analysed, there was a guy called Shah did a really interesting it took a sample out of a trigger point and he found all of this inflammatory exudates, this you know, interleukins and cytokines and all of these things. And generally we talk about trigger points being a sort of a central trigger point located in the torque out of muscle. However, we do also have things called attachment trigger points and they're very much connected to the technique I'm going to explore with you shortly that I use. So as we said, myofascia is a continuum. And in the Simmons et Al and David's books there, there is some published evidence about this exquisitely tender area at the region where the tendon inserts into the bone. So this tendono-osseous junction and that's where we would find what we call an attachment trigger point. Now this is of specific interest sacroiliac joint because there's a lot of muscles that attach through to that joint. And we do find, I believe that there are several really deep attachment trigger points, which when inhibited or sort of compressed actually really helped me with my sacroiliac work. They are incredibly powerful for what I call priming the joint. So before I do an adjustment I'll work a lot in them, so we're not quite sure whether it's the result of this forces of travel over there. Um but it can be associated is associated with myofascial trigger points and they are tender. So, and they do reproduce symptoms. Now, whether those symptoms are scleratomal, and again, I'm going to share some an image shortly with from kochera who looked at this. For me, when I, before I will do an SI adjustment. If I suspect an SI, I will dig into those, attachment trigger points. I find it tremendously helpful. Like, amazingly beneficial for my own sort of therapeutic outcomes. So I think you've got that. Next slide from kutschera. So, so this was, published, in one of the osteopathic journals, 2007 general osteopathic association. And he's got some sclerotome and ligamentous referred pain patterns. Now look, we can see, they can actually refer all the way down to the outside of the leg. So almost looks like a fibularis group there, or, sort of lateral knee pain, lateral lower extremity pain. And very much the pain that people report when they come in for treatment. And again, if we look at B, looks a little bit like sciatica, although of course it's not in the arm, Steve, but yeah, if it were in the leg, B and C, so, so these are the sclerotomal referred pain patterns. Uiliolumbar ligament is A, sacrospinal/sacrotuberous ligamentvis ligament B, posterior sacroiliac is ligament C. Interesting. And, think the other thing is that the, these, ligaments have proprioceptive function and I think these, Attachment trigger points have proprioceptive functions as well. In general when I sort of inhibit through them, I think that it has a, like we said last time or just about said, this, this notion of umensory changing the sensation rather than actually deforming a muscle during stretch. Um, o I love to inhibit through them. So just a couple more slides quickly and then I'll show you that.

Steven:

Sorry can you just go back to that one. Simeon how reliable are those referral patterns. For example B and C look very similar apart from the lateral lower leg pain.

Simeon:

It's the lateral lower leg pain that's the one again I've got the paper, I'm happy to share it, but these were injected with lidnocane and much like the trigger points, you know, referred pain. But yeah, they're pretty reliable I think.

Steven:

I mean if you had for example, posterior sacroiliac ligament pain, you would get all of those patterns that you see.

Simeon:

Generally. It's whether the area of density is where most people feel it. It's the same with these trigger point pain mats where, where, where the most density is, is where most people feel it. The rest of it is like, you know, clusters of people report it. Definitely I believe it to be true for 2 reasons; apart from one big reason is that when I, I'm going to show you this technique shortly, when I inhibit through people tell me they feel it all the way down the leg as I'm holding on to those attachment points so I definitely think they're absolutely correct, but I think they're myofascial as well.

Steven:

Sorry can I drag you back to pregnancy before you go on? Sorry to do this, but I'd rather get the question out of the way now. Cretia said that apparently a physio paper some years ago suggested that hypermobility, hypermobility of the SIJ in pregnancy shouldn't generally cause pain unless it's unevenly distributed between the two sides. Not sure what the reference is. Have you heard that?

Simeon:

Um it doesn't surprise me that they would say that. I think I'm not sure that hypermobility of the SI's is actually a problem in and of itself apart from if they sort of come out of beyond a certain say physiological threshold.

