Cauda Equina: Latest Guidance – Ref 297

with James Booth

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TRANSCRIPT

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Steven Bruce
Good evening and great to have you with us for what I think is probably one of our more important pieces of CPD. You'll know by now obviously that we're going to be talking about Cauda equina syndrome. And I'm sure you'll have some tales of your own, no pun intended there, some tales of your own about cases that you've seen in the past, but this is definitely not something that we can ignore. It's a really hot topic throughout healthcare. And we absolutely have to know our stuff here, it's not just our professional reputations that are at stake. There are some hefty lawsuits in the offing for anyone who gets it wrong through negligence. But most of all, of course, cauda equina syndrome can be devastating for our patients. So we're going to be looking at the new national guidelines, and most importantly, we're going to be putting them into context for our own primary care practices. And to help with that, I've got James Booth with me once again. I think it's his third or fourth time on the show. James is an osteopath. He's been an osteopath for something like 25 years now, but he was also the first osteopathic fellow at the Queen's Medical Centre Spinal Unit in Nottingham. And he was there as the consultant osteopath in the spinal outpatients team for about eight years. He still got a very good relationship, very close relationship with the orthopaedic surgeons there. And frankly, I can't think of anyone better placed to talk to us about cauda equina syndrome. James, good evening. It's great to have you back again.

James Booth
It's great to be back.

Steven Bruce
You know, normally I warn my guests what my first question is going to be, so they got something to think about. Because we knew each other so well, anyway.

James Booth
We do.

Steven Bruce
Yeah. So how long since you were in the QMC?

James Booth
It's about five years ago that I left the NHS, the hospital, I worked in a private hospital with a group of spine surgeons, triaging their surgical patients up until COVID. And then once COVID came and kind of broke off outpatient activity for a while I then moved back into full time private practice.

Steven Bruce
Right. And while you were there, what was the degree of your enrollment? I know I think you've told us in the past that you actually as part of it, you were trained to deliver steroid injections, spinal injections, presumably guided?

James Booth
Yes.

Steven Bruce
But presumably you had an opportunity to get a lot of experience through other contact with the professionals, which weren't just the surgeons of course it was the physios...

James Booth
I tried. So my role was a kind of a dual role in the sense that I was an osteopath, treating patients osteopathially, but I was also triaging patients who were referred into the spinal unit for a secondary care opinion. So they would often see our team and myself and some physiotherapist to be triaged either into surgery or signposted away from surgery and on to the most appropriate care for them. So I would say across the course of a week, probably half of my time was spent seeing patients osteopathially and the other half would be triaging in with referrals into a secondary care unit.

Steven Bruce
I always have difficulties answering the question that's so often put to us by patients, you know, what's the difference between an osteopath and a chiropractor or an osteopath and a physio? What do you reckon you brought to that team?

James Booth
I think the reason it's quite a difficult question to answer is because I think we're all individual practitioners. Even though we come from a background whether it's osteopathy, physio, or chiropractor, we're individuals in the way that we approach our work. And I think what was probably different about what osteopaths brought into the team was that we had a much more kind of hands-on approach to treatment, which changed the way we thought, we didn't rely solely on imaging or blood tests to make diagnosis. We would use careful case history taking, examination, you know, good clinical skills to try and evaluate the patient's problem and arrive at a diagnosis. And I became aware that that was quite different to what the surgeons and some of the physiotherapists would do, they would be very reliant on diagnostic X rays, MRIs, CT scans and bloods. So I'd say that's probably where we're different.

Steven Bruce
Interesting, but I do think that, particularly the physios I'm thinking about whose training encompasses a lot of things that we also trained in as osteopaths. Do you think they were driven down this route by being in the NHS?

James Booth
Yeah, you do what you see and they're surrounded by spine surgeons, and we were all trained to triage by the spine surgeons. So there was a very heavy emphasis on radiological findings and blood tests, for example, and very little emphasis on the clinical examination and case history taking type side of skills.

Steven Bruce
That does surprise me, I must admit.

James Booth
But again, it's veryindividual, you know, some of the spine surgeons would be quite interested in the case history and others were purely interested in the MRIs or CT scans.

Steven Bruce
I've always been very impressed, you've seen some of the shows I've done with Nick Birch, a spinal consultant from near here. And I've always been really impressed with Nick, like so many he said that the case history is everything, Romberg's test and neurological tests or whatever else. But actually the case history is all.

James Booth
And it's everything, isn't it? It's the case history, it's the examination findings. It's observing the patient. And then it's you back it up with radiological or blood tests, or, you know, what other investigations you use.

Steven Bruce
I said in the intro there that this is a hot topic, I kind of feel that I mean, cauda equina syndrome has got more and more important over recent years or more, we haven't got more important but people are taking more interest in it over recent years. Is that fair?

James Booth
I think we've kind of grappled with it for a long time, because it's a huge source of concern to the NHS because of the rates of litigation and the cost per case for successful litigence. And you know, as we've seen with maternity care as well, at some point, the cost of litigation starts to outweigh the cost that's put in or the finances that are put into servicing those patients. So you know, when we're in cash strapped times, the NHS and other organisations look more carefully at where their money's going. And if it's going on legal cases and the costs of losing legal cases, then you have to consider why that might be.

Steven Bruce
Are you aware of anybody who has been taken to court, has been sued for negligence regarding cauda equina?

James Booth
I've seen both sides, I've seen the surgeons who have been the subjects of litigation, but I've also and still have patients who've, unfortunately suffered the effects of a missed diagnosis and timely treatment intervention and have lifelong disability and effects from that. So I have seen both sides of the coin. Yeah.

Steven Bruce
So the reason I'm asking is, I'm interested to know, what was it that the surgeons were accused of?

James Booth
Primarily, it's a failure to act in a timely way. It's not recognising the early signs because there's a very small window with cauda equina syndrome and we'll talk about the different classifications and types of presentations, but there's a very small window when it reaches a critical stage, where if the cauda equina is not surgically decompressed, the effects are irreversible. And they're lifelong. And they're life changing. The challenge is about acting quickly. And we'll talk about getting it right first time as an important part of the way we go about this now.

Steven Bruce
And you use that term because it's an expression, GIRFT is now an expression throughout the NHS, I think, in an attempt, as you said earlier on not to fuck it up.

James Booth
Exactly. So GIRFT pathways are now very much the kind of flavour of the day. And it's about making sure you get the right intervention as soon as possible and doing it the right way when you do intervene.

Steven Bruce
We're going back to the surgeons who've been the subject of litigation, the point of bringing that up dwelling on it a little bit is just because actually, we as primary care practitioners could easily be accused of missing something, which is very much part of our role. You know, it's difficult to imagine how a physiotherapist, a chiropractor or an osteopath could be excused for not recognising the signs of cauda equina syndrome, and not being aware of what the national guidance and national pathway is for that. And I, yeah, I'm not aware of anybody in our profession who's been taken to court over this. But there are clearly people out there who, if they suffer the sort of disabilities, you're probably going to tell us about, they will be looking for someone to blame. I know I would.

James Booth
Yes. And sometimes the signs are quite subtle, the symptoms are quite subtle. And it's not about not acting quickly enough to get somebody referred on. But sometimes it's about giving people the right information so that they have subtle symptoms, they can go away and look out for something that starts to emerge as a more concrete sign of symptom or sign that they then need to act. So I think that's as important as getting it right in terms of sending somebody on for investigation straightaway.

Steven Bruce
Yeah. To the basics, should we talk about what it is first of all, rather than...?

James Booth
Yeah, I mean, you know, cauda equina...

Steven Bruce
It'll work in a minute.

James Booth
Cauda equina is essentially a bundle of nerves that emerge from the conus, the base of the spine, and they travel down through the spinal canal, and out through the exiting foramenal nerves.

Steven Bruce
And we've got a graphic of that which Justin will bring up for us as the clicker is not working. It probably means that Justin's doing something with the slides in the gallery, but we never look at that. So it's always slightly puzzled me, this, because you've got this great wide, spinal canal. And yet, it would seem that it requires a lot less space once the nerves all emerge from that canal, because of course, the canals taken up by the names are escaping me at the moment, but the fluid in the spinal cord.

James Booth
The spinal fluid.

Steven Bruce
Yeah, and so on. So it would seem that there's a lot more room for a disc to bulge without causing any problems.

James Booth
There is and some people have a constitutionally capacious canal, which is a lovely alliteration, but they have a nice wide canal, and other people have a constitutionally narrow canal. So if you're unfortunate to have a narrower canal, genetically, the risk of you having complications from a relatively small disc bulge are greater than for people who have a large canal space.

Steven Bruce
We will give people a handout with the detail that's on the slides after the show because some of it will be difficult to follow on a screen and some of it's quite detailed. But this is just telling us what the cauda equina is and what the syndrome actually refers to.

James Booth
Yes. So the nerves of the cauda equina emerge from the conus as we described, their travel down, and most importantly, they supply the bladder or bowel, sexual organs, the saddle area, which we'll describe what the saddle area is, and the lower extremities. And the syndrome results from compression of one or more of those nerves. Rarely is it only one nerve because if it's a large disc bulge, which most likely is the cause, it's going to compress the bundle. And you can see that on an MRI scan. And essentially, once you get compression of the cauda equina, and you have the symptoms that go with it, because simply compressing it isn't enough in order to have the syndrome you have to have symptoms. Once you get compression with symptoms, then that becomes the surgical emergency that we talked about earlier.

Steven Bruce
Yes, and I suppose one of the challenges is to try to identify the problem before the syndrome emerges where possible, maybe we'll come on to that in a in a wee while. But by that time, I don't know it's possibly not irreversible but it's getting dangerous, isn't it?

