FAIS: Femoroacetabular Impingement Syndrome – Ref 231

with Victoria Smith

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TRANSCRIPT

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Steven Bruce
Good evening. Welcome to the Academy of Physical Medicine. Once again, you're joining us for another 90 minutes of great live learning with others CPD. And as always, I've got a subject matter expert in the studio with me. We're going to be talking about hips. Specifically, we're going to be talking about femoroacetabular impingement syndrome, but as I say, my guest this evening is a subject matter expert, and we'll go wherever the conversation takes us regarding hips. So wherever you want to go, just send us in your questions as normal, and we'll take it down that route. So who's my guest? My guest is Victoria Smith. Victoria is a physiotherapist of 23 years experience. And Victoria, it's great to have you on the show. We're now allowed to shake hands, aren't we, very formal. Tell me, what makes you an expert?

Victoria Smith
Well, thank you for having me on your show to start with. So yeah, my name is Victoria Smith, and I'm a hip specialist physio. I work in the NHS and privately as well. And I've basically dedicated my practice for over the last probably 12 years to hips. So a lot of time, effort and energy has gone into learning and practising. I worked with an orthopaedic surgeon who specialises in young hips as well. So I have a lot of interest in this topic.

Steven Bruce
Well, brilliant, because we were talking before we went on air about the crossover between osteos and chiros and physios and so on, and how both of us I think dislike any of that sort of hostility that they try to build into you at college.

Victoria Smith
Absolutely.

Steven Bruce
But there is a there is a lot of common ground here, isn't there? And lots of osteopaths will deal with children, they'll deal with all sorts of hip problems. And I suspect that most of us could do with bringing up to date with the evidence base on what goes on and so on. When we're on the subject of hostility and so on, first of all, thank you for travelling all the way up here from Portsmouth. But of course, there is a bit more hostility in here because you've actually married a sailor, haven't you?

Victoria Smith
I did.

Steven Bruce
As a Royal Marine, that means it's making things very difficult for me this evening.

Victoria Smith
I'm sort of keeping you apart.

Steven Bruce
And you brought him with you as well. He's sitting over there in the audience. He'll start barracking a bit later on, I expect.

Victoria Smith
I think he will. He'll be heckling, I think.

Steven Bruce
Right, ok, so where should we start? Are you gonna tell us what femoral acetabular impingement, we call it FAIS, should we call it that?

Victoria Smith
Yeah, let's keep it short. So I think it's important to know that you can have FAI anatomy and not have symptoms. So I think it's important that we know that because if you have a cam impingement or a pincer impingement, which we're going to come on to in a little bit and describe that in more detail. It doesn't necessarily mean you will develop symptoms. So I think it's important we know what FAIS is, and how to look out for it, how it presents clinically, and sort of risk factors that you may find in the subjective history, which may point you down that sort of diagnosis

Steven Bruce
Tell me, in your long history of dealing with hips, surely the only people who would know that they had femoroacetabular impingement would be people who had symptoms, because otherwise they'd never be examined or screened for it.

Victoria Smith
Absolutely. We know that people can be asymptomatic through studies, where they've looked at, for example, footballers. So young population of footballers, and they've done a screen across, MRI screens and found that 60% of footballers, tender young footballers have the anatomy, but not all have symptoms.

Steven Bruce
So I guess one of the critical things for us to get out of this this evening is to know which are the symptoms, which indicates impingement, because otherwise we'd be sending people off for screening, we'd see they've got the anatomy and we'd think maybe they need to go for surgery or specific treatment, but actually it might not be the case.

Victoria Smith
Absolutely. If you by chance come across an X-ray, or maybe you do it in clinical practice, and you see anatomy that leads you to think okay, this is FAI, but they're symptom free, you would not touch that hip with surgery whatsoever. Similarly, if they did have FAIS, but were managing it, you weekly wouldn't want to jump down the surgery path too soon there are there are factors that we know can influence a good outcome with hip arthroscopy. So understanding those as well is important.

Steven Bruce
Can we start off then with a bit of a look at what the anatomy would be like in pincer and cam and other problems?

Victoria Smith
So in order to make the diagnosis of FAIS, femoroacetabular impingement syndrome, it's a triad of symptoms, clinical signs and image finding. To make the absolute diagnosis, it has to be all three. You can suspect FAIS, but unless you have the image findings there, you can't label it as FAIS, but you can certainly treat it like that, you don't have to have that label. So you don't need to send everybody off for an X-ray or an MRI scan if they're managing or what you're doing with them clinically, in treatment is working.

Steven Bruce
It's going to be useful for us to go through that, as we will later, because we've got two models in for you to work on this evening. One who's here just to demonstrate the tests and the other one you haven't actually treated before, but she's got hip problems. So we're going to find out what's wrong with her. Which will be great, because of course, what people really like to see is, how is this really put into practice in clinic? Okay, so now, I have to say, I always make apologies for my poor qualifications as a medical practitioner. But of course, when you think about cam and pincer impingement anatomy in a hip, instinctively you think, well, the only way you're going to cure that is through surgery. And yet, first of all, we've learned that you can have them both and not have symptoms. Would that be in two people with the same extremes of anatomy, one might not have symptoms?

Victoria Smith
Absolutely. And I can actually testify to that myself because I have cam impingement. And I have a symptomatic left side and an asymptomatic right side. And both have significant cam deformity. So yes, absolutely. So you could have the same anatomy, the larger the cam is, the more likely you are to develop symptoms. So we know symptom development comes with size of the underlying anatomical variant plus load. So if you're doing an activity where you're overloading the hip in a position it doesn't like. So for example, if you had a cam impingement, and you're doing lots of flexion, deep flexion based activities, you're more likely to develop symptoms. Okay. And

Steven Bruce
So you do all your deep flexion on the left hand side, do you?

Victoria Smith
Absolutely. We also know that your muscle control, so if you haven't got adequate sort of deep stability system, then you are again, more likely to develop symptoms doesn't mean you will, but it means you're more likely to potentially develop symptoms in that hip with come morphology.

Steven Bruce
Now, I'm gonna just test you on that for a second. Because you said we know this, just reassure us that there is good quality evidence for this.

Victoria Smith
There is evidence, but I wouldn't say the words good quality. But yes, again, sort of studies looking at symptomatic and asymptomatic people plus the risk factors. We sort of know through looking at people who do develop cam impingement, often they have a history of overload in their growing years. And I'll

show you on an x ray, how that can look. So when the growth plates open, the way that the physis is angled, can lead you to be more likely to develop a cam. So we can sort of see that on X rays and you can follow the physis scar and often see where the cam bump is. If you are a teen who does a lot of loaded activity, for example, football, rugby, basketball, netball and you do that around four times a week. So the increased frequency means you potentially are more likely to develop.

Steven Bruce
When you say loading activity, you just mean...?

Victoria Smith
Loading into flexion or external rotation are the two sort of risk factors we think are more likely to enable you to develop a can impingement.

Steven Bruce
So in terms of rugby players, are there positions which are more prone to injury than others?

Victoria Smith
Yeah, prop forward. So those loaded in a scrum, where they're leaning forward with rotated hips. But yeah, looking at that sort of pattern of movement in that sustained position. potentially could mean you could develop a cam.

Steven Bruce
Okay. Go on, show us some pictures. Show us what they look like.

Victoria Smith
Let's have a look. Let me just go.

Steven Bruce
Just hold it down and it'll reactivate itself.

Victoria Smith
Okay, so there's different types of pincer impingement. One is global pincer, so global pincer, I'll get my model out as well, I do like my model. So global pincer means that you have over coverage of the acetabulum, or the socket, all the way around. So anteriorly, posteriorly and also superiorly as well. So this is what a global pincer would look like on X-ray, looking at the right hip here. So we can see that the anterior and posterior margins of the acetabulum are very deep. We've also got an acetabular fossa that actually runs just slightly medial to the ilioischial line here. So that's two ways you can see. Now an angle we could use to further quantify this is something called a lateral central edge angle. So you would take a line straight through the centre of the femoral head and then you'd run out to the very edge of the acetabulum. Now in a deep socket, you'd be looking at an angle of more than 40. If it's under covered, you'd be looking at angle under 25. So you've got that broad normal there as well.

Steven Bruce
We have an image of that angle somewhere, I thought, didn't we?

Victoria Smith
No, not the lateral central edge angle. There's other angles on there, but not the lateral central edge angle.

Steven Bruce
I was looking at that and I was just thinking, well, okay, that angle depends on surely what angle the femur is at so...

Victoria Smith
Yes, absolutely. So so if you have an x ray, where they've over rotated the femur, or it's a little bit over tilted, it can have an impact on what you're seeing. But generally, if you're kind of getting to that plus 40, you're looking at a pincer. Now, this is more of a woman's impingement, really, we tend to see pincers, generally in women. And usually, it's a woman who's a little bit older as well, later in their years. So the femoral head can start to migrate medially, which can therefore deepen the socket further.