Steven:

Yeah. Okay. And Chloe is asked if there's any research more recent than 1998, which I think is what you showed earlier on,

Simeon:

On which research on.

Steven:

Well research on any of the topics that you've been talking about.

Simeon:

Well, of course there is,. I actually, there was a paper I saw yesterday by Gerwin where they've now photographed trigger point in trapezius muscle beautiful, beautiful photo which is an April, 2020 piece of research.

Steven:

Is that now available though.

Simeon:

Well, I think it might be, I think it might be, I'll send you the reference for it.

Steven:

I mean it's quite amazing for anything that recent.

Simeon:

He told me, he told me is, I mean it's, it's definitely there its definitely in paper form, saw it and he told me that, m can reference it. So it's been accepted for publication and it's, you know, so it's already, looks like it's already in the journal coming out, but plenty of evidence. Absolutely. Although I think she needs about other things,

Steven:

Okay, I'll keep quiet. We can move on.

Simeon:

Okay, much like we've said before trigger points play an important role in both activating, perpetuating and leaving a Lumbo pelvic pain. And that's because when they're present in a muscle, they cause it to be short, fat, inefficient, and they increase the nociceptive burden of pain to the spinal cord. They also have an effect on, as we said in the past, peripheral and central sensitization, thus lowering the threshold for potential pain. So when they present, they increase the nociceptive drive to the dorsal horn. And what that means is that a sub threshold something that would have been sub threshold without a trigger point becomes threshold in terms of a challenge or pain. And then I think we just got what that picture. The next one on central and peripheral sensitization is, it's on your screen right there. It is. Perfect. so, so again sensitization is, is important really osteopathically it's very much connected to what we used to call sort of viscero- somatic and somato- visceral referral. And again we covered some of this a little bit in the last lecture. There are, there are plenty of really interesting references. In fact, I was having a conversation in one of your Facebook groups giving some references for Maria, don't ask me to say her surname. Anyway, she's got some amazing stuff on t I've been to a couple of her neurology lectures looking at for example, semato- visceral pain effectively through trigger points. So, so certainly important in terms of peripheral and central sensitization. So I thought what we'd now if we may, is I, I've recorded a little video now before we play it. I just want to say that what this is I think of it as priming the joints. So before I'll do an adjustment, I will always have someone side lying and I think of it as priming the joint and what I'm going to do, what I'm doing. Cause it's not so easy to see, particularly is I'm going to inhibit through the attachment trigger points through, through the glute Maximus, through the, the ligamentous trigger points there and the sacro-tuberous ligaments and reproduce the patient's pain. That's really important. Hold it long enough so they can feel a change. And then it's so much easier to do an adjustment. It's almost like the joint will allow it to release if you do this first. So share away. Okay.

Steven:

Okay.

Simeon:

So what we're going to do now is I'm just going to take you through how I approach the sacroiliac joint with this technique. So the first thing we're going to do is ask the patient to straighten their top leg. And what I've done effectively is I've gapped the sacroiliac joint here and we can see in this posterior superior iliac spine here. And the, the first thing I'm going to do is inhibition compression.