James Booth
And that's the critical point is getting the timing right. So most commonly, the cause of cauda equina syndrome is a large disc bulge and statistically what most commonly will happen at the L 4, 5 disc around about 57% from the literature but L5, S1 the next most common L3, 4, degenerative stenosis is another condition that can cause, central stenosis can cause it. But because the condition progresses much more slowly, you often find that the cauda equina will find a way through the blockage and, and it's much less likely to cause symptoms. And if it does, it's a slow progressing, kind of glacial all sorts of event rather than that rapid 24 hour to one week sort of event.

Steven Bruce
I forgot where I was going with that, I've just been sent a message on teams here. But I guess looking at your slide there I was quite surprised at spondylolisthesis doesn't get a mention.

James Booth
Well, spondylolisthesis can become a problem if you get a grade two, particularly when you get narrowing of the canal. And then we kind of come back to that whole argument about how wide the canal is, you then narrow the canal with the spondylolisthesis, which then means a small, smaller disk bulge can have the effect of a large disc bulge. The other thing that's worth mentioning as well, and we'll come on to these in a little while is, other reasons for canal occlusion like metastatic deposits in the spine, which can cause it but you know, they're much more rare for us in primary care. So we'll talk about them but they're not as common in terms of compression as the large disc bulges are.

Steven Bruce
We've moved on, we've got this new national pathway for cauda equina syndrome, haven't we? What was wrong with whatever the old pathway was?

James Booth
I'm not sure that there's anything necessarily wrong, but it's more about making sure that everybody knew what it was, that the pathways were fine. The understanding of the condition was probably okay. But it was making sure that everybody knew what the pathway was, and knew how to act. And as you can see, I mean, it's an algorithmic sort of pathway which is quite complex, and it's divided up into four regions. And the one on the far left as we look at the screen is the region that relates primarily to primary and community care presentation.

Steven Bruce
And this is taken from this document, GIRFT document, it's a spinal surgery national suspected cauda equina syndrome pathway, and anyone can get that from the internet. I will make sure it's available after the show, I will send it out to everybody by email, so they are aware of it. But this left-hand column is the key bit that we want to talk about this evening.

James Booth
Yes, because the other bits relate to hospital care, surgery and postoperative care, which unless any of your viewers are working in a secondary care environment, they won't need to know what happens beyond that first column.

Steven Bruce
Yeah. Okay, so let's have a look at that first column.

James Booth
So the emphasis on this is about the GIRFT. Emphasis is about making good decisions early, making good decisions on time. And so your patient presents you at this point where we're calling triage. So your patient arrives into your clinic, if they have symptoms, such as a recent onset of cauda equina symptoms, and we'll come on to what those are, then by recent onset there, again, there's some debate about that.

But certainly, we talk broadly in terms of less than two weeks, then that patient should be looking for an urgent referral into an emergency care setting. Equally, if a patient presents without cauda equina symptoms, but with sudden onset bilateral radicular pain, or unilateral radicular pain, but with some emerging cauda equina symptoms. And again, with a short period of time and a deteriorating picture, we should be looking to make an urgent referral for an MSK service triage.

Steven Bruce
Now I remember looking through these when the guidelines first came out, which is what couple of months ago now.

James Booth
Yeah, longer than that.

Steven Bruce
And I read the guidelines again today, and I actually thought, I got a little bit confused by some of this because it isn't as clear cut quite like this one is. Cauda equina symptoms, that's an urgent referral. I don't think anybody has any doubt about that. Maybe they might need refreshing on what all of the signs and symptoms are. But this one, sudden onset of bilateral radicular pain. And potentially we could see quite a lot of that in our clinics. And many of us who might have thought in the past, well, it's only if pain goes below the knee that we need to start thinking of referral. I remember being taught that in college, but it was unilateral admittedly. I don't remember, it was a long time ago that you and I went through college, but I don't remember them emphasising bilateral pain needed urgent referral.

James Booth
No, no, you're right. And the bilateral kind of component of this is relatively recent. We've all kind of known about it, but it's recently been emphasised as an important feature. Because in order to get bilateral ridradicular symptoms and we are talking about radicular pain, which has got to be a particular type of pain, it's nerve pain, it's intense, it's sharp. To get bilateral nerve pain has to be a fairly sizeable disc bulge in order to cause that amount of compression. Unilateral radicular pain is quite common, we will all see patients like that in practice on a regular basis. But to see somebody who presents with true bilateral radicular pain is quite unusual and is a big warning that there's a likely a big compression in the central canal.

Steven Bruce
I'm gonna go off topic for a second because I'm getting nagged via the team, one particular member of the team who you know quite well it's actually nagging me at the moment and has flagged up this message several times. We'll call her the fashion police, says you've got to pull that wrinkle out of your jumper. Because apparently, it makes you look as if you're wearing a tire. Here we are, talking about serious issues, clinical emergency, and the fasion police are worried about whether you look stylish or not.

James Booth
It's not a tire. It's a small donut.

Steven Bruce
It's come back again, it's not gonna go away. So Claire will just have to put up with that. So we got a sudden onset of this or unilateral radicular leg pain which becomes bilateral without cauda equina symptoms. Actually, we've got bilateral symptoms, surely bilateral symptoms is the cue.

James Booth
Precisely that. So the patient comes to you on their first appointment. They've got unilateral symptoms, they contact you two days later and say, I'm starting to feel the pain in the other leg now. That should be the instant red flag that you think right, okay, off, you go to a&e. But what's worth noting and, you know, I've read a lot around the subject is that up to 50% of patients with radiologically defined cauda equina syndrome will only have unilateral leg pain. So bilateral leg pain is important because it is a strong indicator that there is a cauda equina compression likely. But don't assume that because they only have unilateral leg pain that that rules cauda equina out, it certainly doesn't and, according to the literature in up to 50% of cases, there may only be unilateral leg pain.

Steven Bruce
Turning that literature around, of those people who are referred for urgent investigation because they have bilateral pain. How many turn out not to have cauda equina?

James Booth
Single figures. It's very rare. But again, it comes back to the timing, it's important that you get it right because if you don't the consequences are catastrophic for the patients and for you. So anything that raises that index of suspicion is an overused phrase, but if anything that raises your indexes suspicion should trigger an action. And we'll talk about what those actions might be.

Steven Bruce
And we talked before we went on air, we talked about the awareness of GPs of this because for many people, we might be writing to a GP or we might of course be writing or we're contacting somebody in a&e. But are they now sufficiently aware of this that they would take a letter seriously that says, I'm worried about cauda equina syndrome?

James Booth
I think there's two answers to that question. One is that if you suspect that a patient had cauda equina, you wouldn't be going to the GP you'd be going more direct route to an emergency care facility.

Steven Bruce
Would you put a blue light on?

James Booth
No, they're not bleeding to death, but they do need to be seen within a reasonable period of time. And we're talking a few hours. We're not you know, it's not a kind of you're golden however many minutes you've got.

Steven Bruce
Now that's a hard thing to get your head around, isn't it, this person's only had symptoms for something like two weeks, and all of a sudden, two hours, you've got to be in hospital, because many people will be thinking, well, you've gone this long you can go another day or two, it doesn't matter.

James Booth
Yeah. You don't have to rush them into hospital within 10 minutes. But you certainly, it's urgent. It's not an emergency.

Steven Bruce
And you're faced with a dilemma I guess, if you've got a patient who you think needs to be referred on these grounds, you don't want to scare the bejesus out of him by saying, you could be paralysed for life if you're not in hospital within two hours, but at the same time, you need to emphasise the urgency of it.

James Booth
Yes. And that's all about confident reassurance, basically, A reassurance that you know what you're talking about, B that you've got the patient's best interests in heart, but also that you're doing the right thing for them. You know, and that may be a referral. I'm doing this because I'm trying to do the right thing for you. It may turn out not to be, but all the indicators are that we need to get this checked over.

Steven Bruce
Yeah. So this first triage, we get these signs and symptoms, if it's an urgent referral, they're gonna go straight to hospital and they'll do something. And I think we talked about this earlier on. It's not our role or responsibility, but we're talking about MRI within four hours. And certainly, I've had consultants on the show before who said they would get out of bed at two in the morning if there's a possible cauda equina even though there's a good likelihood it won't be cauda equina syndrome. So they certainly were taking that seriously. What about this one here? This is one that's progressed to bilateral now we're going urgent referral to MSK triage. What does that involve?

James Booth
Well, it depends where you live. And that's what makes this whole discussion a little bit more challenging. Certainly where I am in Nottingham, I would refer my patients to the Queen's Medical Centre, they have a specialist spinal unit and within that spinal unit, they have a spinal triage service. So patients who go into ED or a&e will as soon as there's a mention of potential cauda equina, there'll be bypassed through a&e and into the spinal triage team, who will do things like MRIs, bladder scans, neurological assessment, as a separate unit, rather than in an a&e department, if you don't have that facility in your local practice and in your local area. And it's worth finding out what your local spinal service is like, then I would suggest, if you suspect cauda equina, or an emerging cauda equina, just send the patient to ED, let them make the decision about who and where they get triaged further. You certainly don't want to be going down the GP route, because we all know at the moment, for all sorts of reasons, seeing a GP is difficult, and not always quick. And what you don't want to be doing is sitting in front of a disciplinary committee saying, well, it's not my fault, it took three weeks for the GP to see the patient. You know, we have a responsibility to handover if we suspect something like this. And handover means not send a letter in the post or send an email it's literally to hand over to somebody who's going to then take the case forward.