Steven Bruce
So just a word for those people watching. We've got a slide deck of 50 different slides for tonight's discussion. We're not going to be showing all of them on the screen here, but we will be sending them out as a handout either, well it won't be later tonight, it'll be tomorrow. So you will get these images, and you will get all the bullet pointed slides as well. So don't worry, if you're thinking, oh, crikey, I wish I had that image and I could look at it. You will get them tomorrow. Hopefully, it'll make more sense when you can see it physically on the paper.

Victoria Smith
So the presentation of this in clinic would probably be somebody who was globally quite reduced in their range of movement, you'd probably see a reduction in flexion, more than likely internal rotation and quite possibly external rotation as well, because you've got the posterior wall sitting a little bit further up.

Steven Bruce
What age do you reckon this is going to present? Like, typically.

Victoria Smith
You're probably starting to suspect potential global pincer at 35 plus, there's obviously people who would have it younger. But generally, it's something in a woman that's a bit older.

Steven Bruce
So what's provoking that then because that's not a menopausal age, or anything else where you think something hormonal is changing. What's made it suddenly happen at 30 plus?

Victoria Smith
Often it's the medial drive of the femoral head, you can get ossification of the labrum as well. So if you've overloaded that potential part of the labrum. There's no hard and fast research to prove this, but there's sort of theories out there that if you have, if you stand in hip hang, so classically, where you stand like that, a lot of ladies do that. So there's, there's sort of theories that the way....

Steven Bruce
I know a few chaps that do that as well. Most of them in the Navy, I think.

Victoria Smith
So do I actually, I've seen them a few times. So there's this theory that the superior lateral migration of the head can start to cause overload of the labrum here, which can then ossify, so that that's a way you can develop it. Or you could be born with deep sockets as well, it could just be your anatomy, your makeup. So yeah, that's global pincer, which is one form of FAIS.

Steven Bruce
Interestingly, and I hadn't even thought to explain this, we've had several people ask what cam stands for. It doesn't stand for anything, does it? It's cam, as in cam and pawl, it just means in in eccentric curve. So it's just a word that means that.

Victoria Smith
Exactly yeah, it does not stand for anything.

Steven Bruce
Somebody has asked, Kathy has, asked whether horse riding comes into the category of overloading this joint?

Victoria Smith
I see a lot of horse riders, actually. So I guess it depends on your underlying anatomy, and how you're sitting, but we tend to see a lot of ladies, especially who are horse riding, and they often have pain over their sort of TFL muscle. But yes, if you've got underlying anatomy, and you're struggling to get into that position, that could potentially encourage you to develop symptoms. I wouldn't say it would be a reason why you would develop it. But I think it can certainly have an impact without doubt, and can be a struggle to get people back horse riding because of the way you sit.

Steven Bruce
Get thinner horses, that's the answer.

Victoria Smith
Definitely. And often people find that they tend to favour one side more than the other. They are overloading one side or they're offloading.

Steven Bruce
Because of this or does that cause this?

Victoria Smith
Chicken and egg. Yeah, chicken and egg. So it's yeah, looking at those different movement patterns and trying to work to improve that.

Steven Bruce
We've got a question from Pierre, now I don't know which Pierre this is. It could be osteopath Pierre or it could be physiotherapist Pierre. He says interesting comment just now where FAI is developed due to overload. This raises the question about should we modify the activities young people do in their early years during growth, to avoid FAI to avoid the potential need for surgery later?

Victoria Smith
So that's a really good question, actually. There is a lot of research going on at the moment with football clubs, especially, looking at this, and they're developing programmes to try to really encourage young children to maintain healthy hips. So looking at specific exercises, and looking at how much load they are putting through their hips. So you could be in an academy and be training four or five times a week. So trying to be trying to modify that.

Steven Bruce
It's tough for them, isn't it though? Because if you take out heading from football, you take out scrums and tackling from rugby, and you take out anything which loads the hip, you're not left with much other than tiddlywinks.

Victoria Smith
I think it's more frequency.

Steven Bruce
And that hurts your thumb.

Victoria Smith
You don't want to get involved in that. So I think it's more looking at frequency, rather than what they're doing within training. Because yeah, you wouldn't be able to do any sport, tennis, basketball. So increased frequency with sort of children who are definitely in that growth with, you know, teenagers really.

Steven Bruce
So I guess you are in a key role, a really key role, when a parent brings a child to you and says hit problems, and you think this is what's happening here, you're basically having to say to the parent, this young child who you think is going to be a rugby star in the future or a football star or whatever it might be, you're gonna have to stop that child from doing this activity, either as much or...

Victoria Smith
I think it's modifying according to symptoms. Yeah. So if they're symptom free, then I would say that's okay. But if they're developing symptoms, it's looking at why they're developing symptoms, are they overloading? Is their frequency too high? Do they have any muscle strength deficits that actually are putting more load through the joint? So can we address those, can we keep that joint as healthy as we possibly can, without taking away from a child who loves sport. So yeah, this is actually quite a nice slide to demonstrate the difference between the two, which I think is important. So you can see, with pincer, basically, it's over coverage of the acetabulum. And with a cam, what we call femoral neck and head

offset, so it's a reduction in this nice sort of spherical shaped ball that we should have. And it can present slightly different, you can have a very big slope. So this would be the physeal scar here. So often, you see that cam exactly where that scar is there due to that overload. Or you could have more of an angulation. So you could have an angulation, which would give you the same problem.

Steven Bruce
But basically, there's gonna be a bump where there shouldn't be a bump, which as the femur rotates or moves in some direction, it's going to bump up against the labrum.

Victoria Smith
Absolutely, it's premature contact between the the proximal femur and the acetabulum and that's the issue. So it's just that, you're coming into contact too soon. People can go all the way through their life not knowing they have it, maybe they haven't done any activities that would potentially put them in the position where they're causing that overload. Or maybe they're just, I don't know, lucky.,

Steven Bruce
You've said with the global pincer that that overgrowth there could be all around the acetabulum. Can you get that sort of cam overgrowth all the way around the femoral head?

Victoria Smith
You can get so you can get a ring here. You can get a ring all the way around, but often it's anteriorly. So more than likely it's anteriorly, because of the nature of how you've overloaded, so in flexion or external rotation, generally you develop it anteriorly but yes, you can sometimes get it all the way around, but more likely at the front of the hip.

Steven Bruce
Questions for you. Vispee says, what does pincer mean?

Victoria Smith
It's basically it's a pincer, so like a crab.

Steven Bruce
You can see it there, can't you? It's like a claw that just keeps bumping into the femoral head.

Victoria Smith
Don't forget we have the labrum sitting here, which is that horseshoe shaped suction cup, if you like, and as you go into that movement, that impingement movement, you're going to pinch the labrum between the two and that's often what causes symptoms. So the labrum has... it's quite well innerv... lots of nerves in it.

Steven Bruce
Innervated.

Victoria Smith
Innervated! That was the right word, wasn't it?

Steven Bruce
It was!

Victoria Smith
A little bit of stage fright there. So it's very well innervated.

Steven Bruce
I love it when an osteopath can correct a physiotherapist!

Victoria Smith
You have that one. 15 - love. Yeah, so it can start to become painful. So what can happen with that constant repetition of impingement is you start to separate the chondrolabral junction. So where the articular cartilage for the acetabulum meets the labrum, you start to get separation, and then you can start to get delamination of the articular cartilage, which can then cause issues with the underlying bone. Cartilage isn't innervated, so it's not going to be causing symptoms. But the bone obviously can, so if you start to get overload in the bone that can cause symptoms.

Steven Bruce
And I guess you don't need to bugger around with the shape of the acetabulum or the femoral head before you start getting problems because it's not gonna rotate smoothly, is it?

Victoria Smith
Absolutely, you need that precise movement.

Steven Bruce
I've been told that it was Pierre the physio that was watching, great to have him with us. And Pierre says, Could I ask you your view on some hospitals... We're gonna get controversial, I think. He says, Can I ask you your view on some hospitals no longer offering surgery for FAI, and opting for conservative management as surgery or conservative are not significantly different when it comes to developing OA?

Victoria Smith
Absolutely. So research out there shows that both are effective, surgery and conservative management. And our hospital actually was one of the hospitals that did stop it but now actually does offer arthroscopy, for the past five years, I think it is, we do

Steven Bruce
Wouldn't they always offer conservative treatment first?

Victoria Smith
Absolutely should be. Yeah, so you should always try to manage the hip conservatively. If it fails, and the person doesn't have any risk factors that suggest that an arthroscopy wouldn't work. So if you have quite

significant degenerative signs in that hip, then you would want to really consider whether an arthroscopy would be offering anything, because it's joint preservation surgery at the end of the day. So if you have signs of OA in that hip, then it's probably not likely to work. Although the surgeon I work with uses joint space narrowing as a definite guide. If there's joint space narrowing, then it's unlikely to work. But if there's a small amount of focal chondral change, then actually is that because of the impingement, so therefore, would changing that work? I think it varies on the person. I've seen some people do extremely well with arthroscopy and get back to sport. I've seen some people do horrifically with arthroscopy. I've seen the opposite. Some people do very well, with conservative management, people you think, would we get there, but they have. So I think there's no right and wrong with it. I think it should really be taken on that person. And whether it's the right thing for them.