I'm going to come in with my elbow and I'm driving towards her hip. Now this is the sacrotuberous ligament, okay. And some of those sacroiliac ligaments and I'm going to just dry all the way down. And you'll feel as you kind of move around that you hit the sweet spot, that that trigger point that reproduces a lot of that sacroiliac pain. So let's have a look together. There we are. I'm just going to push down. You feel that I'm just going to hold it. Now depending how long the patient has had the problem, how chronic it is, how acute it is, that will make it a little bit of a difference to how you hold it. But in general what I'm doing is I'm coming into that, that, that trigger point and just gently rolling a little bit around until we find that sweet spot. I'm holding it there. Hold it with a breath, hold it with the breath as you feel it give, we can just roll and I'm just coming a little bit this way now and finding another a little bit of that, that sacroiliac joint there. I do this for about five minutes. Four or five minutes. Coming away slowly. That's important. So after we've inhibited through that sacrotuberous ligament, I'm just going to go straight into a classic sacroiliac adjustment. Having the leg lower down, just bringing the arm here, taking a nice big. Perfect. Thank you. Okay. And we're going to drop the top leg off gap through. I'm going to roll her here and nice a lot of free play. I like a lot of free play with a sacral iliac fixing here and I'm really going to direct my force towards that SI. Good. Bring it up. Now there's one last little trick that I like to do and I'll show you. Okay. So the last thing I'm going to look at is just a, another little trick that I've picked up with a separate yet, which is a side bending adjustment on the same side as the lesion. So to do this again, we're just going to put the patient in the classic side lying lateral decubitus motion. But this time what I'm going to do is I'm going to fix through the SI here. So I'm going to bring her hand enough through so that we've got leverage. And so I'm going to aim all my force here on this Sacroiliac on the one that she's lying on. I'm going to bring her forward and then I'm going to side bend. So there, that was it. So I'm actually side bending through on the thrust and I got a perfect SI thrust there as well. So it's a side bending adjustment through on the ipsilateral side. Nice. kudos to my wife, my long suffering wife who lets me video her.

Steven:

That also is what was described very capably last week by Danny orchard as an aerosol generating procedure. When you did that first adjustment.

Simeon:

It can very well be, it wouldn't be the first thing. Yeah. It's although I did read an old osteopathic text about actually deliberately trying to aerosol people, but let's not talk about that now. So the, so once I've done this, inhibition compression around the sacrotuberous sacroiliac and the attachment trigger points and again, I hold them for long enough for people to sort of feel that change, I find it much easier to get an SI adjustment. And fortunately we got the SI both times there. The, the, the ipsilateral one is, is such a lovely, lovely technique. It's not something I really, I'm sure my teachers did show me in college, but it's something I use more and more and to adjust on the same side, but with side bending to the same side and it's very comfortable for patients. The other thing that I want to say in terms of HVT is this, is that generally if there's an SI, God bless you on one side, then I would look at the lumbarsacral on the opposite side because of this kind of change. So I usually do SI, right and LS on the left.

Steven:

Daniel asks whether that priming manoeuvre that you use that doesn't induce too much Slack to make tension hard to achieve for the manipulation?

Steven:

Well I think the priming is neurological. That's the first thing, much like a sensation modification that we've talked about with other things is that actually it's neurological. I think the reason it works so well is that there is some kind of proprioceptive function that goes on in those muscles. And that what's happening is, is the joint won't really let you in where it lets you in easier once you've sort of acknowledged those trigger points in those areas. Because there's a proprioceptive function. We talked before about this, this idea hierarchy of pain and bone pain being right up there in terms of like what one of the top of that hierarchy. And it seems to be that the sacroiliac joint, the way I described to my patients is that, you know, everything's singing a tune back to the nervous system all the time. But a minute, let's call it a subluxation for want of a better phrase change is going to change all the proprioceptive function. It's just that I kept going, I'm not stable, I'm not stable. You can't trust me, you can't trust me. And it just keeps firing and firing. And then before I do an adjustment, I like to use that, that pathway for sensation modification to stretch it. The second part of the answer to that question is that actually I'm not sure it does anything like that. I think a lot of it has to do with a wind up with a sacroiliac. The actually when you're doing the HVT itself, it doesn't, it's irrelevant if you've done that. Priming first priming is almost like giving the nervous system kind of telling you what you want to do. And then I do find it just allows the whole pelvis to drop a better for an SI.

Steven:

Okay. Thank you. I've got some more questions you can say.

Simeon:

Yeah, go for it. Yeah, because we're going to go to sciatica next.

Steven:

Rob Shanks has asked, how would you know these myoligamentous referral patterns and the trigger points themselves are not neurogenic. I bet it's primarily due to nerve root irritation due to degenerative change in the lower back. Other structures are sensitized and co-exist due to nerve irritation.