Steven Bruce
I was going to say, my recent experience of going to a&e with my father who fell over and broke his hip was that there are an awful lot of people standing waiting to get to the desk, in a&e. And if we send the patient there, the patient would have to say the right things to make sure the person behind the desk knew what they were supposed to do with them I thought.

James Booth
And we'll talk about that because again, there are ways that we can circumvent the standing at a desk trying to explain to a receptionist why you're there, you know, there are people to speak to.

Steven Bruce
Okay. Right. So we've had our urgent referral through triage, if it's less than two weeks, presumably less than two weeks since the pain spread bilaterally?

James Booth
Since the onset of the worrying symptoms. Yeah.

Steven Bruce
Right, which is the unilateral pain spreading bilaterally, not the first presentation, right. So now they're going to triage the patient for cauda equina, which will involve the MRI and other...

James Booth
Bladder scan. So one of the techniques that's used to establish whether there is bladder competence is what's known as a bladder scan. So it's essentially like an ultrasound of the bladder, the patient is scanned, pre void, and then they go off to the toilet, they void their bladder, hopefully. And if there is a retention of more than 200 mils within the bladder, that would be considered a positive bladder scan. In other words, if the patient is not emptying their bladder, there is an issue with the competence of the bladder sphincters. And therefore that would escalate the urgency.

Steven Bruce
Right, so that doesn't prove cauda equina syndrome, it simply means you got to go and look harder and see if there is a compromise somewhere.

James Booth
That would be one of the steps towards building a case for doing something or not doing something. So if the patient is able to void and empty their bladder, then likely they've got reasonable control of the sphincters. And therefore your index of suspicion drops down, if it's retained in the bladder, and certainly more than 200 mils that ramps your index of suspicion up and then you go for your urgent MRI scan. And then you put all these these bits of information together.

Steven Bruce
Which is presumably the gold standard, the MRI, because you will clearly see whether the situation in the spinal column matches the symptoms that the guy has.

James Booth
Most specialists now would agree that you cannot diagnose cauda equina syndrome without an MRI scan. There has to be radiological concordance. Because certainly, my time working in the hospital, we would have patients arriving with all the signs and symptoms of cauda equina syndrome, and you'd MRI them and they'd have a nice clear canal and absolutely no indentation of the theaker or of the canal. And, you know, there are lots of discussions about why those patients present with those symptoms and how their symptoms come about. But essentially, if you don't have radiological concordance with your clinical findings and your case history, you can't diagnose cauda equina syndrome.

Steven Bruce
No, okay. Annabelle has asked how common cauda equina syndrome actually is.

James Booth
It's very rare. And you know, again, the literature will tell you all sorts of figures about how common it is. And I think it's helpful to know that it's rare, but I don't think it's particularly helpful to know exactly what the figures are. Because ultimately, if you have a patient presented to you, you're not going to sit there and say, well, I've seen 500 patients this year, and not one of them had cauda equina, therefore this must be the patient. It's an interesting question. But it's almost a moot point, you've got to deal with the patients in front of you.

Steven Bruce
But also, the statistics will be skewed to some degree because cauda equina syndrome might be relatively rare in the population as a whole. But it'll be a lot more common in people who come to physical therapists because they're coming with pain, and very often with back pain.

James Booth
Exactly that. So then when I've done presentations in the past, I have often put details in about the figures of how frequently it occurs, and what percentage of patients who have apparent cauda equina actually go on to have it. And on reflection, I'm not sure how helpful that is because, you know, we've got to take a pragmatic view, and that is with the patient in front of you.

Steven Bruce
Mostly, I take a similar view, you know, I run first aid courses for osteopaths and chiropractors, and I always bring up the business of women's heart attacks, because there's always this stuff on the internet or on Facebook, or wherever about women's heart attacks are different from men's. But my question is always well, you know, just because the statistics are women get one bunch of symptoms and men get others more predominantly, are you going to ignore it in a woman because she shouldn't be getting those symptoms. And the same applies here, of course, Tiss has asked whether it's beneficial to send people to a&e, to the emergency department with a letter but I think you're going to talk to us about that a bit later on.

James Booth
We will talk about that and letters can be helpful. But as we'll discuss later, I think a phone call, a timely phone call is more important. And then the letter as part of the handover.

Steven Bruce
Okay. Well, just carry on, take us through the rest of this before we go into some more questions, because they're probably referring to things that we'll cover later on anyway.

James Booth
So if it appears that a patient has been triaged for cauda equina, there's radiological evidence to suggest that that's what they have a positive bladder scan, then they would go on to a pathway for decompression, sorry, they would go on to rapid decompression of the cord. If they had no news developing symptoms, so it was a radicular problem rather than a cauda equina problem, then they'd be put on a less urgent pathway for decompression surgery.

Steven Bruce
And I noticed too, people will see this more clearly when they get the documents, the handouts after the show. But having gone into secondary care, it is possible to go through the evaluation there and then find your way back into the MSK system again, isn't it?

James Booth
Yes. It's possible, the patient may come back to you the next week and say, you know, I've had all my tests and investigations, and I was given the all clear. So, all options are on the table.

Steven Bruce
Yeah, interesting, though. I mean, have you ever been in a position of thinking, Well, I don't care what the test and investigation say I'm still worried about this, and I'm not going to treat you.

James Booth
I like to see the radiologist's report. I don't feel confident with a patient coming back to me and saying, I've been to the hospital and they told me everything was fine. If I strongly suspect cauda equina syndrome, I'd like to see a bladder scan and an MRI report that convinces me that that that's not the case.

Steven Bruce
Yeah, patients commonly would let us have the radiology reports after they've been in for whatever the investigation is, I don't think I've ever seen a patient bring in a bladder scan report.

James Booth
No, but they'll often leave the hospital with a discharge letter, which will have whatever investigations and tests they've had will be annotated, and they would annotate that there was a bladder scan with a negative finding.

Steven Bruce
So in terms of safety and practice, from our point of view, it's quite sensible to ask for that discharge letter, which is perhaps something people don't often do.

James Booth
No, so if your patient is coming back to you for a follow up post referral for query cauda equina, it's always worth saying to them, can you bring any documentation from the hospital, particularly your discharge letter?

Steven Bruce
Lisa has said, could James show us on an MRI image a disk compressing the cauda equina? I'm not sure that we have one.

James Booth
We had one we back here.

Steven Bruce
Illustrative.

James Booth
So this is an actual MRI scan L4,5 and you can see healthy disc above and then a fairly blackened disc, so desiccated disc with a large bulge here. And you can see the cauda equina travelling down that the thin black lines that you see travelling down. And you can also see here you see some contortion of the cauda equina beneath the disk bulge, that contortion twisting, convolution of the cauda equina, what you often see when it becomes compressed.

Steven Bruce
It's worth mentioning to people I mean, that image on its own is not enough, is it? It's worth looking at the stuff we've done with Rob Shanks and Darren Chandler on how to read MRIs. That's just one slice.

James Booth
That's a sagittal slice which is helpful but not conclusive. You would have to look at an axial slice as well which shows you the axial image of the canal to see that there's complete occlusion of the canal.

Steven Bruce
Yeah, I mean, I can remember I've looked at loads of these in the past and I would have thought that right up there at the top of the lumbars. It looks to me as though the cord is being compressed, but actually, it's a tiny bulge, it probably isn't.

James Booth
Yeah. And you can see a lot of CSF around the spinal cord. So that wouldn't raise any concern at all. But certainly that would give you some kind of cause for concern.

Steven Bruce
You can see the comas there can't you, you can see the cauda.

James Booth
Yes, which normally terminates around L2. So that's pretty much where you would expect to see it and then you can see the thin lines of the horse's tail as it were travelling down and each one of them is a spinal nerve.

Steven Bruce
But from Lisa's point of view, I will see if I can dig up some images to send out with tomorrow's email showing the axial view of this.

James Booth
To be honest, if you Google cauda equina MRI on Google images.

Steven Bruce
It would be worth doing that just to show because I suspect most people would rely heavily on the radiology report rather than trying to analyse it all themselves, it's very easy to make mistakes.

James Booth
Absolutely. And certainly, with something as serious as cauda equina. What you don't want to be doing is interpreting the MRI yourself and making a decision about whether or not the cauda equina are compressed.

Steven Bruce
Nitu says, who do we refer to inside the hospital services triage system?

James Booth
We'll talk about that as we work our way through the process. But essentially, each hospital will have an on call either a neurosurgeon, an orthopaedic surgeon or a spinal surgeon whose responsibility it is to deal with these sorts of patients who come to ED.

Steven Bruce
Forgive me for not knowing that, presumably it's only hospitals that have an a&e department that will have this.

James Booth
Yes, I think that's probably a reasonable assumption. But if you call the hospital switchboard and ask to speak to the on call spinal fellow or the on call neurological fellow, neurosurgical fellow or the on call orthopaedic fellow, and then you got patched through to them, they will call you back on a bleep. And essentially, then you just say I'm in the community, I have this patient I have real concern about the potential for cauda equina syndrome. We need them to be evaluated. I'm going to refer them into your your ED service, please, could you have somebody there waiting to assess them?

Steven Bruce
That's that easy.

James Booth
That's in theory how it works. And certainly, in our local service of the Queen's if I ever require that kind of surgical opinion, I'll call up and ask to speak to the on call spinal fellow, introduce yourself, use the right terminology, the right explanations, and it would take a very brave spinal surgeon to knock that back on the phone, confidence enough that you were wrong and they were right.