Steven Bruce
This is a really valuable lesson in terms of communication with patients, isn't it? Most of the consultants that, certainly we've had on this show, orthopaedic consultants, are very good at explaining the pros and cons to patients. But I'm aware of some who are less effective in their communication. But as a primary contact practitioner, you could be in a position, we could be in the position, of explaining to patients, these other possible outcomes, and there's no guarantee either way.

Victoria Smith
Absolutely, absolutely. So I think, yeah, there's the studies do show that surgery can be beneficial, but I think the amount of people that do well, it's yeah, it's potentially questionable. I think, as well, it's finding a surgeon who does this a lot. If you go to a surgeon who does four a year, they don't really know what they're looking for potentially. Whereas if you have a surgeon who's done 2000 of these operations, and actually looks at the labrum, so if there's a label a labral tear in there, ideally, you want to repair that labral tear, not just resect it. So it's finding someone who really knows what they're doing and trusting them. What often happens as well is the cam gets decompressed but quite often, pincers are able to go unnoticed.

Steven Bruce
So you can get both at the same time?

Victoria Smith
You can absolutely have mixed, yeah, you have mixed impingement. So it's addressing all the factors that are causing pain in that hip. So it has to be someone who knows what they're doing and does a lot of them.

Steven Bruce
It's another chicken and egg, isn't it? I always feel sorry for patients because, yes, it's great to have a surgeon who's done 2000 procedures, but he still had to do his first one at some point, didn't he?

Victoria Smith
Yeah, absolutely.

Steven Bruce
More questions for you. Lawrence asked this ages ago: Would this result in abductor problems or Trendelenburg gait in the patient?

Victoria Smith
Not necessarily, that is something that potentially they could have, but it's certainly not something we would use to say, okay, that that would be FAIS. But there's no reason, you know, you could potentially have have a gluteal tear with this as well. So you can have concurrent pathologies going on. So if they had gluteal issues, maybe they did a lot of positions where they didn't have good gluteal strength, potentially they could develop gluteal issues, but research sort of shows that in terms of strength, in women flexion is often limited and adduction and external rotation in women, alongside abduction, if they're in a lot of pain, but men are all of those. So, clinically, from my perspective, I often see people with gluteal deficiency,

Steven Bruce
Vlad has asked, well, he's commented he says, I seem to remember as a surgeon in the UK, who offers a service whereby CT scans are sent to Belgium, where they build a 3d model of the patient's hip, which is then used in the UK by the surgeon to carry out a very precise surgery. Have you come across this before?

Victoria Smith
No, certainly not where I work. The procedure, where I work is X ray always first. And then MRI scan. Sometimes CT scans are used if there's kind of a query whether there's any dysplasia involved, because having a dysplastic hip is a bit of a risk factor to arthroscopy not working so well. And the surgeon I work with would do an investigation under anaesthetic. So would inject the hip to try and calm it down, but at the same time would take the hip through various ranges of motion under X ray conditions to get more of a dynamic view. It's all very well having an MRI scan, but it's not a dynamic image. So therefore, we can identify whether there's any pincer impingement going on and at what point that impinge is.

Steven Bruce
Vlad, I think, I don't know for sure if this is the sort of procedure you're thinking of, but we interviewed an orthopaedic surgeon down in London, it was three or four years ago and he was talking about building a CT image of the hip, but he was actually fracturing the pelvis and moving, adjusting the pelvis.

Victoria Smith
Yeah. PAO.

Steven Bruce
PAO, thank you, which is...

Victoria Smith
For dysplasia.

Steven Bruce
Yeah. For dysplasia. Yeah. And somebody will tell me who the surgeon was and what the name of that broadcast was.

Victoria Smith
Was it Johann Witz?

Steven Bruce
It was Johann Witz, thank you. Funny how now I've got a physiotherapist on my side who's telling me about my own broadcasts in the past.

Victoria Smith
Yeah, he specialises in dysplasia.

Steven Bruce
So Johann, look him up on our website and you'll find a lot more about that. And it was a fantastic discussion.

Victoria Smith
Yeah, he's great. So we tend to refer any patients we have with dysplasia up to see him, up in London. Shall we move on, so maybe it's me...

Steven Bruce
Can we have the slide on one, please Justin.

Victoria Smith
Yeah, we don't need to look at a normal hip.

Steven Bruce
Let's have a little play with that and see if I can get the thing to work. It's going one way but not the other, which is very annoying. Can you move on please, Justin.

Victoria Smith
Okay, so here we have a cam, and also some AIS impingement, which I'll talk you through as well. So if you have a look at the femoral head, you'll see it's not spherical. And you'll see this reduced offset between the femoral head and the neck so it should start coming down around here. And if you look at the physiel scar, follow it along, you'll see that's exactly where it cam bump is. And the same on this side as well. If you follow it along, you'll see. So this person, there's quite a good story about this person because he is in his 20s and footballer. He'd been to see lots of different health care professionals. All three chiropractor, osteopath physio with hip pain, all three of them had given him forced flexion and lots of stretching. To stretch it out, he was diagnosed with an adductor strain, which is quite a common finding. We see people diagnosed with adductor strain or hip flexor tendinopathy. So he was given all these different treatments and everything made him worse. And then he landed up in our clinic, and we were like, yep, you've got cam impingement. So he was very restricted into flexion and internal rotation, so

every time he flexed he was getting this, you know, contact between the femoral head and the acetabulum. But what made him more interesting was he also had what we call sub spinal impingements as well. So he had double whammy. So he had this area here. So just slightly below the AIIS. If you can see, it's quite low. So this can be a primary issue and it's often associated with what we call a retroverted acetabulum.

Steven Bruce
Why is that different from a pincer?

Victoria Smith
So no, that is, if you like, forming a pincer impingement. Absolutely. So it's your classic pincer impingement because it's not actually the acetabulum. But you're right, that is a mixed impingement because you got some pincer and cam. So the AIIS sub spinal impingement often is associated with a retroverted acetabulum, which I'll talk to you about in a second, which is another form of pincer impingement. So it's a bit of a minefield. So yeah, he actually had surgery on this hip. And this hip has responded really well to conservative management.

Steven Bruce
So I've been asked if you could just point out the significant bits on that slide. And Justin, if we can bring up the view with Victoria, actually pointing at this monitor that will be helpful. So on this side here, right side is it?

Victoria Smith
Yes. So in a normal hip, you would have more of a spherical femoral head, so you would come around, and then it would start to dip down around here. So you'd have a nice head neck offset, we call it, but in this hip, it's more like a sort of a pistol grip, we call it often, because it's a bit like a pistol grip you'd hold on a gun. So it's more like that. So this is the significant part here. And then the physeal scar, you can see here. So this is the growth plate that's obviously healed. It's closed. And you can see as we follow that along, we can just see that this is where the largest part of that reduced offset is. And on this side, we can see the same, there's the physeal scar, and if you follow it along, you'll see it, there we go.

Steven Bruce
It's actually quite subtle, isn't it?

Victoria Smith
It's very subtle. I think it's something that you kind of learn by looking at so and then the AIIS, we can see is here. So it's almost dropping down into the acetabulum, making as you said, Steven, pincer impingement there.

Steven Bruce
Okay. So next, we had the combined slide.

Victoria Smith
Yes, I think this is the one with the retroverted acetabulum. If not, I'll go back to this one.

Steven Bruce
Oo that's good. I wonder whether you did that, or Justin who did that.

Victoria Smith
Well, I hope it was maybe, maybe I'm getting better at this sort of thing. So this is a combined cam and pincer, so what we're seeing here is a retroverted acetabulum. So basically, all sockets are slightly angled forwards, and the front wall should be slightly less than the back wall, okay. But what can happen is you can get that to be slightly different, you can get over coverage of the front wall. And it doesn't necessarily have to be less coverage at the back wall, but you get more coverage at the front wall. So in effect, that socket's now pointing backwards. Okay, so we can see signs of this on an x ray. There's the ischial spine, there and there. So if we look at the model, there's the ischial spine. So it's actually more medially facing if you think there's more coverage here, so the socket's facing backwards a little bit, this is going to be more medially, so you can see it on the X ray, you have to be a bit careful with using that as a diagnostic because of the position of the pelvis, like we said earlier.

Steven Bruce
Some anatomical variations?

Victoria Smith
Yeah, if you've got more of an anterior tilt, naturally, you'd probably see it, or if you are positioned on the X ray table in more of an anterior tilt, you could potentially get a false positive there. So that's one sign of retroverted acetabular, the other is what we call a crossover sign. So if you look at this hip here, this is the anterior wall of the acetabulum and this is the posterior wall. So what should happen is the posterior wall should sit laterally to the anterior wall, but what we're seeing here is a crossover. So we're seeing that the posterior wall crosses behind the anterior wall here, the lower down that happens, the more retroverted the acetabulum is. So, what we've got here is a pincer caused by the over coverage of the anterior acetabulum. And then we've got a cam if we follow that physeal scar again, we'll see that little bump there. So we can see we've got a mixed impingement on this hip.