Simeon:

Okay. So, so it's a good question. Okay. And it's one that Quinter and Cohen asked. I'm sure he, he might, that's what he's referring to. Look, the, the referred pain patterns in sclera tomes and also in trigger points are not dermatomal. They're not neurological patterns. They don't follow any of the classic neurology in terms of dermatomes. So that's how we know. In fact, that's one of the things that makes them different. That's one of the things, the reason, valuable reasons is to, to understand the true point maps so that when someone comes in, for example, I had a patient in this week that pain in the web of the thumb, she just had a baby; she's changing the nappies, pain in the web of the thumb immediately I was like, wait, it could be brachioradialis because brachioradialis has a web pain there came in, looked at the brachioradialis, pressed on and she's like, yeah, that's exactly my pain. Now that's not dermatomal. It's not sclerotomal either it's trigger point referred pain or myofacial pain. So I think one of the, the answer is by exclusion because it isn't, dermatome isn't sclerotome isn't myotome. Now the reason I mentioned Quinter and Cohen; they're 2 critics of trigger points who hopefully will be somewhat silenced by Gerwin's new paper. They do talk about and again, chiropractors, a lot of chiropractic literally talks about impingement of nerve roots that can cause

sort of neuro somatic pain. I'm not denying that that can happen. Certainly not denying that that can happen, but I think for me, when, when you're pressing a trigger point and you're in a, you're in a muscle, you're not on the neurology, you're in an actual nodule in a muscle in a tight band and then you're holding it and it's causing somatic referred pain. It seems to me that it's not coming from a tethered nerve in the spine. It's coming from that somatic structure that I'm pressing. That's what it seems to me.

Steven:

Okay. Lawrence says, whether there isn't enough evidence to suggest that SI manipulation does not affect cavitation and manipulation you do is effective usually at L5 level, even though we believe it's the SIJ.

Simeon:

Look that I get Lawrence, which Lawrence is that by the way?

Steven:

Uh Lawrence.

Simeon:

Okay. Hello! Look, I'm not, it's a big question. You know, it's a big question. I for me, I, I strongly belief is the wrong word. Really. I would strongly assert that the SI is involved in some of these conditions. As I said, I can hear the difference in cavitation sound between an SI, which is a bone on bone dry. I can see the before and after effect of a patient. And, but I agree with you that the evidence is not enormously strong. But as I said at the beginning, there's some controversy. There is some controversy, but you know, I'm going to throw it back to you guys, you know, what do you think?

Steven:

Okay. We better let you go because I know I'll be told off if we keep asking questions and you dont get on with your presentation here.

Simeon:

Thank you very much. So I thought we'd sort of shimmy down to sciatica now. Okay. So sciatica is not a diagnosis as we know, it is a symptom of possibly an underlying medical condition, but it is characterized by pain that radiates along the path of the sciatic nerve, which is down the back of the leg. All the way actually to the calf or the side of the calf. Sciatic nerve, largest nerve in the body. US 1,2,3; L 3,4,5. The nerve roots. In fact, we had a picture before, inside the pelvis and you can see that they come through the sacral notch. They come out through, actually through obturator internus, the internal, the foreman of obturator internus, and they come down and join together to form this very long, thick nerve. Sometimes in 19% of the patient of people, they actually pierces the flesh of piriformis muscle. So we're going to look at piriformis shortly. Usually sciatica is unilateral, but it can be bilateral, especially in people with something like spondylolisthesis's. This is common causes of sciatic pain are discopathic from a discuor radicular pathic. Also as we said, spondylolisthesis. This, we covered that last time, spinal stenosis pregnancy, but also maybe myofascia. And that's what I would like to explore with you, which is a, that trigger points in the hamstring, the obturator internus and the piriformis as well. So we're going to, I'd like to explore