Steven Bruce
Yeah, imagine that that could be a sort of a career limiting move if they got that wrong.

James Booth
It doesn't look good. It doesn't look good. And to be honest, they don't want to miss it. You know, they are ultimately there to help people. So if you present them with good evidence, good case, well explained, and well-articulated. I think they're very keen to try and help.

Steven Bruce
I forget which consultant we were speaking to on the show, which orthopaedic consultant we were speaking to, but I think he said that, you know, he would rather get out of bed a dozen times for a wrong call.

James Booth
For a false alarm.

Steven Bruce
Provided that it was made on the right grounds. And he wouldn't hold that against the referring practitioner.

James Booth
No. And that's the point, is that it's a well-articulated argument, which makes sense and stands up when you're asked the appropriate questions by the surgeon who will ask you the appropriate questions. What tests have you done? What history have you taken, etcetera.

Steven Bruce
Helen's asked a question about association of chartered physiotherapists warning cards. She wants to know if there's a way we can get these physically printed and get a supply of them, presumably means the professionally printed ones, presumably the chartered physios stuff, or do we have to print them at home? Do you know of those cards?

James Booth
There are little cards and the Cauda Equina Syndrome Association, I think it's called printed them off. They're just like little business cards almost. And you could contact one of the cauda equina charities and ask if they would send you the cards, and they just have all the safety netting guidelines on to give to patients but also quite useful to go through, to use as a delayed memoir when you're checking off with the patient that they understand everything. Yeah, so there used to be, I haven't checked in the last couple of years, but the the Cauda Equina Association used to provide that kind of literature.

Steven Bruce
Okay, well, we'll have a look as well and include that into tomorrow's email if we can.

James Booth
I'm sure there will be something either downloadable or obtainable from one of these associations.

Steven Bruce
Yeah, sure. There is more than one type of cauda equina, more than one classification, is there not?

James Booth
There are and the classifications are a little bit academic, but they're important to know because if you're going to use terminology when you're talking about a potential referral, I think it's helpful to have an idea of a what kind of classifications there are, but also it gives you an interesting insight into the timeline and how cauda equina develops as a syndrome. So the first of these classifications is what we call suspected cauda equina CSS and we'll come on to the definition of each of those in a minute. Then you have early cauda equina, incomplete cauda equina with retention, and then complete cauda equina. So suspected cauda equina is when there are no bladder or bowel saddle anaesthesia symptoms, but the patient does have bilateral sciatica, with or without motor or sensory loss in the legs. Or, you know from an MRI scan that there's a large central disc herniation.

Steven Bruce
So just to confirm BBSA, bowel, bladder and saddle anaesthesia. Right. Okay.

James Booth
So this, we talk about sexual dysfunction in cauda equina as well, it's quite a difficult area, partly because most people who've got that much pain are not sexually active. So it's not a particularly helpful question, although it's important one to ask. But also because people don't generally answer the question as accurately and honestly as they might do. But certainly, if a patient presents with no bladder, bowel, saddle anaesthesia symptoms, but they do have either bilateral sciatica or motor sensory loss in the legs. Or they have a known large disc herniation. And the important part there is it is a large disc herniation, then we should have a potential diagnosis of suspected cauda equina.

Steven Bruce
Are you bothered about how far down the legs these symptoms extend? Or if it's bilateral it's bilateral and get it sorted?

James Booth
I think that that would be enough for me, if it was going to the knees or below the knees, I would certainly be concerned enough to be looking to do something about it. I mean, in theory, radicular symptoms should travel the full length of the nerve path. But anybody who thinks they know exactly how nerves behave is either misguided or naive, because, you know, nerves can behave in really peculiar ways where pain can jump from one part of the leg to the other and miss out a section of leg, it can jump from one leg to the other, it can affect both legs or neither leg. So we shouldn't be too certain about what we're talking about if it only travels through parts of the leg and not the entire leg.

Steven Bruce
So often the knee is the marker for things isn't it, and that's when we start getting concerned.

James Booth
Yeah. And I think the nature of the pain is also a big indicator, you know, neurological pain, radicular pain is unlike any other pain.

Steven Bruce
Yes.

James Booth
You know, referring pain from muscle pain or a joint pain, it can be very uncomfortable, but neurological nerve compression pain makes people cry. And that's a strong indicator of what you're dealing with.

Steven Bruce
Okay, so here's our suspected one, then we've got enough to make us wonder.

James Booth
And then we have early cauda equina, where essentially there is normal bladder, bowel and sexual function, but there is some sensory loss in the perineum or early changes in initiating micturition. So initiating peeing. So, again, your index of suspicion starts to rise, you're going from a suspected cauda equina to something that you now think is the very early signs. And that's why whenever somebody comes in with what you think, is a disk problem with some radicular symptoms, it's always worth asking about bladder and bowel and does it feel normal for you, and particularly if the symptoms are starting to develop in terms of, you know, I go for a wee, I stand or sit there for a little while before anything happens. And then eventually I start to get a trickle, you know, you should start to think about whether that's an early sign of cauda equina syndrome.

Steven Bruce
As opposed to at my age where I'm just wondering why I'm there.

James Booth
But that is a very valid point is that, you know, when particularly men get to certain age, the prostate becomes a bit of a problem and then initiating micturition can be an issue anyway. But that would be relatively normal for that person, they would have a month's or a year long history of struggling to initiate paying. But if it's something that suddenly happened in the last week or two, and is concurrent with their onset of their back problems...

Steven Bruce
And either way, you want to investigate it.

James Booth
Yes, unless they have a known benign prostatic hypertrophy, but it's been going on for ages and ages. And that is just normal for them to stand there for a little while thinking about it before anything happens.

Steven Bruce
Are you going to talk to us about the questions which you might ask in order to elicit this later on?

James Booth
Yes, because that is really important.

Steven Bruce
They're difficult questions to ask.

James Booth
They can be but I think if the patient understands why you're asking them, and you contextualise the questions, then they make perfect sense. If you just say to the patient, are you enjoying a healthy sex life and they're sitting there in raging back pain, that doesn't make any sense. But if you explain why you're asking the question about the sensory supply to the genitalia, from the sacral nerves and that impact on their sexual function can result from compression of those nerves. They're more likely to answer the question and be honest about the answer.

Steven Bruce
Do you think there's a possibility that we could encourage sort of catastrophisation through this or is that the least of our problems with cauda equina?

James Booth
Yeah, and it's a very good question, and we don't want to risk over medicalising things which need not be. But again, that comes down to the manner in which you ask the questions and the way in which you either reassure somebody that you're not concerned about the problem, given the answers and the examination, or you are concerned. And I think, you know, confidence in the way that you reassure somebody gives that patient good reasons to go away and feel reassured or to feel that you're doing the right thing by referring them on.

Steven Bruce
Before you go on to this. There's a question just coming in here from Keith, who says, how is it we actually classified disc herniations, or bulges? What makes them large or small? Or is it really just down to whether they're compressing nerves?

James Booth
It's to do largely with the proportion of the canal that's occluded by the disk. So if on the MRI scan, you can see CSF, you can see why it's around the disk and around the nerves, then you know that there's no compression of the nerve. If it's occluded and you can't see any CSF, then you know that the spinal canal is being completely closed off by a disc bulge or whatever it is.

Steven Bruce
Actually very often in a radiologists report, you'll see there is a large paracentral disk bulge. But there's no nerve compression and no foraminal stenosis, or whatever else.

James Booth
Yes, and very often you'll also see that the radiologist will comment that the cauda equina is not compressed.

Steven Bruce
It's funny how that seems to be standard for some radiologists, whereas others don't do that. I would have thought that they were all taught to follow the same sort of procedure.

James Booth
I suspect they probably are. But then habits drop into practice and the good radiologists, the thorough ones will always comment on the cauda equina and say that they you know, there is no compression of a cauda equina, whether the conus terminates appropriately and where the cauda equina travel through.

Steven Bruce
I've seen so many where they say the conus terminates at an appropriate level and though I'm not sure what I do with that information.

James Booth
But I guess, you know, coming back to Keith's question, the reality is that many patients won't have access to an MRI scan before they come in to see you. So how do you know that it's a large disc bulge would be a reasonable question. And again, the symptoms would be indicating, bilateral leg pain, or raging radicular pain.

Steven Bruce
I don't know whether there's any evidence to indicate one way or the other in this but if someone has a large disk bulge, one of the things, a disk bulge of any sort, one of the concerns you might have as well, what's the likelihood that it's going to get worse?

James Booth
Yes.

Steven Bruce
And I don't know if there's any way of judging that from MRI or any other way.

James Booth
I think changes in sensory and motor function is an indicator.

Steven Bruce
An indicator that it has gotten worse.

James Booth
And that is probably a more serious disk bulge than something which is without sounding unkind, just pain, if it's just pain, but you've got you know, well preserved motor function and sensory responses, then you can be more reassured then not.

Steven Bruce
Yeah, I had a question right here. Victoria wants to know if there's a higher incidence of cauda equina syndrome in women. Again, not that it will affect your referral protocols.

James Booth
I've not seen any literature to support that. But there may well be, but again, you know, how useful is that kind of information?

Steven Bruce
Would you be more inclined to suspect cauda equina in particular activities. I mean, we talked about spondylolisthesis and trampolining and things like that on previous shows, not necessarily you and me. But are there other activities which might give rise to this problem?

James Booth
No, because, you know, again, I've seen people with big disk bulges who sit at desks all day. And I've seen people with big disk bulges, who you know, do fairly strenuous activity. And I don't know that there's any evidence that there's a correlation between what you do and what you don't do and how big your disk bulge will be. Okay.