Steven Bruce
I'm just gonna have to have a quick chat to the gallery at this stage. Because I'm being told that the slide is, it's too small a picture for people to see clearly what you're pointing at. And the only reason I can think of that is that we were not zoomed in on the monitor itself. So I'm hoping that on the basis of this, Justin will do something about that. Or Ellie, the camera lady, will do something about that. But for the people who are giving me this information, there's nothing I can do about it from my seat here. So we just have to work on that. We'll zoom in on the edits.

Victoria Smith
Yes. So crossover sign is the acetabulum, and ischial spine visibility, the ischial spine is the other sign we're seeing there. So this person would likely present clinically, with potentially reduced flexion, more external rotation than internal when we're looking at the profile of the hip. So because of the way the orientation is of the socket. So there's quite a lot out there, isn't there, of FAIS, it's not just FAIS, there's lots to look at.

Steven Bruce
And it's helpful to know about this and now you're gonna tell me about angles, aren't you?

Victoria Smith
Yes, I am.

Steven Bruce
So we're looking at the aloha angle.

Victoria Smith
So the alpha angle.

Steven Bruce
And they're having to do this in the gallery, because of the control's not working.

Victoria Smith
So this is the alpha angle, you can plain film, which we call it an x ray or you could do it on an MRI scan. And basically, you're taking the angle between the midline of the neck of femur, and the femoral head neck junction, so where the head starts to come away from that circle, okay, so it's probably not the best picture, but you would normally see the bone carrying on here. So that's where you would draw the line. And that's indicative of a cam.

Steven Bruce
What is?

Victoria Smith
The alpha angle. So if it's around 60 plus, that's a sign of a positive cam. We used to say 50.

Steven Bruce
We're not gonna do that in our clinics. Were gonna rely on radiologists to come up with this.

Victoria Smith
You can, you know, if you've got the software to do it within your X ray programme, you could have a go in and look at it and you know, there's no harm in that.

Steven Bruce
This needs to be pretty damn good to be able to get those angles right.

Victoria Smith
Yeah, I think there's a degree of user error or whatever. And also, depending on the X ray, the person who's taken the X ray as well. So yeah, it's a way to have a look, if it was huge, you'd spot it straightaway. But if it's subtle, you'd probably need to move on to an MRI scan to get more information.

Steven Bruce
Okay. There are some questions here. Lawrence has asked whether repetitive falls onto one side might cause either of these lesions.

Victoria Smith
Probably wouldn't cause it, but could cause an underlying morphology to become symptomatic. So that's what I would say, we often see someone who's been symptom free, had a big fall, suddenly develops symptoms, have never had symptoms before. And you see anatomy that suggests FAI, so I think it's more likely to be a reason why they would develop symptoms than actually cause the morphology.

Steven Bruce
Yeah. And I have to explain this to all of my guests, but the system has a habit of naming some of our questioners in a rather random fashion. If they don't give us their names, that's what we use, and Fancy Humanoid says that he or she has a 15-year-old girl patient born with a dislocatable hip, and has a shallow acetabulum with narrowing cartilage, has classic pincer symptoms, has not responded to steroid injection, acupuncture, classic osteopathy or pressure point work, running out of ideas, please help.

Victoria Smith
So if they've been born with a shallow socket, it's unlikely that they've got pincer, unless they've got AIIS because their acetabulum is shallow, so the two are quite different. So I would certainly start looking at, are there any activities that she is doing, which potentially are overloading, so is there any sort of repetitive movements or any deep flexion or internal rotation maybe. And a lot of times with dysplasia, it's actually looking at that active stability system. So obviously, we know the passive system is reduced because they've got a shallow socket. And we need to build up that support around the hips. So looking at sort of deep stabilising exercises, which don't cause pain, are often key with a stability issue, but that's different to FAIS. You can have the two go hand in hand, but you usually tend to get more of a cam with a dysplastic hip if you've got the two together. But yeah, if you've got a shallow socket, you're unlikely to have an, unless you've got an acetabulum, sorry, a labrum that's ossified but unlikely in a young person.

Steven Bruce
Okay, do you think we ought to go and have a look at a real person and then run through what we might see in clinic and then see if we can distinguish between the two. Okay, have a glass of water. We'll nip over there. Okay, let's go across the other side. So here we have Susie.

Victoria Smith
Hello, Susie.

Susie
Hello.

Victoria Smith
So Susie, you don't have any symptoms in your hip, do you at all?

Victoria Smith
And you've come here to let me demonstrate what we look at in a clinical setting within a hip. So I'm going to put the pillow over there for you actually, because I prefer working that way. It's personal choice. So if we're looking at testing for FAIS, one of the test we use is what we call Faddir's tests. So flexion, adduction, internal rotation, sort of just what it says on the tin.

Susie
No.

Steven Bruce
What's the opposite of Faber's test.

Victoria Smith
Absolutely, yeah, we use both. So I always start with a log roll, it kind of gives me an idea of what the capsule feels like. Just having a feel of how springy that hip is, when we rotate it, it gives me an idea as to what I'm likely to sort of find as I move up, and I will check leg length. But you know, it's not always relevant to that. So moving the hip up into flexion. So we have a good look at the range of motion with flexion. Now, if you put somebody who's got a cam in there, or a pincer impingement, you're probably going to find that actually, they're limited.

Steven Bruce
Does that not depend where the cam and the pincer are though?

Victoria Smith
Yeah absolutely, but usually they're anteriorly, because what we should probably talk about is where you get symptoms as well. So with this hip condition, generally people present with groin pain, it can be what we call, C sign pain, so it can be sort of, they tend to do that, it's in there, that's quite a good indicator that it's actually hip joint pathology. Sometimes they say it's just in there, I can't put my finger on it. Very rarely, it's laterally, sometimes we've got a bit of posterior pain and can sometimes scroll down the leg a little bit. But generally, it's this or this that you think, okay, could that be the hip joint that's driving those symptoms? So we always look at the range of movement of flexion, and see whether that's provocative. So someone who's got a cam or a pincer in there is likely to go, oh, I don't like that.

Steven Bruce
And of course, what you're provoking is those symptoms you've just described, not some other pain.

Victoria Smith
Absolutely, I'm impinging their hip. So I'm putting their hip into a position they don't like. Then we look at the rotation of profile, so how much movement they have, internal rotation and external rotation. So looking at external rotation, and then internal this way, you want to be seeing what we call balanced rotational profile. So you want to be seeing, you know, pretty much the same both ways, maybe slightly more, one way than the other is okay, but around 35, 40, 45 degrees each way to give you an idea as to what's going on in that hip, if you found somebody had lots of external rotation, so their hip was coming round here. And not too much internal, you might be thinking, okay, do they have retroverted acetabulum,

or femoral head because you can get a retroverted femoral head as well. So that might be kind of just painting out those, you know, putting those that clinical picture together.

Steven Bruce
Would you notice those things with the hip in the neutral position as well?

Victoria Smith
You can do, yeah, but the sort of, you can have a difference because of the capsule and the ligaments around the hip. So you obviously in flexion they're less taut. So you can tend to get more out of that one. But yeah, you can see somebody who sits with their legs right out and then you can't really roll it in.

Steven Bruce
What would the end feel on that be like, it's clearly tight glutes is gonna do the same thing. It's gonna be solid, is it?

Victoria Smith
Yes, it's gonna be solid, nowhere for that to go. So we look at the rotational profile, and then we'd move into Faddir's test. So flexion, adduction, and internal rotation. And this is what we call a sensitive test. So if it's not positive, it's ruling out the chance of the hip joint driving the pain, so it's not it's not specificity, it's sensitivity. So snout and spin is quite a good way to remember that. So it's yeah, ruling out the chance of the hip being the driver if it's negative.

Steven Bruce
The issue with sensitivity, the fact that it's positive doesn't necessarily mean you've got...

Victoria Smith
FAIS, absolutely. It could be something else going on. It could be dysplasia. It could be OA, but it's ruling out that is not that. So then we would take the hip. We tend to take the hip round and into what we call a Faber's position. What you can often find if they have a cam, is they often say, ah, that's clunk, it's gonna go, it's gonna go, it's gonna go as we bring round into this position. So often, it can be the femoral head, just almost hinging and dropping itself.

Steven Bruce
So they feel it's likely to clunk or to dislocate?

Victoria Smith
Clunk is what they feel or that kind of feeling of, oh, I don't like that, it's gonna hurt. But you often hear a clunk they describe that that's just clunked, and then you're in Faber's. So, again, Faber's is not that good at ruling in or out really, you know, we use it for a lot of different things. But if it's if it provokes the pain in the groin, then it's possibly the hip joint. So they're the two that we tend to use mainly, but it's, for me, I think it's putting together the clinical picture from that subjective examination as well. What are their aches? What are their eases? Where is their pain? What's their history like, and then putting it all together. The other thing you can see when you flex the hip is sometimes you can see, and this could sort of help direct treatment sometimes is, when you flex the hip, you're looking for a nice smooth glide. So a nice

AP glide. And what you can often see is, as they take the hip hop, that glide doesn't happen. So actually, Susie, I said to her earlier, have you got children? Yes. Which side did you carry your children? This side. So what can often happen is, is women often carry their children like this, or people who stand in this position, often use that precision of glide from inflection, so you can see, if I hold Susie's hip there, I don't know if you see that on camera, that feels different. And if Susie just flexes her hip, she's actually getting a bit of a side shift up here. So sometimes in a symptomatic hip, actually, just trying to work on that precision of movement can help but you've got to be careful, you don't irritate the hip, because obviously, it's a position we're coming into, that can be irritable. But often, if you feel as you lift the hip up, actually, they're hitching through their pelvis. If you stabilise the anterior part of the hip and actually bring that hip into flexion over your thumb, they often say that feels better. The other thing you might find is, when you flex the hip, sometimes if they've got a retroverted acetabulum, actually, if you take them into external rotation, and abduction a little bit, you get more movement, because you're following the natural profile of their hip. So that's quite interesting, because that also is something you would use, you need to think about when you're giving up exercises, or modifying their activities in everyday life. So I have a patient at the moment who squats a lot with his job. He's got huge cam lesions, and just by doing his squats in this position actually has taken away the majority of his...