those cause I think they are hugely relevant. Of course. Should we just carry on the next slide? So of course, you know, sciatica, can come from disc compression. Having said that, the evidence is not, is not actually brilliant for disc compression causing sciatica. There is a disconnect between the evidence. In fact, I went so fascinating neurology lecture, a few months ago where, where the physios accept There's very little evidence to say that a compressed disc in the spine and sciatica are actually connected with each other. So probability is that a pressure from a disc can cause symptoms down the sciatic nerve or change the, the neurodynamic raisin of aura, whatever it is. Of the sciatic nerve so it can come from a disc problem in the back. I'm just, look, you know, there's a lot of debate around it, which is why I'm hesitating. So, degenerative disc disease, trauma to the spine obesity has been linked to a sciatica. Actually depression has been linked to sciatica. Certainly there's some occupational links as well. People carrying heavy objects or prolonged driving, maybe more susceptible to sciatica and diabetes. We know that diabetics will tend to get sciatic pain a little bit more than general population as well. So there is, I've put here the, the sort of sciatic nerve you can see it goes into the common peroneal nerve into the tibial nerve there, as it goes just above the knee itself. So carrying on, what I want to talk about now is piriformis syndrome. So piriformis syndrome, again, assuming that it's not a neurological cause of the sciatic pain, then one of the things you might want to explore is the piriformis muscle. Now we said before that 19% of sciatic nerves actually Pierce the belly of the piriformis. And here we've got ABC D, I'll just go through them together. We've got the, the arrangements of those sciatic nerves as they go through. So 85% actually come under the piriformis, passed beneath it. As we said. Some of the fibres come through, the obturator foramen as well. And the, they can sit underneath it. Now, as we said before, with trigger points, they tend to make the muscle shorter, fatter, and less efficient, and they can have a sort of watershed or compression effects on the nerves themselves. So with a dysfunctional, piriformis piriformis trigger point, it can sort of basically, for want of a better phrase, press on the nerve and cause sciatica.

Steven:

Two to 3% of people have a B. Now look, that's the site, you know, splits and goes either side of the piriformis above and below 10% of people the sciatic nerve actually pierces that the piriformis flesh the muscle itself. So any sort of tension, the piriformis there will likely potentially cause a sciatica. And again, 1% or less, than 1 percent the sciatic nerve goes all the way through the belly of the piriformis. Again, sciatica can also be associated with the sacroiliac joint, which is why I brought it up before. In terms of those sclerotomal patterns we've looked at they can be potential differential diagnosis but. I'd like to talk about a couple of really interesting cases I had which I believe were absolutely piriformis syndrome. One of them was someone that was sitting on a, in an airplane for a few hours on a buckle, one of those buckles of the, of the belt for an airplane. And when they came out, they had raging, leg pain. And when we felt it, from my perspective, it was definitely Piriformis syndrome. The other time I see it is people that are sit long cross leg postures for a long time. That can be an activating and perpetuating motion for trigger points in the piriformis. Also people getting on and off bikes where they're sort of lifting up the leg that you did motor bikes for a while, didn't you? So you have to sort of hoist the leg up and sort of put it around. And that's very much, it's kind of a piriformis action I think. And and also people sitting on their wallets, you know, sitting on keys, sitting on mobile phones, sitting on the wallets. They can also potentially cause a trauma and piriformis syndrome. Sowhat I thought we'd do now is we're going to look in the 2.3 D software. Oh, not quite yet, actually. I'll be, no, sorry. Sorry. No, carry on. Go back to the next one. Alright, so this is actually a biceps femoris Mapfrom the software and bi fem. Generally semimembranosus or semitendinosus tends to cause maps in the leg, whereas the bi fem tends to cause buttock pain. The