Steven Bruce
So let's get back to the program.

James Booth
So the next of the classifications would be your incomplete cauda equina which is where you then start to, or the patient starts to observe some alteration in urinary sensation.

Steven Bruce
What does it mean by incomplete, what is incomplete, not complete occlusion of the canal or?

James Booth
The cauda equina hasn't reached the point where, the cauda equina syndrome hasn't reached the point where the nerves are no longer functioning, so you're starting to get dysfunction in the nerves, but they haven't become completely dysfunctional. So the patient might say, I go for a wee and you know, I know that I'm weeing because I can hear the noise but I can't feel any sensation. You know, I can hear the splashing of the water but I can't feel anything or becoming aware that I have a need to go to the toilet but I can't actually initiate it.

Steven Bruce
Executive bladder control.

James Booth
That essentially means they can essentially, they can stop and start. But they still have control over when they stop and start urinating and they're not incontinent essentially is what they have the executive

bladder control means, but there can also be perineal sensory changes. So again, changes in vaguely described as the saddle area between the legs, the buttocks, the testicles, the genitalia.

Steven Bruce
You did say earlier on that these things could come on in a different sequence to this, presumably you might get the perineal sensory changes before you lose your urinary sensation.

James Booth
Don't be too hard and fast and what you consider to be the appropriate emergence of signs and symptoms. And we often see that the two most strongly associated or the most sensitive and specific symptoms are urinary issues and saddle anaesthesia, the bowel changes, the sexual dysfunction are not particularly sensitive or specific. And that's probably because the bowel is a much larger structure. And because for most people, one bowel movements a day or one every other day would be considered normal. So it might be a few, you know, three or four days before they notice something's up with their bowel. Whereas, you know, most people will empty their bladder several times a day. So you would know fairly quickly that something wasn't quite right. Yeah. So that's incomplete cauda equina, then we go on to cauda equina with retention. And it's very much the same as incomplete cauda equina, but you then have painless retention of the bladder, so you know, I feel really full, I feel like I need to go, but nothing happens. Or for some people, what they first notice is an overflow. So it's a gentle trickle of urine that they have no control over because the bladder is essentially overflowing. And urine is forcing its way through the sphincter.

Steven Bruce
So it's control of the sphincter that's been lost because of the...

James Booth
That executive control has been lost because the cauda equina have now started to become damaged by the compression.

Steven Bruce
Again, remind me, did you say people are likely to go through this progression? I mean, obviously, they could go to full blown cauda equina syndrome straight away, I imagine. But having started were they likely to be going through each of these stages, rather than jump from stage one to...

James Booth
They're likely to go through stages. But what we can't be clear about is how quickly they go through those stages, that can happen within 24 hours, it can happen within two to three weeks. So what you're looking for is a deteriorating pattern. And then finally, the complete cauda equina, which is, you know, unfortunately, at this stage, the horse has bolted if you'll excuse the pun, I mean, the bladder is insensate, the patient has no awareness of the fullness of their bladder or needing to empty it. They have overflow incontinence, loss of peritoneal, anal and sexual sensation. And at this stage, unfortunately, loss of turn, and at this point things are beyond repair, beyond help. And this is the point we don't want to be making the diagnosis of it. You know, you hopefully have seen patients before they get to this stage and are making a referral onwards.

Steven Bruce
Yeah, so I imagine a patient who had those problems would be going somewhere else?

James Booth
Or would hopefully already be somewhere else.

Steven Bruce
Or would hopefully be somewhere else, indeed. What's your protocol when you get them into, here we go, questioning and case history taking.

James Booth
So careful questioning is important. And, you know, for all the talk that we've had about sexual dysfunction, saddle anaesthesia, loss of sensation of urine and faeces, that, unless you ask those questions directly, the patient is very unlikely to volunteer, because they don't understand the connection between bladder, bowel, saddle area, sensation, sexual function and back pain.

Steven Bruce
And more importantly, they'll be embarrassed to talk about.

James Booth
Likely. So they're certainly not going to walk in and go, I've got a bit of back pain. But do you know what, I also can't wee, they're not likely to make that connection to you unless you say, have you noticed any change. So it's important that you are not afraid to ask the questions and use simple language that they understand. Don't say things like, you know, how is micturation for you these days? Not going to be helpful to them. So, you know and also avoid leading questions which might prompt them to give you the answer that you're thinking you should get. Nothing wrong with urine there everything's okay in the old downstairs department, is you know, patients will go oh yes, everything's fine. So, you know, don't ask a leading question, one way or the other. Don't invite them to give you the wrong answer, or an answer that you want to hear.

Steven Bruce
Just to take you back a stage, Kathy's asked, I think is quite a useful question. She says can she check, is a disk extrusion the same as a large disk bulge?

James Booth
Yes.

Steven Bruce
And it does make you think, there's no there's so many words, different words used to mean the same thing in medical terminology. I remember when you and I were going through training, they differentiated between a herniated and a prolapsed disk when actually, frankly, it doesn't make any difference.

James Booth
No, it doesn't.

Steven Bruce
All it matters is what the disk is doing when it bulges.

James Booth
Bulging, extruding, herniating, prolapsing. Sequestrating is a little bit different because that's kind of a further development of the disk actually coming away within the spinal canal but...

Steven Bruce
But do you think the term prolapse actually, that's an alarming word for a lot of patients.

James Booth
Yes.

Steven Bruce
Whereas bulge or herniation, they sound a lot friendlier.

James Booth
I tend to use bulge as a general term, I avoid herniating and prolapsing. Because, you know, what does it actually mean to a patient who is coming into your office and wanting an explanation of what's going on? We all understand the term bulge. But the other terms don't really mean a great deal to most patients.

James Booth
What do you say to patients who are asking about slipped disks? Do you explain the nature of a disk and how it can't really slip?

James Booth
I kind of bat it straight by by saying it's a term we don't use anymore. It's not particularly helpful and it doesn't accurately describe what happens. We talk more about a bulging disk than a slip disk.

Steven Bruce
Yeah. Okay. Well, that's put term Kathy's mind at risk about extruded disks?

James Booth
Yes. So we're going to talk now specifically about the bladder function. So what is our role when we're referring specifically to the bladder? So we're going to ask questions like, have you noticed any change in your ability to go for a wee? Be very direct about it, you know, can you feel when your bladder is full? It's a sensation, we all experience on a day-to-day basis, but might not necessarily think about it until somebody asks us.

Steven Bruce
Would you preface this with explaining why you're asking the question?

James Booth
Yes. So the very first point you make is I'm going to ask you some questions, which might sound a little bit odd, but the reason I'm going to ask them is your bladder, your bowel, the area around your saddle and your sexual function is controlled by the nerves that come out of the spinal cord. And they are what are known as the sacral nerves. And if damaged, they can affect the ability for you to control the function of your bladder, your bowel, and the sensation around that area. So the questions I'm going to ask you might seem a little bit odd, but it's important that you answer them because it will help me to work out whether there's something more serious going on. So, have you noticed changes in your ability to go for a wee, when you stand there or sit there waiting to have a wee, does it just happen as you would expect? Or does it take longer than you might expect? Can you feel when your bladder is full? When you have a wee, does it feel normal? Do you have sensation of passing urine? Is the stream normal for you? Is it a dribble? Is it a trickle? If it is, is that normal for you? Be aware of other factors that can also impact this like, for some people, certain medications can affect their ability to pass urine, prostate problems, UTI problems can all be relevant, but again, we're looking at something that contemporaneously matches up with the onset of their back symptoms and leg symptoms.

James Booth
Do you have any examples of medications?

James Booth
That will probably relate more to bowel problems. So codeine, for example, can cause constipation, some of the proxins and non-steroidal anti inflammatories Neproxen and Voltarol, Diclofenac can cause stomach upsets, which can cause diarrhoea. So it's also important to recognise that some and also some cough mixtures can cause retention and you know, issues with bladder and bowel function. So, always ask patients what medication they're taking, because there's a huge swathe of medications that affect bladder and bowel function. So too many for us to go into. But just to be aware that there may be some some issues there.

Steven Bruce
Kathy has actually asked whether a sequestrated disk is a risk in itself for cauda equina syndrome.

James Booth
Again, it kind of depends on how big the sequestration is, they generally tend to be quite big. So you would think that puts you a greater risk. If it's a big enough disk to sequestrate and you've got a constitutionally narrow canal, then you may well be in trouble. But the thing about sequestrated disks is they tend to travel down or travel up, they don't travel directly backwards. So because they're travelling down it means they've been diverted in the direction and generally that means that the cauda equina are fortunately preserved. And it's normally the anterior longitudinal ligament that kind of pushes from that direction.

Steven Bruce
And again, while it's a lovely academic question to know whether they might cause the problem in practice, it doesn't really matter does it? Because we won't know that, we'll only know what the patient's presenting with and that's what we have to analyse.

James Booth
So we've done a bladder, we move on to our bowels. As I say dowels tend to be less predictive of cauda equina, but it's important that we kind of deal with them. Again, have you noticed any change in your ability to have a poo? Just be frank and open and honest about it? There's no point in beating around the bush and talking about a number twos and that sort of thing.

Steven Bruce
Did you, at some stage in your career, did you ever wonder about what language you use when asking a question like that? Because there's a tendency to want to be terribly formal and proper about it. But actually, if we're talking to our mates, you know, you talk about, well you wouldn't probably talk about it, but if you were you would talk about having a poo.