Steven Bruce
So with externally rotated femur.

Victoria Smith
Externally rotated. So we're working more into that how his hip feels more comfortable to move. And when I assessed him, it was blocked here. But he had loads of more movement into that position.

Steven Bruce
Okay. I mean, you've talked about Faddir's, Faber's. People talk about hip impingement test. Is there a reliable test for hip impingement?

Victoria Smith
No. So this is what we would use to rule the hip in. And then you, Thomas test is, there's one study that showed it had good level of specificity for hip pathology. But that was one study.

Steven Bruce
So, if a Thomas test is going to be specific, let's say for this sort of pathology. What are we going to see that's different from what we also use the Thomas test for, which is...

Victoria Smith
Hip flexor, yeah, absolutely. You would see pain. So as the femoral head migrates anteriorly that would reproduce symptoms.

Steven Bruce
So would we also see that shortened flexor?

Victoria Smith
Potentially, potentially, yeah, the two absolutely can go hand in hand. So you could still have overactive TFL working, so you could see both, definitely.

Steven Bruce
Okay. All right. Are we done with Susie?

Victoria Smith
I think we are. We would always check abduction as well. Actually, I didn't mention abduction, so stabilising the opposite, the contralateral hip, and then taking it out and with a pincer you're more likely to see a little bit of a, global pincer, you might see that hard end feel a bit sooner. But often, they have good abduction, and it isn't massively restricted. So yeah, I mean, there's Craig's test which we do prone, but it's not hugely reliable, I don't think and it's a little bit fiddly to do, but I don't think that's necessarily really that we.... So Craig's test is looking at the femoral version or acetabular version. So I can go through it if you want to.

Steven Bruce
Go on, just very quickly.

Victoria Smith
Now that I've mentioned it. So if you bend your knee for me, so again, we're looking at rotational profile in prone. So what you would do is you would find the great trochanter. And then you would move the leg to the position where the great trochanter is most parallel.

Steven Bruce
So the cameras, they're showing from above, you've got your thumb on the posterior aspect of it.

Victoria Smith
Yeah, I'm gripping the greater trochanter. And you're looking at where the footrests when you're in that parallel position. Okay. So it's harder on a larger person, okay, because you can't grab that. And you're looking at where this is.

Steven Bruce
We picked Susie deliberately.

Victoria Smith
Exactly, perfect model. So, if you're in eight degrees of internal rotation, it's likely that your hip is potentially more retroverted. But if your past, so you're more like 15 degrees, then it's potentially that you're more antiverted. It's a clue, I definitely wouldn't use it as a defining, wow, this person has. Actually, sometimes your rotational profile in 90 degrees flexion can be equally as... I think studies show that if you have an increased BMI, the 90-degree test is more likely to sort of give you an idea. That's Craig's test. Go look it up.

Steven Bruce
Thank you, Susie.

Susie
No problem.

Steven Bruce
So, shall we dispense for Susie now?

Victoria Smith
Bye Susie.

Steven Bruce
Thank you, Susie.

Susie
Bye.

Steven Bruce
Now we're gonna get Caroline on the table.

Victoria Smith
So Caroline does have hip pain, don't you?

Caroline
I do.

Steven Bruce
Good evening, Caroline.

Caroline
Good evening.

Victoria Smith
Have a lie down. So Caroline's had hip pain for six months, haven't you? And it started in your groin. And it just came on suddenly?

Caroline
Yeah.

Victoria Smith
And do you awake at night with it as well?

Victoria Smith
Yeah. So night pain can often be a sign that you've got some sinuvitic change in there. So it can be inflamed and sore. So it just appeared. And prior to that you had normal movement, you were running around, living life.

Caroline
I do.

Caroline
Absolutely. Absolutely.

Steven Bruce
So how long ago was this?

Caroline
Six months ago.

Steven Bruce
Six months, right. Thank you.

Victoria Smith
So, always look at the asymptomatic hip as well first, that's good practice. So you can see, okay, what would potential norm look like on you. But you can get a hip that are matching, you can have an antiverted hip and retroverted. Very rare, but you can. So if we look at a normal profile, you've got a nice balance, you've not got more one way than the other. And I'm expecting this not to be positive. Or it might be. Any pain when we do that? I'm doing it a bit candid this way. So a hip that's completely asymptomatic. So if we look at this hip, and we take her up into flexion, straightaway, she's painful and it's reduced. Okay, so the amount of movement, if we move her into this position, we'll see we get a little bit of extra movement there. So you're more comfortable there? Or is it still sore?

Caroline
I'm sore.

Victoria Smith
So, which way feels better? So going that way or taking the hip this way?

Caroline
Actually, yeah.

Victoria Smith
It feels better, your face looks better. I also look at the face. Some people don't like to show pain and some people over show pain. So that looks a bit better, a bit more comfortable over there. And then we can look at this rotational profile. It's balanced, but it's a bit less than the other side. But I'd say actually is a bit more going this way. It's pretty balanced actually. So you're okay with those, is any one way more

painful than the other? Can you see how she's hitching there as well. She's trying to get away from that movement too. So as I rotate her hip, she's just hitching through there.

Caroline
Yeah, that's more painful there.

Victoria Smith
So you might want to actually stabilise that to get a more true representation of how much movement she's got, often see that people hitch so you think wow, she's got loads of internal rotation, but actually if you stabilise, she's got more external than internal.

Steven Bruce
And by stabilising you're just putting some downward pressure on it.

Victoria Smith
I am, just putting a bit of an AP kind of glide there just to stabilise and stop that from happening. It's exactly the same as Susie's hip flexion. So as we flex Susie's hip, she went into that kind of hitch there. So it can be learned patterning or it can also be trying to avoid that painful movement. So it could be either. We know it's going to be painful and new to do, all of that is. So I'm sorry. So we're going to flex, adduct and then internal rotate. And that brings on your symptoms, isn't it? And that's in the groin.

Steven Bruce
What is it bringing on? Where is the pain exactly?

Caroline
So it's here.

Steven Bruce
Right across the sort of ingroinal crease.

Caroline
Yeah.

Victoria Smith
So it's likely, that it's the hip driving Caroline's symptoms. And as we bring Caroline back around this way, doesn't like that. So again, we're getting that AP glide through the hip. Now as I put some force through here, so again, that can reproduce that pain so it's aggravating those sore tissues.

Steven Bruce
Did you get the clunk that we talked about?

Caroline
No, I didn't feel.

Victoria Smith
Do you get clunking hip?

Caroline
I do get a clunking hip. But interestingly in the other one.

Victoria Smith
Interesting, in the asymptomatic side. And then abduction. Now what we did notice we'll had a quick look at Caroline earlier was, what you watch and see is when this sort of thing has been ongoing for a while, and six months is a long time. Often I see people who've had pain for five years because they'd been bouncing around the system. And then you know, they come in and absolute. Oh, my word. What we did see with Caroline was, when we look at the pelvic and hip dissociation, actually on that right side, she's got lovely she can really dissociate between the pelvis and the hip, it moves independently of each other. With this side, actually, when we bring it around, everything's coming. She's what we kind of called gripping. She's not really relaxing this leg, so everything's coming together. And this can be a protective mechanism, what we often find is the pelvic floor can be associated as well. So we can start to grip with the pelvic floor. Obviously, the pelvic floor and the hip are linked with a couple of muscles, so piriformis and arbitrator internists, they are part of the pelvic wall and also, the adductor fascia has attachments to the levator ani. So huge connections in there. And it's important that that's acknowledged in someone who's got a bit of a grippy hip.

Steven Bruce
I've been asked by the audience, when you were stabilising the pelvis earlier on, you said you were applying AP pressure, where exactly was your hand?

Victoria Smith
So I was just really over the crease. So when you flex, so where you'd get that crease when you flex up the hip. There's a little bit of science with it. Yeah. I mean, if you're too high, you wouldn't get that stabilisation. And if you were too low, again, you wouldn't be able to control. So you'll find where they naturally crease is where I tend to put that, it's not really a pressure, it's just more of a fix, if you like, but yeah, important that that's often something that I see people who've been referred into me and they say our internal rotation is huge. So it's quite important that you just look out for that when you're when you're assessing.