thing about sciatica is that people experience it in different ways. It can either be constant pain in the back of the leg, a worse pain, worsening with prolonged sitting pain. Actually often we feel associated with trigger points in the hamstring burning, tingling, searing pain, weakness, numbness, difficulty in the moving the foot and leg and a sharp pain. And also symptoms that worsened with Valsalva. Of course you want to explore the discs if you were thinking of that as well. So they are generally the symptoms of sciatica. And if we just look quickly at the red flags, I think we just do that quickly. So yeah, so of course there are red flags when it comes to people coming with sciatic pain. Not obviously what we're worried about is, you know, osteoporotic lesions is sort of osteomyelitis problems with the bones themselves. So of course pain that develops gradually gets slowly worse and comes on over weeks pain that's not easy by lying or resting or mechanically changing position pain that's going up into either into the chest, of course, rapid weight loss, people that are on steroids, saddle, saddle, anaesthesia. Of course we were worried about cauda equina syndrome with bladder control as well incontinence. So, you know, it's worth mentioning of course, otherwise Lawrence Butler will kill me that there are red flags to look at when someone's coming with sciatic pain and we have to do a thorough differential diagnosis. But assuming that we were confident that we think in our best of our ability is sort of a mechanical, I want to just have a look now at some of the muscles from the software which I think are connected. So, so I've just lifted this from the trigger points, 3D and we're just going to play it. Okay.

Simeon:

So let's start with piriformis. So here's a piriformis pain map. We say it comes from the sacrum and actually it can very much cause lateral hip pain. So someone was asking about pregnancy before, but the piriformis can actually go. So actually in the software you can access all the go and videos. They're right there for you. How to needle it, how to examine it. So from the next one we're going to look at is I believe the hamstrings. Good. So hamstrings, as I said bi fam, biceps femoris has got by far and away that pattern that mimics sciatica the most. We've got some information from the ischial tuberosity also back of the femur and we can see inserts into the, to the head of the fibula again with the Gerwin videos there. I'm not sure, I think I might show you semi membranosis okay. So again, the last one you can look at is obturator internus one that we kind of forget, but actually a cause, a source of sitting pain for a lot of people and sciatic pain and can be sort of a compression of some of those radicals that form sort of go into the sciatic nerve. And, and very interesting muscle to needle. You can get incredibly fast results. So which is looking at some of the functions of the software here.

Simeon:

Great. So they're the three that we're going to explore now in terms of trigger points. So let's do that now. Let's explore them. So I thought what I do now is hand over to my venerable neurologist, Dr Bob Gerwin and he's going to take us through some of these muscles. I think that videos replay, it's going to take us through some of these muscles and let's see what he has to say about them. Thanks.

Dr Bob Gerwin:

The hamstring muscle is a muscle that crosses two joints, crosses the hip joint attached to the ischial tuberosity and it crosses a, the knee there are medial and lateral hamstring muscles. Both of them have two heads. The medial hamstring has a semitendinosus head, which is more superficial than the semimembranosus head. The semitendinosus muscle has an inscription across the proximal portion of the muscle effectively dividing that muscle into two separate muscles, if you will, that semitendinosus insertion also goes not only to the tibial condyle but also has fibres which go to the

meniscus, the biceps femoris as a long and a short head. Neither of them Cross both joints. So together if you will, the biceps femoris can be thought of as one muscle. If you combine the short head and the long head and in that sense the muscle crosses two joints, but each of the two heads of the biceps femoris crosses only one joint the fibres of the short head of the bicep femoris attach to the tibial condyle and there are fibres also that go to the meniscus. Once the leg is flexed, 90 degrees at the hip and 90 degrees at the knee, one can do a slowly regulated extension of the leg and one can then determine when there are and to what extent there is limitation of lengthening of the hamstring muscle. This is different than the straight leg raising test that is typically used by neurologists to identify radiculopathy. However, in a straight leg raising test, hamstring trigger points will also limit straight leg raising. The muscle is examined with the patient in the prone position that it is treated with the patient in the prone position. Landmarks for the hamstring muscle include identification of the ischial tuberosity and the approximately and then the tendons for the insertion distally. Bring the leg up, hold the leg, that puts the muscle into action and to function ischial tuberosity. Again, this is the medial hamstring. And then bring the leg up again, ischial tuberosity. And then the biceps femoris is lateral to this tendinosis and membranosus between them is a sulcus in which lies the sciatic nerve and the vascular bundle that accompanies the nerve.