James Booth
Yes, exactly. Exactly. And also, you know, it's got to be language that puts the patient at ease, but also they understand because using terminology that they think I'm not quite sure what you mean by that. But so I'm gonna say no. You know, that doesn't help them either. So use very plain, very simple to you to understand English or whatever language you're using. When you do go for a poo, does it feel normal? When you wipe your bottom, can you feel the tissue paper? That's often the first indicator that saddle anaesthesia is starting to emerge is, then they go, now that you mentioned it, I don't think I can. And that's not unusual for patients who are developing saddle anaesthesia. Can you push properly? Can you bear down properly. And so an important distinction when we're talking about the codines and the medications that constipate you, constipation versus cauda equina, bladder problems is that with constipation, you feel full and uncomfortable and you have an urge to push, but you can't park with your faeces. Whereas with cauda equina type issues, you tend to have nowhere, you just get fuller and fuller and fuller. And you're aware after four or five days you haven't had any urge to go to the toilet. That would be an indicator that there may be a bowel issue going on.

Steven Bruce
Right. Out of curiosity, what's the consequence of that?

James Booth
In terms of?

Steven Bruce
Well, I mean, if you haven't been to the toilet for four or five days, there's going to be a huge backup of waste material.

James Booth
Yeah, but more importantly, you're losing executive control of your bowels. So long term incontinence, faecal incontinence is potentially an issue.

Steven Bruce
Somebody who's known as SFG says cauda equina syndrome with retention, how would that affect the bowel the same as the bladder? I guess we've just been talking about that, less commonly with the bowel than the bladder.

James Booth
The bladder is often the first one. That's the giveaway. Yes. So and again, you know, if you're getting to a point where you've got retention, then you're you're quite a long way down the road. And it's, you're in a serious stage.

Steven Bruce
Joel says, could there be cauda equina syndrome without any low back or lower limb symptoms?

James Booth
I guess theoretically it's possible, because you know, everything's possible, isn't it? And but I would think it's incredibly rare. And it would be incredibly unusual to have a large disk bulge or a large obstruction in your central canal that didn't cause any back or leg pain but did cause loss of executive control.

Steven Bruce
I suppose, also, by definition, if it's a syndrome, there are symptoms of some sort. So they might not be radicular pain, or it might not be back pain, but there's going to be something along the list that you've given...

James Booth
Exactly, and for you to have cauda equina syndrome, you only need to have one of the symptoms, whether it be saddle anaesthesia, bilateral leg pain, sexual dysfunction, bladder or bowel dysfunction, you only need to have one, you don't need the full set in order to be diagnosed with cauda equina syndrome. But I would think it highly unlikely that you would get those other symptoms but no low back or leg pain.

Steven Bruce
Right. Okay.

James Booth
So now we move on to saddle anaesthesia. And again, for some people, you know, what does the saddle mean? So clarify where you refer to.

Steven Bruce
Don't go there, Claire will, half an hour of...

James Booth
I won't take my jeans off to show you where the saddle is but essentially, you know, have a look at your dermatological charts for where your sacral nerves distribute. And, you know, again, a quick Google of sacral nerve distribution will show you that it's the area around the buttocks, down the inner thighs, and

around the anus on a kind of a concentric pattern. But it's important that you make that clear to the patient where you're talking about.

Steven Bruce
But also, presumably, I mean, we have discussed this on previous shows. If you've got suspicions, you're going to refer, there's rarely if any reason for physical therapists such as ourselves to do any physical testing of these sensory areas.

James Booth
I think so I mean, we used to talk about examining the patient, but frankly, if you're concerned enough to do an examination, you're concerned enough to refer the patient on, they're going to have to go through all of this process when they get to the hospital. So somebody's going to take them through a full neurological assessment, which is going to involve saddle anaesthesia assessment, perineal sensation, anal tone, you know, all of those sorts of things. There's no need to subject the patient to that twice. I don't think so. If you're concerned enough, let somebody at the hospital do the assessment. You're going to have to be incredibly confident in your neurological assessment to do one on a patient and then conclude that you're satisfied that there's no risk of cauda equina syndrome in my view. So that's the saddle anaesthesia. Sexual dysfunction, again, you know, it's a difficult question sometimes because it can be a difficult topic to discuss. But also if patients are in great deal of pain, they're not likely to be that sexually active. But if they are sexually active, have they noticed any changes in their ability to have sex which are not related to the pain. You can ask men about erections, are they able to achieve an erection? Or have they noticed that kind of morning erection, if that's normal for them, are they still getting their normal morning erection? That could be a question that would be indicative. And again, for women, when they're, in sex are they able to climax? And again, but would that be normal for them?

Steven Bruce
Even more difficult questions to ask.

James Booth
They are difficult questions. But again, if the patient understands the context, you know, everything then becomes a legitimate and reasonable question. And they're quite happy to answer it.

Steven Bruce
Do you think there is any potential here for a patient, I don't mean to be successful, but for them to complain that you're asking intrusive questions.

James Booth
No, no, if there was any indication of the potential for cauda equina syndrome, and you contextualise your questions before you ask them, I don't think there will be any reason at all for anybody to hold you up on that and say that what you're doing is unreasonable or inappropriate.

Steven Bruce
Okay.

James Booth
And I would much rather somebody say to me, I think you may have asked an inappropriate question, then you didn't ask an appropriate question.

Steven Bruce
Yes. And I guess if you did somehow ask these questions insensitively and a patient complained to the General Counsel, it would probably be dismissed at the first stage, because you would explain why you asked the question. And they might say you need to improve your communication skills, but it was an important question.

James Booth
Yes. And don't shy away from the questions and pain, whenever I've, and I've gone through this scenario hundreds of times, never once has a patient told me to mind my own business. So you know, I think they understand and it's about being professional and articulate in the way that you ask the question. And then we move on to, you know, what do we do. So you've got a patient who is presented to you with all the kind of potential symptoms that we've discussed, up until now. And then you're in a position where you have to start to take decisions. And I think, you know, as we said earlier, this is an urgent issue, but it's not the patient's not bleeding out on your table, so you don't have to rush, put them into your car, drive them off to a&e. Take time to consider your decision. Think about what information you've gleaned. What you found out about the patient and the condition and what kind of sense it all makes to you, just step back, think about it all. And organise your thoughts so that you can be clear about where you're going with all of this. If you are able to, it sometimes helps to talk to a colleague, you know, certainly there's nothing wrong with, if you have a colleague in your practice, discussing it with a colleague and saying, you know, this is what's going on. Do you think I'm on the right lines here? Do you think this would be appropriate? If you don't have a colleague, you know, calling the on call fellow at the hospital. They're never gonna hang the phone up and tell you you're being ridiculous. If you've got a reasonably, put together constructed argument, where you've worked through the process, and you say to them, these are my concerns.

Steven Bruce
I wonder how many people watching would have ever heard before that this was an option to ask to speak to the spinal fellow. It wouldn't have occurred to me. I didn't even know such a thing existed in hospital. I thought you were the spinal fellow.

James Booth
But there are orthopaedic fellows, surgical fellows, neurosurgical fellows and spinal surgical fellows. And that's what their job is, and they carry a bleep for their shift. And they won't be doing surgery, they won't be doing injections, they won't be doing clinics, they are literally sitting in a room waiting for a phone call.

Steven Bruce
Are they quite busy?

James Booth
They're often involved in bits of research. So they'll be writing papers.

Steven Bruce
Okay, so they're not answering phone call after phone call after phone call. They're likely to respond.

James Booth
Yeah, they've got a bleep. And there's an expectation that when you carry the bleep, you respond in a timely way. So, you know, once they get the message, you call the switchboard of the hospital, there'll bleep the fellow straightaway, as soon as they get to a phone, they'll call you. They might be a little bit kind of dismissive of you, what are you calling me for, you know, but stand your ground, be confident, articulate your case. And I'd be very surprised if a fellow tells you that you've wasted their time. Focus on the decision and not the outcome, because sometimes you sit there, and you can feel your heart racing and the beads of sweat forming on your forehead. And it's because you're thinking, what happens if this patient gets to the hospital and the surgeon comes along and says, what a ridiculous referral. Don't even think about that. Don't think about the outcome of the patient having surgery, not having surgery, being sent home. That's not what matters at the time. What matters is the decision that you're going to take in front of you. And that's the bit that you need to focus on.

Steven Bruce
Yeah, and to re emphasise that once again, I will talk about that consultant we had on the show who said he would rather get out of bed in the middle of the night and see people who did have cauda equina than miss one who did have it.

James Booth
Can I put a potential case to you? I mean, for discussion.

James Booth
That's absolutely right. And then the last bit is, except that there's a degree of uncertainty about this, for all of us involved in it. And, you know, I, when I worked in the hospital, and we would sometimes call the on call fellow into a clinic and say, you know, we think there may be a cauda equina issue developing here. And the surgeon would do all of their investigations and examinations and look at MRI scans, and they'd sit there for a little while going, this is a tough one, just need to have a little bit of think about this and decide what I'm going to do. And these are people who deal with it all the time. So, you know, for those of us who come across these things in community very rarely, it's not a straightforward decision, and there is going to be a degree of uncertainty, but rather err on the side of caution, then not.

James Booth
Yes.

Steven Bruce
I'm not expecting to get a clear-cut answer on this. And I know that this one came in today, Rachel's put this one to us. It's a man, not sure of the age but not elderly. He's had back pain for five years in the lower back, and has managed, it seems fairly normally up until now, had an MRI in March last year, which showed degenerative disk disease, L3, 4 and 5, the pain's got worse in the last three or four months, and is now in the coccyx area with shooting pains in the thighs. That's plural, so I'm guessing it's bilateral, no numbness or pins and needles. He has seen a chiropractor but with no real success. That's not meant

to be an insult towards chiropractors, just that physical therapy hasn't helped. We probably need more information than this. But is that would your antenna be starting to wiggle on it?