Steven Bruce
I suspect a lot of people are going to be thinking, and I've got one question here certainly, about differentiating between cam and pincer, labral problems, OA problems? How are we going to do that? When do we know what we're treating?

Victoria Smith
So with a labral issue, you would often get giving way and locking. So if the labrum is getting in the way of the hip joint, you would see that as a mechanical sign. I think the main thing to think about with labral pathology is why have you got it, you're unlikely to get labral pathology on its own unless you've been involved in an accident. So you fall downstairs, or you've been in a car crash, or some kind of sporting

injury where your hip was forced rapidly into position it shouldn't be in. Otherwise, there's a reason why you've got a labral tear. So it's usually related to underlying hip pathology. So whether that's FAIS or whether it's dysplasia, but there's a reason why you would develop that. So it's likely that people with FAIS potentially have labral tears. But the question is why? That's the main thing to think about is, so I would think more along okay, what's the issue inside this hip?

Steven Bruce
Does that then mean that somebody who's got FAIS is, scan, they see a labral tear, they get treated for a labral tear, but actually, we still not addressed the underlying problem.

Victoria Smith
That's the big yes. If that happens, then they unlikely to get better. So that's again, why you would want to go to, if you're having surgery, somebody who really knew what they were doing within that hip, because yes, if they had the labrum repaired, but not the reason why they got a labral tear there, it's going to come back. And sometimes it's what I was saying earlier that if you miss a pincer, repair the labrum, your tear's gonna come back again. So it's really important that we understand why you have that tear and not just the fact you have a labral tear.

Steven Bruce
So this is going to be a label tear in the absence of some sort of trauma. It's going to have happened because of this genetic...

Victoria Smith
There's a reason why, yeah, exactly. That constant overload of the labrum has caused that tear. So it's important, when you're looking at differential diagnosis, just putting labelled tear, really, it doesn't really have much weight behind it, you sort of thinking, okay, with OA, it's looking at the subjective signs, really. So how old are they? So if you've got somebody who's, you know, I'd say, I hate to put myself in this bracket, but 45 kind of plus, you're thinking along the lines of okay, is this OA, certainly differential. At that age, it could be both. But as they get older, it's more likely to be OA, so someone who's got reduced flexion, internal rotation, more likely to have OA. So for that, you treat that accordingly. If somebody had a history of, you know, a lot of laxity, so a lot of giving way, they can move their hip when they were young to lots of party pieces. You'd be thinking, okay, maybe there's some dysplasia in there. So again, it's looking at those. Yeah, those sorts of subjective questions, really, with OA often they find they can't do their shoes anymore. They put the shoes and socks, they shudder to their toenails. That can happen with FAIS, certainly when it's irritable. But it's usually an ongoing kind of pattern as suddenly can't do it. But yeah, looking at those differentials can really help you hone your potential diagnosis down.

Steven Bruce
Okay, and so what's wrong with Caroline?

Victoria Smith
Let me just get my MRI scanner. So I would say that certainly, as we spoke earlier, Caroline is, the hip is driving the pathology. So I think, you know, it's very likely that she's got some underlying hip impingement, potentially a labral tear.

Steven Bruce
Not old enough for OA?

Victoria Smith
No, well, you know.

Caroline
48.

Victoria Smith
Potentially, could be OA or could be a bit of a mix of both. But, yes, what I would do without going down the image, if we wanted to stay away from imaging, would be to okay, go right, let's look at what we're finding. So, you know, are there any strengths deficits? Are there any movement patterns we can look at that may be aggravating it? What are activities like and sort of questioning that daily activity. So what do you do on a daily basis? Really, I find really drumming down into that day can really help you teach people how to modify.

Steven Bruce
What do you do on a daily basis, Caroline?

Caroline
What do I do on a daily basis. Well, I do some Chi Gong, very gentle Chi Gong, because I can't do yoga at the moment. I can't get into my yoga positions.

Victoria Smith
Yes, absolutely. Cause you're impinging.

Caroline
I can't get down on the ground. But I go for a walk every day.

Steven Bruce
Is Chi Gong like tai chi?

Victoria Smith
Yeah, glad you asked that question.

Caroline
It was almost like I've worked back from yoga and couldn't manage tai chi. So I think it's like the very, very beginnings of that.

Victoria Smith
And you work as a...?

Caroline
I'm a clinical hypnotherapist. So what I've managed to do, I mean, what the pandemic has done has meant a lot of my work is now online. I have standup desks for those. So I alternate between standup desk and sitting.

Victoria Smith
What do you prefer?

Caroline
Stand up. But obviously, if standing up for too long, I get really sore. This leg gets very a real sense of tenderness along this part of the thigh.

Steven Bruce
So you got self-modification of activity here? Because it's comfortable. What would you be advising then?

Victoria Smith
So I'd be looking at how they do those activities. So I think, looking at how she sits, looking at how she stands and see if there's anything we can do to address any issues there.

Steven Bruce
Are you just gonna cheer her up by saying, well, you're never going to go back to yoga, it's just not gonna happen.

Victoria Smith
Modified yoga. Yes. So I think with yoga, I've got a yoga teacher, she is a patient at the moment, she's got, I think one of those x rays might be hers. And she was going to have surgery on her hip, but the symptoms reduced really well with conservative management. So I said, I would advise against it. I spoke to the surgeon, he said definitely don't have it done. So she's now practising yoga, she's really well, because we've managed to take her out of those extreme positions, and she just doesn't go into them anymore. But we had to calm her hip down first. So I would say it's not a question if you can't go back to it, it might be that you can go back to it but a modified version and go okay, well, I can't do that like that. So I'm gonna do it like this instead. So it's learning and that's the job of you know, your healthcare professional to help you work those paths out.

Steven Bruce
It's interesting, it's not clear cut. I don't know how often you're wrong about this, but you obviously got a lot more experience than most people in hips, because that's what you specialise in.

Victoria Smith
Yeah. So usually you put all those sorts of Clinical findings, subjective findings together. Are you all right? Is that uncomfortable? Although I did recently.

Steven Bruce
Would you be better off sitting up?

Caroline
I'm actually better lying down. Sitting is what makes the angle...

Victoria Smith
So often sitting is provocative, especially if sitting in a position where the hip, so the knees are higher than the hip. So again, you're impinging. So it's looking throughout the day at what those positions of impingement are. Are you doing them too much? Can we reduce that? Can we change that? Relaxing the leg as well.

Steven Bruce
Must be hell for primary school teachers, isn't it? With those little seats that they have to sit on.

Victoria Smith
Well, interestingly, the case here that I have got, if we get to it, which I don't think we will. She was a primary school teacher and modifying her activity.

Steven Bruce
We should try and get to that, because learning about the modification of activities will be a useful thing to do.

Victoria Smith
Yeah. So you asked me if I get it wrong. And I had an interesting patient recently, who was 30. No, she was 28, presented exactly like this, pain, flexion, internal rotation, positive Faddir. I sent her away with lots of exercises, I think she was a carer in the community, lots of driving. Certainly, with loads of activity modification, she came back, I feel so much better, pain is absolutely pretty much minimal. We would do some strength work on deficits we found. And she'd had an x ray booked because the x ray had taken ages to happen. So she had the x ray anyway. And she had severe OA in her hip. So the pieces of the puzzle weren't aligned for that to be a differential diagnosis.

Steven Bruce
But you helped her anyway.

Victoria Smith
Yeah, exactly that. So I think that's the sort of takeaway from it is actually, things did settle with activity modification. She was basically impinging her hip because she developed, you know, less joint space. So it was the same presentation, and with her age, and she actually had what's called AVM, so avascular necrosis. But she had no risk factors for that either.

Steven Bruce
That seems to be popping up more and more in our discussions, AVM.

Victoria Smith
Really? Interesting.

Steven Bruce
Maybe it's just I'm noticing it more.

Victoria Smith
Yeah, so yeah, looking at obviously risk factors, but she had none. So I was thinking, look back through my history. Did I miss? No.

Steven Bruce
Right now, do you need to do anything more with Caroline?

Victoria Smith
Not unless anything else you want to go through?

Steven Bruce
No, I think I'd love to get to that case history if we can get time. We've got 25 minutes left, so we can possibly get through the case history. I got some more questions. And I'd like to talk a bit about things that people do wrong with their patients, too. Because we get so many patients coming to us from physiotherapist to giving them the wrong advice.

Victoria Smith
Of course you do. So I think in terms of what you can do wrong with this hip condition is try to force movement. So trying to regain flexion or regain internal rotation is likely to stir that person up. So you want to work with a range of movement you've got. It's not a case of more movement that that hip will become less symptomatic.

Steven Bruce
Yeah. So the mobilisation techniques you could absolutely use with this, you know, and sort of looking at, so somebody who, for example, stands in this kind of hip hand position, think about the migration of the femoral head, superior, laterally, actually, they might do quite nicely with a distraction technique, or somebody who's kind of developing more of a medial kind of guide.