Simeon:

Yeah, as I said Gerwins anatomy. I mean, I know we will remember, but his anatomy is incredible. At this point I would say there's an amazing Matt Walden has done a great amount of work on the hamstring. He's got an amazing like 18 page paper, which I read on hamstring, the functions of the short head and long head of biceps femoris. So if you're interested in the hamstring, he's got amazing stuff about locomotion.

Steven:

He's done a broadcast with us on this topic of the hamstring itself as well. So that's where it is. Fascinating. Really amazing. Yeah. I mean, well that man doesn't know about hatching isn't worth knowing. Let's go on to the next one, which is the peripheral. Let's see what Bob's going to say about that.

Dr Bob Gerwin:

The piriformis muscle originates in the anterior under the anterior surface of the sacrum and attaches to the superior portion of the greater trochanter. It is identified medially and approximately by finding the coccsyx come laterally to the inferior lateral angle of the sacrum and then locate the posterior inferior spine of the sacrum and the pier. The piriformis muscle comes below the sacrum between these two points and then comes as a triangular muscle inserting on the superior portion of the greater troll catcher. As such is an rotator of the leg and can be put into action by keeping the ankles together, bringing the knee up against your hand, pushing against the hand so you can put the extra rotation function into action and then cross Pell patient of the muscle and you can feel the tight muscle band. It is over laid by fibers running the same direction from the gluteus Maximus muscle.

Steven:

Great. So we're going to run out of time if we lost last one. Last one is 40 seconds, 40 seconds. If your time is perfectly, I'd like to, I'd like to get some questions to you about injustice.

Dr Bob Gerwin:

The band from the arbitrator internists, a muscle trigger point is often felt when sitting. So it interferes with sitting. It's felt deep into the rectal area and may actually extend anteriorly to the more ventral portion of the groin. But it's often a very deep pain and often missed in routine physical examination, the muscle comes across the ischial tuberosity and that is where we will needle it in its medial aspect. It is needle in the same manner as the other short external rotator muscles when needling laterally. And I will show that as well.

Steven:

Alright, so that's the last of the videos. So again, these are all areas where I would recommend if someone's coming in with science, they're places that we can check for trigger points. That's me done. I don't know. It's not, you've got lots of questions yet. That's where I wanted to move on as quickly as we could, but I have to say I wanted to point out as well. Today is the first time I've noticed that in your trigger 0.3 D software, there's actually a button to take off the model's pants. Well, yeah. Wonderful genius except he hasn't got any, never mind.

Steven:

Jane is asked if you've got a positive Val Silva and the pain pattern B or C, which we showed earlier on. How do you differentiate between ligaments and L five S one disc? It's a good question. You know, I'm tempted to say MRI is the rice. Sometimes it's hard to differentiate, diagnose that's when I think clinical tests can be can be good. That's the pattern we had earlier on. BMC then. Yeah, I would say, you know, I'd say CT, MRI, x-ray. Okay. Somebody anonymous has asked whether you use diagnostic ultrasound at all in pre or post treatments? Oh, that's a good question. I don't, I have used it, I don't use it currently, but one of my colleagues in Rambam hospital uses it all the time for looking at visualizing tree points as well. It's something I'm interested in. It's something we might explore in the software as well. We might be bringing some stuff in there.

Dr Bob Gerwin:

Well maybe we should get Chris miles back in to talk about that cause he's done a couple of extra lectures on ultrasound diagnosis. Do you ever use muts for the SIJ?

Steven:

I use positional release technique I can use. I personally not so much. I mean it's not that I don't want to, it's just, you know, we tend to sometimes fall into routines that work for us. It's certainly, I'm not against any teas, you know, and they also work on trigger points as well.