James Booth
I would certainly be interested. You know, when they say bilateral thigh pain, do we mean down the front or the back of the thighs? Because that would be kind of informative. I'd like, you know, obviously, it's very difficult without seeing the patient...

Steven Bruce
Could you get pain in the front of the thighs from cauda equina?

James Booth
No because you're talking about the nerve roots that travel down the legs not into the front of the thigh. So that would be more of an L 2 or an L 3 distribution, which would be quite a high disc to cause that kind of a problem.

Steven Bruce
But I'm just thinking of the conus has ended before there.

James Booth
Yeah, all sorts of things are possible, I guess. But so this is where talking about hypothetical cases becomes a little bit trickier. Because you can't say absolutely. I would like to know more about the nature of the pain, whether it's you know, they were talking about sharp shooting pain, but is it intense? Is it mechanical pain? Is it neurological type nature to the pain? It's a difficult one to answer. But I think the fact that there's bilateral leg symptoms would start to raise your index of suspicion and then you would start to do more investigation, more examination, more questioning.

Steven Bruce
Yeah. Okay. Were you going to tell us the sort of information that we would need to present to people when we contact our spinal fellow or whatever? Have we covered all of that just by going through?

James Booth
Yeah. And all of this, of course, suggests, indicates, tells us that your notes have got to be very, very well kept in these cases, you've got to make sure you've recorded everything that you've asked, done, seen, been told.

Steven Bruce
I think we've covered it in the sense that we've talked about the types of cauda equina and the types of symptoms but when you're preparing to present your case to an on call fellow or to a GP or whoever you're going to talk to, order your thoughts, make good notes, be clear about what the patient's symptoms are, what the timeline of their symptoms developing and deteriorating, presumably are, what the kind of presentation symptoms are and what you found on examination, and articulate and express your concerns. What do you think is going on, you know, include whether there are bladder or bowel or saddle

anaesthesia symptoms or sexual dysfunction. As part of your explanation as to why you think this requires further investigation.

James Booth
Definitely. Document, document, document. Document the negative responses as well as the positive responses, you know, do you have any changes in your bladder or bowel sphincter control? Obviously, you're going to ask the appropriate questions. If they say no, don't ignore that then, record that there is no change in bladder or bowel.

Steven Bruce
Would you simply write no CE symptoms? Would that be enough? If you've gone through all the questions that are on it.

James Booth
I tend to do BB, SA, SD and then it says, BB zero, SA zero, SD zero if I've asked each of those questions and there's no sense with BB, SA, SD with a zero next to each of them is enough for me as a note that I've asked the questions and the patient has said that they don't have any.

Steven Bruce
I remember talking to Lawrence Butler about keeping good notes and he said abbreviations are fine as long as you're consistent with them.

James Booth
Absolutely.

Steven Bruce
He also said it's useful that other people within your own practice or who might see those notes understood what those abbreviations meant.

James Booth
And BB, SA, SD is well used within spinal services. So that would be recognised by anybody who works in a spinal unit.

Steven Bruce
Yeah. Okay. I've got quite a few other questions I've been holding back on because they concern cases and I thought we were gonna go through the sort of the theory and so on before we dealt with those. I haven't read them beforehand, so I don't know we're gonna hear from this. The first one is that we've got to congratulate Chris. Chris apparently apologised for being late to the show, but his first child was born and it caused a bit of a delay, and we don't know whether Chris is the mother or the father. But I'm hoping that they will name them either Steven or James, regardless of whether it's a boy or a girl in honour of APM. D says, our patients considered for investigation of cervical myelopathy when no lumbar spine abnormalities are found on MRI, as I have a patient with many signs of cauda equina syndrome, and it was a cervical myelopathy.

James Booth
Okay, so cervical myelopathy is obviously a compression of the cord within the cervical spine, and it tends to affect the upper extremities as well as the lower extremities. So that's how you would differentiate it from a pure lower extremity or lower spinal issue. And so what you're also looking for are upper motor neuron signs, so you'd get your positive Hoffman sign, brisk reflexes, positive clonus, up going babinski's, sorry down going babinski's, all the kinds of things that would indicate an upper motor neuron lesion would distinguish a cervical myelopathy from a lower lumbar spine disk bulge, but you can with cervical conditions also develop bladder and bowel problems because obviously, you know, you can get compression in the cervical spine.

Steven Bruce
So I guess going through that pathway when they've gone through for hospital investigation, if they don't find any indications of cauda equina, they will be looking for other reasons for the symptoms.

James Booth
A whole spine MRI might be appropriate, particularly if the patient has ataxia or they're noticing upper motor neuron signs, upper limb signs, but a good spinal examination if nothing appears in the lumbar spine, a good spinal examination would include the cervical spine.

Steven Bruce
Right. Okay. I've got a long one from Robin here. Robin says I have a patient who has previously, two years ago, had surgery for cauda equina syndrome. He's contacted me this week with a recent recurrence of unilateral radicular pain on the left. He has no other symptoms at present, but he's clearly in a lot of pain. He's told me that his surgeon only operated on the right side of the disk. Question mark. Could he be at cauda equina syndrome risk for the second time, his specialist has told him he is classed as a failed procedure and nothing else they can do. I don't have any further infos. I haven't seen him yet. But he's making me a little nervous. So that's a interesting case.

James Booth
This is an interesting one. And there's some kind of contradictions because if the patient had previously had surgery for a cauda equina syndrome, you wouldn't expect a disk decompression on one side, you'd expect a total disk decompression out of the central canal. So that sounds more like it was a paracentral disk bulge. Yes, rather than a central disk bulge. Yeah. But again, we're making some assumptions here because obviously, we're only going on information that we've been told. If a patient has previously had a disk decompression at that level, it is possible that they could have a recurrence of a disk bulge or disk extrusion. You know, you follow all the same protocols. And I can understand why Robin's feeling nervous but work through the protocols that we've discussed today. Ask the right questions, do the right examinations and come to a conclusion. And if you are nervous about it, and you get a sense that something's not right, then an onward referral would be appropriate. But what we're looking for is deteriorating condition.

Steven Bruce
Right. Okay, clearly, this is not one of those acute within two weeks situations. Ambo says I love the idea of the on call spinal fellow as I've previously called a patient's GP or the local a&e duty doctor and not

always been received well, the idea of someone specific to request to speak to is good to know, I have to say it's one of the key things that's come out of this for me the fact that we now know what title to use, if we ever have to send somebody to hospital.

James Booth
This is is where private healthcare and the NHS don't particularly integrate very well. But they should do you know, because ultimately, what matters is the patient getting the right care in the right way, you know, GIRFT again. And if that means making a phone call to an on-call fellow within an NHS service from a private facility, I don't see why that should make any difference to a GP calling them or somebody within the hospital calling them.

Steven Bruce
It is sad, of course that, you know, Ambo's case said that the local GP didn't receive his call very well. I have to say that, you know, I don't want to go over this case again, because I mentioned it numerous times on air. But the one cauda equina syndrome case that I seen, the chap was sent away from a&e with ibuprofen, and it was the GP who I said today, you've got to go to your GP, you've got to go and see somebody. So get referral. Yeah. And the GP called an ambulance for him when he went to see the GP. Yeah. So actually, the GP was the better call in that case. Which is unfortunate. And then, you know, we're not here to criticise doctors who have an awful lot of things to think about. Yeah. Keith says, has there been an increase in cauda equina syndrome corresponding to the increase in obesity, because I suppose instinctively, one expects that increasing weight might aggravate the problem?

James Booth
I don't know is the answer. But I think that's probably a reasonable sort of conclusion that, you know, you'd expect if obesity were increasing that you would have an increase in low back problems from compressive problems in the spine.

Steven Bruce
Once again, it doesn't add to the referral issue does it, if you've got the symptoms, but maybe it's something that you might be bearing in mind when you're giving patients advice about how they can improve their health.

James Booth
And possibly one of the other things to consider as well is that obese patients maybe are not dismissed slightly, but perhaps not given the same level of care in terms of, you know, if a patient has a low back problem, which looks to be discogenic with radicular symptoms, and they're a young fit, healthy person who's trying to live a healthy lifestyle, a surgeon may be more inclined to want to help them, surgeons don't like operating on obese patients in spinal surgery, because it's complex. The surgery itself is more difficult. Complication rates are greater and the risk of infection and poor wound healing.

Steven Bruce
More difficult just because there's more tissue to work through to get to the target area.

James Booth
Yeah, the surgery itself is more difficult and particularly if they have to do an anterior approach is almost impossible. So there are some surgeons would have a threshold of a BMI above which they wouldn't operate on a patient. So it may, I'm trying to think about how this could apply to Keith's question, it may be that if an obese patient had been to a surgeon with a potential discogenic issue, and not being considered favourable for surgery, that that could then progress on to becoming something more serious, but I'm kind of leaping ahead slightly there and I don't want to assume that that would necessarily be the case.