Steven Bruce
I'll tell you what, and some of the people watching may well have tried this themselves, there's a very famous osteopath who actually learned this technique from a physiotherapist. But he had a patient who had hip pain, had very reduced internal rotation. And the physio laid him laid him on his asymptomatic side, and basically belted the head of the femur, the greater trochanter. And I think, once gently, next time, a little bit harder and the next time was a full-blooded wallop. And this guy was scheduled for hip replacement, and actually then didn't have the hip replacement because he regained that movement. And I think it probably gained him another three or four years before he went for the surgery or something like that.

Steven Bruce
But of course, neither of those things we talked about is moving it into an extreme position, it's just giving it a belt to try and put it back to where it should be and move it better.

Victoria Smith
Absolutely, give it it some relief as well. So, you know, gentle mobilisations can be great for pain relief, it gets to synovial fluid going, and it could just give some nutrition to the joint generally.

Steven Bruce
See, the difference in our terminology already, you talked about manips, and I talked about belting it.

Victoria Smith
You do, massive mobilisation.

Steven Bruce
You used the term manips earlier on when we were talking about someone else.

Victoria Smith
Yeah exactly. There's definitely place for some form of manual therapy, managing this hip condition. But as you said, it's the extremes of positioning that you want to be avoiding and looking at exercise choice. So if you're given an exercise choice to really try and work that hip into an extreme, you're likely to flare it up or not get it to settle. So if I was in a proper consultation with Caroline, I'd be looking at first of all, I'd be looking at that gripping, where she can't relax the leg, looking at pelvic floor as well in connection to that.

Steven Bruce
Because?

Victoria Smith
Because there is an association with the with hip muscles and pelvic floor. So if you're gripping the pelvic floor, you're also going to be increasing the tone through those muscles, which can then translate into the hip. So it's looking at the whole picture, really, looking at breathing patterning as well. So you know, some in a very irritable hip, you might just want to send them away practising. Okay, breathing and relaxing, which we spoke about earlier, didn't we, and finding a position that they can do that in comfortably. So I'm looking at, you know, strength deficits.

Steven Bruce
Do you think that you see FAIS in, I'm thinking women here particularly, more after childbirth when pelvic floors tend to suffer a little bit?

Victoria Smith
Symptomatic, yes, so they maybe have had it...

Steven Bruce
They might have had it before, but it becomes symptomatic.

Victoria Smith
Often we see it when someone's pregnant, or after. That's a really good point, actually. Because that's really important to ask, and yes, you're right, often we'll see it either after childbirth, or they develop symptoms during childbirth, had been forced into position, you know, hold your legs up, or you know, stirrups. Things we women have to go through. But yes, that can often bring symptoms on. So yeah, definitely, you can see that.

Steven Bruce
Should we release, Caroline. Thank you, Caroline. It's very kind of you to come in.

Victoria Smith
Thank you for letting me you know, really push your hips.

Caroline
Thank you.

Steven Bruce
Look at that, that's a very good way of getting off a treatment table. She has been well schooled. Let's get back over here.

Victoria Smith
Have a quick slurp as well, as you know, talk a lot.

Steven Bruce
Just when we were talking about exercises and so on, are there, in all your experience of seeing people who have been to other practitioners, are there specific exercises that people typically prescribe for hips, which you would say they shouldn't be doing?

Victoria Smith
Yeah, I've actually got a slide, I think.

Steven Bruce
Give us the number and the gallery can bring it up, it's the hip exercises slide.

Victoria Smith
Oh, yeah. That was the crossover sign actually. That might be.

Steven Bruce
It's on the handout.

Victoria Smith
Yeah. We get distracted now. So it's number 11.

Steven Bruce
We're not getting there very easily. Oh, here we go. No, that's the positions you were demonstrating earlier on.

Victoria Smith
Okay. Oh, yeah, that's it. So these are some YouTubers with the FAI fix that you're often seeing. But this one, it's not just a straight leg raise, which is fine. It has a hamstring stretch. It's actually the way she's pulling it into internal rotation, potentially, that's not the worst one. But you can see, so we're going into flexion, we're basically just impinging the hip. The same with this one.

Steven Bruce
I can't quite see what he's doing there.

Victoria Smith
Yeah, he's forcing it into flexion.

Steven Bruce
He's got the right right foot over the left ankle.

Victoria Smith
This is basically people trying to push past the pain, isn't it? And try and fix a bony abnormality by pushing through it.

Victoria Smith
Yeah, he has. So he's trying to pull, I'm presuming he's trying to pull that left hip in, and then we've got, again, internal rotation, flexion. And we've got external rotation in this hip, and internal on this one, so just not ideal. If you have someone with an irritable hip that's, you know, struggling with flexion and internal rotation, sending them away with this. This was on the FAI fix I think it was called. It's likely to irritate them.

Victoria Smith
Absolutely. Yeah. So you're likely to end up with pain if you do that. So yeah, just again, it's just using common sense, looking at the person, listening to what makes them worse, and putting that together. And then, obviously, I would be working more on sort of stability than stretching.

Steven Bruce
Right. Okay. So, we've got 15 minutes. Can we run through your case history at the end? Number 12? So we've got slide number 12. And we can look at what you did to help this lady. It should give us an idea of the sort of rehab protocols that might be appropriate.

Victoria Smith
So first of all, it's nothing rocket science.

Steven Bruce
And this is in the handouts as well.

Victoria Smith
So this was a lady who was a primary school teacher, and she had two children. She loved running. She's a fit lady. Yeah, good, healthy BMI. She had been referred in to see me after three sessions of physio, classic, here's an exercise sheet, go away do it. So the exercises she was given, really aggravated her, she'd been given clams, resisted sidesteps, resisted sideline hip abduction and lunges. So some on there that weren't bad, they were just too much for her. So they were just overloading her a little bit too much. So, you know, potentially the right idea with what they were trying to do, but just maybe not at the right stage for her.

Steven Bruce
Clams and resisted sidesteps, I wouldn't necessarily feel were going to be a problem because unless you're taking the leg into severe abduction, you can do a resistant sidestep without extending without abducting too far.

Victoria Smith
I think sometimes it's just what are we working with it. So, you know, clams and resisted sidesteps can sometimes overwork TFL, the lateral kind of muscles rather than the deeper ones. So if we want the deeper system to work, it might just be that you need to strip the exercise back a little bit and then maybe introduce that later down the line. There's, as physios, a lot of us don't like clams, but there are some physios who will say, why not, you shouldn't demonise an exercise, which I'm kind of starting to come to terms with.

Steven Bruce
Somebody's gonna ask me what clams are in a minute.

Victoria Smith
Yeah, it's quite a popular exercise choice. So yeah, that's where she sort of came from, if we could put the next slide up. So she had 13-year history, this is a classic, I see this sort of presentation all the time, C sign, bit of anterior pain, and occasionally some buttock pain, around a three to nine out of 10. She was in a flare settle cycle, so she'd flare up, it would calm down, she then do something else, it would flare, she had been, excuse the name there, but it was it was done for local training. So she was seen by a consultant who specialises in hips, but he didn't specialise hugely in young hips, told her she had dysplasia of flattening of the femoral head at that point. She was told to stop running.

Steven Bruce
And didn't.

Victoria Smith
She didn't. I'm a big advocate of trying to keep someone doing something they really loved doing, personally, even if that's a modified version. She didn't have any mechanical signs now, so no giving way or locking.

Steven Bruce
So with that, are you thinking this is not labral at that point?

Victoria Smith
Potentially, although you can have a labral tear and have no mechanical signs, but really, you're not looking at an unstable labral tear, so if it's not getting caught in the joint, then it's stable where it is. So she was aggravated by standing, walking, running, which she'd had to actually stop because she was in too much pain with it. Low chairs, bit of a problem with her job. She had another called startup pain, I don't know if you're familiar with that term, so startup pain is quite common with this pathology, which is where you sit to stand, and it's painful, kind of almost giving way for those first couple of steps and then it eases off a little bit. Breaststroke, hills, getting in and out of the bath, lying on the right side. And when she had to do anything that increased that load to the right side.

Steven Bruce
So it's all a right sided problem.

Victoria Smith
Yeah, all right sided. So turning, you know, supermarket shopping, when you kind of loading through that right side would increase her symptoms.

Steven Bruce
Okay, should we look at the next one?

Victoria Smith
She had night pain. So she did have night pain when she was in a flare. But when she was in a settle, no pain. She had a history of scoliosis, that was corrected in her teens surgically. Otherwise, she was fit and well.

Steven Bruce
Do you think that has any relevance?

Victoria Smith
There's not really any research that suggests the link. But sometimes with a scoliosis, you could maybe overload one side. So maybe you could be putting more load through that side, which potentially could make you have symptoms on that side. Her mom had a hip replacement age 60. So really, always quite good to get that family history. Are there any issues in the family of hip problems? She was taking ibuprofen and paracetamol. She had a pretty low BMI of 20. And she hadn't had any imaging at that point. So what I found was, she didn't have an antalgic gait, so she walked quite nicely, although she did have some increased internal rotation when she was in the stance phase on that right side. So she was dropping into internal rotation. She stood in a hip hang, so as I showed earlier, classic like that with lots of rotation in that right hip. So she stood like that all the time at work. Obviously, she was a teacher, noted a scoliosis and she had a lot of overactivity in her TFL and her upper glute max, so both muscles feed into the ITB. So they're superficial muscles. So often we see that they get larger when the deep system maybe isn't, the stabilising system, isn't doing their job quite so well. So she had a lateral shift with single

leg stance. So when she stood on that side she did that. And again, that increased internal rotation of the right hip. The left hip was, I don't know why I put improved control, I probably meant to say better. So muscle testing, she had reduced strength in her abductors, adductors, extensors and flexors. So quite a lot.