Dr Bob Gerwin:

Okay. Georgina wants to know how commonly you would say poor piriformis syndrome is a cause of sciatica?

Steven:

It's a good question. I would say 19%.

Dr Bob Gerwin:

Very precise. Similar 19%. So a reasonable, a reasonable proportion. And Daniella says, do you give any consideration to pubic symphysis in SIA issues? And do they relate in any way to the SIA associating with trigger points? And do you differentiate between SSI and IIS?

Steven:

Yeah. Good question. Really good question. Look, pubic synthesis pain since this Pew, this pain I tend to, if they, let's put it this way, if someone comes in with symphysis pubis pain, I will look at the SLA, but if someone comes in with an SLM, might not necessarily look at a pubic synthesis. Does that make sense?

Dr Bob Gerwin:

Yep. Okay. And we've got two questions left and that will be the end of it. The first is Sarah says, is the trigger point software available now?

Steven:

Okay. Very good question. I, I think it might be, actually, I think it might be, I just got a message through today. I think on trigger point, guru.com trigger point guru.com is now available to, to, to pay for today. I hope. Otherwise just drop us a note and we'll let you know. It's, it's imminent, imminent before the end of our last two weeks.

Dr Bob Gerwin:

And this one, nothing to do really with sacred Lex or psychotic or anything else, but it's of course a topic which is the top of so many people's minds. Simeon says, Jerry, you're obviously back to work in your clinic. Could you tell us as an aside, what PPE you are using? Just very briefly?

Steven:

Look, I'm okay. Very briefly. I'm using a, a mask and end 95 mask, which I must say are horrible and I find it horrible to breathe. Sometimes I might wear one of the green surgical masks. I, I will greet people with gloves. I will make sure I wash thoroughly, very thoroughly between each patient. I'm lucky I'm in a kind of medical clinic so we can do that. I, I'm not using gloves for everyone. Some people say that it's fine as long as the hands are washed. I have got a plastic visor. I don't use it really. I am I've taken all the covers off the bed. I spray it down between everyone and wipe it down with the antiseptic wipes. And I think every treatment has a degree of risk. Okay. Whatever someone comes in, there's always going to be a degree of risk.

Steven:

I think we have to be professionals. We have to use our common sense and we have to use our clinical judgment, you know and I think what's more important is to make sure the patient doesn't have a temperature to question them, to triage them. Well. And you know, I think, you know, over over here in Israel, there are like 9 million citizens within 15,000 cases, which means 8.9 million people haven't had covert of that we know about. So, and again, it's the same in the UK, you know, there are millions that don't have it and they've been self isolating. So I would say that I think all treatment has risk. I think we have to use clinical judgment, but certainly facemasks for sure important. And, and also to reassure patients some, for example, just on that last point is I had some of the older people that I'm treating that that insists on coming on, treat them at the beginning of

the day so that the first patient in the room isn't that there's been no one else in the waiting room or I might make a separate place for them, but people are very, very grateful for treatment.

Steven:

And I thought my clinic was going to be dead and I'm probably back to 75, 70% busy already. And of course, you know, I look at my book next week and there are lots of gaps that, you know, no, but actually it sort of seems to fill up. So guys hang in there. And I tell you this, it's fear of the unknown is the worst thing, but once you get back in the saddle, you're going to be fine. It's going to be fine. Yeah. And as far as PPE is concerned, this is not a broadcast about what you should or shouldn't do, assuming it's just emphasized. You've got to look at the NHS guidance. You've got to look at the guidance from the general chiropractic counsel, general osteopathic council, and our representative bodies, and use your own risk analysis to determine what it is you need for individual patients. And just bear in mind, as long as you've done that risk analysis and you're applying sensible precautions and you're not overlooking the things that we've been told we have to do, then you know you're wrong reason it'd be safe ground. But assuming it says there's no way of avoiding that small amount of risk.