Steven Bruce
Sally has said that she had a patient on Friday, presumably with cauda equina syndrome or suspicions of, a 55 year old man under lots of GP investigation for bladder issues, including for prostate issues, or kidney stones, ultimately told it was an MSK problem. She says when I started to outline the signs, symptoms of cauda equina syndrome, he started to laugh in a hollow way. And noted pins and needles around the anus, along with his back pain, leg pain and bladder symptoms. The a&e bladder scan said not far from needing catheterization, but I don't think they've done an MRI, which is a little puzzling. P.s. a&e assumed that it was a cauda equina syndrome. Yeah. I think you know, again, we're not here to criticise GPs who've got a whole load of things, they've got to sort of filter in their diagnostics. But it's possibly a very useful reminder that sometimes, as you said, we've got to stand our ground when we think we're right, despite the fact that there was a conventional, well trained professional medic saying something different.

James Booth
Yeah. And certainly, in a case like that, where you've got pins and needles in the saddle area, and you know, all the other kinds of symptoms that are pointing at cauda equina.

Steven Bruce
I just wonder whether perhaps the GP hadn't asked that question as you said, that patient didn't think it was important.

James Booth
Yeah, because it's happened to all of us where a patient comes ina nd as soon as they say something, you think, oh, I know what this is. And you get sidetracked down a particular line of inquiry, and you almost fatally exclude all the other things that, we should try and keep an open mind as much as possible. But when you've got seven minutes, and you're running an hour and a half late, it's very easy to go, oh, I know what this is. We'll assume that this is a UTI or a prostate problem. And you forget about the other stuff that's a little bit more left field.

Steven Bruce
And we've, again, mentioned this before, I wonder if we might see more of these situations because of the state the NHS is in at the moment. We're getting a wider variety of people coming to us with different problems.

James Booth
And more and more telephone consultations happening now which you know, at times are appropriate and probably more appropriate than a face to face. But I always think with MSK, particularly this kind of thing. You know, one of the biggest indicators to me is when I see a patient walk in, you know, when I've come across patients with metastatic spinal disease, the first indicator to me that they have it is the way they move and the facial expressions and body language, that raises my index straightaway when I see certain characteristics and features of a patient's behaviour.

Steven Bruce
Yes. How then would you distinguish them from somebody who simply has chronic pain from an MSK source.

James Booth
So people who have spinal fractures, whether they're pathological fractures or osteoporotic insufficiency fractures, they are in a lot of pain when they try and move and you know, going from laying to sitting, as soon as they load bear through the spine, it's incredibly painful, and they literally put their hands down, they can't take their weight through their buttocks when they go from a lying position to a sitting position. They can't roll over, you know, there's a nature and quality to that pain. And when you've seen it, you'd never forget it. And when you see it again, you instantly recognise it. And you don't get that on a telephone consultation.

Steven Bruce
It's really helpful to have seen it, isn't it? And I don't know that I've ever seen that thing.

James Booth
Yeah. But once you have seen it, you'll recognise it when you see it again.

Steven Bruce
Gianna has said that you mentioned sequester disk, I know you say sequestered in sequestrated, because the two terms are interchangeable in medical science, aren't they? You mentioned that, is it now seen that a sequestered disk is better? Because the body can break it down more easily.

James Booth
Better for the patient? I don't know is the answer to that question. You know, in theory that disk that has become sequestrated should ultimately be phagocytosed or whatever it is that happens to it. But how long that takes, where it ends up resting? How big it is, are all probably more important questions than necessarily whether it's going to reabsorb over time or not.

Steven Bruce
I do remember when Nick Birch, again, was talking to us before about the fact that most bulging disks will resolve by themselves f you give them long enough.

James Booth
95% of bulging discs will reabsorb.

Steven Bruce
But it might take a bloody long time and be very painful in the process.

James Booth
And you will hear more and more now, certainly in kind of the medical community. So doctors and surgeons, they really are not that interested in doing anything unless six months has elapsed between the onset of symptoms, radicular symptoms. So you can have raging radicular arm pain or leg pain. And the surgeon will say to you, let's give it six months and see what happens. They're not racing into surgery and interventions as they were at one point because 95% of these problems will resolve spontaneously.

Steven Bruce
Right, and their reluctance is because rather than get you out of pain quicker, potentially they risk the surgery going wrong.

James Booth
Spine surgery is always complicated and is never without risk. So even in the hands of a good surgeon, there are risks of bleeding, infection, nerve damage, you know, do you want to subject the patient to that when ultimately, if you can tide them over with medication and appropriate exercise and appropriate treatment, you can buy them enough time to allow the process of healing to occur and reabsorption to occur. So that's the emerging view with most surgeons and doctors now, don't rush into doing things if you can keep somebody kind of going for six months and allow it to resolve itself and often it'll take less time than that.

Steven Bruce
I was asked about an 83-year-old lady who had confirmed cauda equina syndrome but it was Amber's referral that led to the diagnosis. But was told that she wasn't suitable for surgery, and she should go back to her GP if the symptoms worsened. Or to a&e. Is there anything that could be done for that age group do you think? I'm guessing it's simply her age that made her...

James Booth
What you see with older patients and 83 would fall into this category is that these patients often have narrow canals because you get facet joints arthropathy, so you get hypertrophy of the facet joints, they enlarge and start to encroach into the space, you get enlargement of the ligamentum flavum, which encroaches further into the space and then if you end up with a broad based disk bulge, even a small broad based disk bulge, you end up with this pincer movement of the facet joints, the ligamentum flavum and the bulging disk pressing on to the canal and therefore the cauda equina. Importantly, this lady may have compression of the cauda equina but not cauda equina syndrome because if she had cauda equina syndrome even at 83 I would suspect that the surgeon would probably want to decompress.

Steven Bruce
Something lead Amber refer her though, and we don't know what.

James Booth
It sounds like a severe central canal stenosis which, you know, would result in pain when walking, when weight bearing, leg symptoms, bilateral leg symptoms often but it's quite unusual for, it would be, I would think, very unusual for a diagnosis of cauda equina syndrome to not result in surgery. Cauda equina compression may not be the same as cauda equina syndrome and that the patient may have radiological compression of a cauda equina but not have bladder and bowel sphincter disturbance, loss of executive control. Because I can't think of a circumstances where a spine surgeon wouldn't decompress, even given the risks of surgery in an 83 year old in those cases.

Steven Bruce
Lisa has asked what your thoughts are on IDD therapy. And I should point out right at this stage that one of the contra indications for IDD therapy is any indication of cauda equina syndrome. That's a referral to hospital but do you have an opinion on it?

James Booth
I don't feel that I know enough about, I know what IDD therapy is, I don't feel I know enough about it to know but I would imagine if you work through the question logically, the contraindications to IDD therapy would be the same as the contraindications to any osteopathic treatment. If you suspect that somebody had a cauda equina syndrome, you wouldn't treat them or if you thought they had a suspected or emerging or early cauda equina, you wouldn't treat them. So the same would apply to IDD I imagine.

Steven Bruce
And I wonder whether the question was more just general about IDD. But of course, it's not what you're here to talk about.

James Booth
No and I don't know, I don't feel qualified to specifically talk about whether IDD is good for disk bulges.

Steven Bruce
Give me a year when I've got more evidence, and I'll tell you what we're getting from our clinic. I know that Steve Morris in Brighton or Rob Shanks in London and many other people would say they've had lots of lots of success with it. One of the things I've pointed out to patients there, it's hard to measure that success. Because if someone comes to you with an MRI showing you a bulge and they've got corresponding symptoms, and you treat them and they get better, they don't go away and have another MRI so you can see what's after the disk bulge. James, you've had 535 Viewers, which is already healthy number.

James Booth
When children are being born all over the place.

Steven Bruce
So thank you. I mean, it is such an important topic, isn't it?

James Booth
Yes.

Steven Bruce
I don't think anybody's got any doubt. We just can't afford not to know all this stuff. And I will send this stuff out, they'll get a copy of the handouts from your slides. And I will try and get that other data that I said and include that in emails. Thanks for giving up your time and coming.

James Booth
You're welcome, it was a pleasure.

Steven Bruce
We're out of time. I'm sure that what we've been talking about has been valuable. And I'm grateful for so many contributions from you as well from the audience, because that's again, what makes these shows doubly interesting and effective. And what I do hope is that hasn't left you terrified to treat any patients with back pain, of course. Now a quick look ahead Thursday, this week, lunchtime, I'm gonna be talking to Carl Todd. Carl is a very highly regarded osteopath. He's got a PhD in orthopaedics and clinical science. And he's going to come in to talk to us about connecting the hip to the spine, very clinical orientated stuff again, on Tuesday, taking a bit of a leap in a different direction. But again, at lunchtime, this is our free money show. I'm going to be talking to an expert in identifying and accessing grants, literally. I mean, it is free money. There are grants, not loans. And there's nothing theoretical about it. My own business, both my clinic and the Academy has got an astounding amount of money from the grants that are available. All you have to do is know where to look and how to fill in the paperwork. So if you are planning to invest in yourself or your staff or your clinic, then you might find this show really, really helpful. And we're now down to the final five places on the dry needling course next month with Simeon Niel Asher and Professor Bob Gerwin, I think it's still five places. In case you need reminding, of course Bob, a professor of neurology from Johns Hopkins in Baltimore, Simeon, the frozen shoulder man, an expert on trigger points. I've sat through one of their courses here, and I've spoken to them both at length and looked at their research and their methods over the last many months. And they really are the bee's knees when it comes to talking about dry needling. So this will be dry needling for all sorts of conditions, things you probably didn't realise that you could treat with needles, the course is running from the 19th to the 21st of May. I think there's a link on the screen now that takes you to the booking page, there is an option to pay in four instalments. The fee does go up at the end of this month. So it's well worth getting your name in straightaway if you're interested because I suspect those last few places won't last very long. Anyway, lots to look forward to. That is it for now. Enjoy the rest of your evening. Goodnight.