Steven Bruce
Measured how?

Victoria Smith
So with hand, manual testing. Obviously, preferred choice is, you know, with a dynamometer, but this was an NHS patient so didn't have that in the NHS obviously. So, she was on the side, and she did hip abduction, she had a pattern of flexion and internal rotation, which fitted in really with the sort of TFL and upper glute max being hypertrophic. And hip flexion she did what Susie did, where she hitches her pelvis. So reduced trunk control. So good test for that is a side plank. Studies show that if you can't side plank for more than 34 seconds, you're more likely to get a better outcome. 34 seconds, it's very specific. So range of movement, 90 degrees flexion, but when we corrected, she did this. So when we corrected the technique, she had a bit more internal rotation, 20. Again, I was stabilising, so that's what I was doing when I put corrected, I was stabilising and she had internal rotation of 50 and abduction of 30. So you can see that she had more external rotation, yet she was standing in internal rotation. Okay. Positive Faddir. And she had a positive clunk with Faber. And with Thomas test, she had some tightening, shortening of the TFL muscle. Left hip, full range movement, full strength, so very different hips.

Steven Bruce
So the next one, Justin?

Victoria Smith
So what we did in the first session was we discussed what I thought was her, you know, differentials. I said, I think you've probably got FAI, and maybe some labral pathology in there, we don't know. But it seems to be your hip driving the condition, looked at her age, her risk factors and kind of came to the conclusion that it's likely to be FAI. Although obviously I haven't got an x ray. So I couldn't put it as FAIS because I didn't have that diagnostic tool to give you that diagnosis. So we did a lot discussing her work and her everyday postures, looking at how she maybe is overloading that hip. And that's something I can't stress enough is to really look at that and really sort of delve into that. I requested an x ray. So I requested an AP pelvis for hips, which is what we would request and a lateral hip view. So they're the two kind of hips X rays you would request for this issue. And this is the report from the X ray, so subtle bilateral coxa profunda, so that means deep socket, slightly more pronounced on the right, no femoral head remodelling. So no cam, the lateral central angle of both hips are remarkable. Okay, so no definite signs of impingement on plain film. So I requested an MRI and obviously did this in COVID times. So I think that probably took a long time to come through.

Steven Bruce
Next slide.

Victoria Smith
So here's her x ray. So when it's reported as coxa profunda, that's because the medial, so the acetabular fossa is more medial to this ilio ischial line. Okay, so that's coxa profunda. Protrusio is when the femoral head actually goes past that. You can see that, you know, for me, here's the anterior wall of the acetabulum, here's the posterior wall. So they should be parallel. So potentially, we've got a little bit of what we call under coverage anteriorly, so maybe a little bit of instability anteriorly there, which is potentially why she's dropping into internal rotation all the time. So yeah, no cam. You see the difference between this X ray and the other one, we've got that lovely reduced femoral neck offset, whereas the other ones carried on.

Steven Bruce
Okay. Next slide. So, basically, you've now shown me she hasn't got impingement.

Victoria Smith
She actually, on the MRI did have a small cam, very small cam. And she had under coverage, yeah, you could see that anterior under coverage. So she actually had mild anterior and posterior acetabular under coverage. So slightly shallow socket, AP wise. But the way the angles were, I haven't put the angles on there because they can be confusing, meant that she was in slight retroversion. Okay, so she had more coverage at the front than the back than is normal. So she was going into internal rotation too much. She had an alpha angle of 49, which is actually under, we wouldn't use that as a positive for cam. But sometimes they can have an alpha angle of, you know, say 49 but still have a bump somewhere along the femoral head, so they can have an out but they could still have a bump somewhere. So she had a bit of an unstable hips, she had a bit of shallow socket and a bit of impingement as well. So we did a telephone consult at this point because it was COVID. And we couldn't see her. And I sort of discussed this with her, I think rehab is probably your first option, because we'd found so much in the assessment. So she was very anxious because previous physio had aggravated, so then I was like, yeah, we'll get you in. We'll mask up, you know, we'll do the whole PPE and we'll get you in. So I looked at her doing a bridge, supported lunge, single leg stance, all too difficult for her. Pain straightaway, when she did all of those, we move on to the next slide. So I gave her some exercises to do that she could cope with. So we looked at some pelvic tilt, she couldn't manage the bridge. So we sort of broke that down a little bit into a posterior tilt, I put a ball between her knee so she could get a little bit of static adduction.

Steven Bruce
What is this, Crook lying ball?

Victoria Smith
Crook lying ball. Ball between the knees, doing a pelvic tilt with some static adduction, contraction, she couldn't lift because she found that too painful. Crook lying, alternate leg cycles, we found this quite dominant TFL. So wanted to start to try to get some length through there. So using her heel, sliding, and then using her heel to come back up again. We looked at her standing posture. So balloon, that's just a cue. So imagine you have a balloon, where your ponytail is if you've got one.

Steven Bruce
I had my hair cut today, otherwise.

Victoria Smith
You had a lovely one earlier, didn't you? So yeah, using the balloon and to use wall and hand support if she's standing for more than five minutes. Luckily, she's on summer break from school. So we had time to kind of calm her symptoms down. We looked at sitting posture, and we discussed her expectations. So what might happen when she returns to work and how could we work with that. I've been taught progressions from here, moved into the bridge and the double legged squat, you can move on from there now. And then I reviewed her again. So she actually had really, really calmed down by this time, she'd added in bridging and double leg squat, which isn't always enough to get people symptom free. You often need to do more with that strength work.

Steven Bruce
Is that double leg squat with external rotation that you demonstrated earlier on?

Victoria Smith
I tend to go with what they sort of say to me is comfortable. So for her no, I don't think it was, we didn't need to, but I sort of look at the positioning and say do what works for you. By this time, she was back at school, teaching in receptions, so very, very baby chairs. She had no C sign. She had some mild upper glute max ache at the end of a day. But she was back to jogging and cycling. So she was very happy. I gave her an open appointment and haven't heard from her since so she's doing well.

Steven Bruce
That's perfect timing. Because we are three minutes away from the end of our show. I have had a question what is Crook lying?

Victoria Smith
So it's lying on your back with your knees bent.

Steven Bruce
I thought you were gonna say that, is that like a shepherd's crook or something?

Victoria Smith
No idea.

Steven Bruce
I've had a question from Beverly and... It's just died on me. Beverly was talking about her 15-year-old daughter I think, her 24-year-old daughter has a five year history of bilateral hip pain, been diagnosed with FAIS and mild dysplasia, experiences burning pain down her anterior thigh when walking, especially upstairs or uphill. Is this a common symptom? You must be very quick on that.

Victoria Smith
Yes, absolutely. Anterior pain can be absolutely related. It is one of the signs we see.
I think the key with exercise prescription is not to jumping too hard, too fast. So just make sure that they can cope with what you're prescribing. So, you know, if somebody is struggling with single leg stand, don't send them away with the single leg stand, work backwards.

Steven Bruce
So that's pretty much all the questions I've got time to deal with at the moment. Not actually sure how many people have been watching this evening, normally I get the numbers up on my screen before but they're obviously too busy. That's been brilliant. I mean, there's loads of stuff that we can all take away from that. So things that we will see that have been done wrongly by other practitioners, things that will be diagnosed wrongly by perhaps many people because they're not putting the two together, FAIS and labral tears and things like that. And, you know, running through the case history and what you've discussed over there gives us an idea of how we might go about managing these things before we refer for a surgical opinion. Yeah. Brilliant. Victoria, thank you very much, as I say, so kind of you to come all the way up here from Pompey to take part in this.

Victoria Smith
Oh, it's been great. I've really enjoyed it.

Steven Bruce
Now we're gonna have to go and drink beer with that sailor husband of yours.

Victoria Smith
I think we definitely are, if he's still awake.

Steven Bruce
That's it. That's all we've got time for this evening. I hope you've enjoyed that. That's been a brilliant run through on FAIS I think and hopefully very useful for you in clinic. If I find any other questions in here that we didn't have time to ask then I will put them to Victoria over supper this evening and get the answers out to everybody, along with the handout sheet, which I'll send out tomorrow. And the certificates will also be done tomorrow as well. So they were a good 90 minutes worth of CPD this evening. Quick update on what's coming up in the future, we've got next Wednesday lunchtime, we've got another of our case-based discussions. If you haven't taken part in one before, we do these things online. So you join us through Microsoft Teams. And there's a load of people in the room. If we get too many in the team's room, then you spill over into the website, I think. And yeah, we get some fantastic discussions about how to manage difficult cases, or sometimes just discussions over what interesting cases people have seen, which is obviously useful for our own clinical experience. And we ought to be broadcasting on Tuesday the 17th, it's the third Tuesday of the month. However, because we're good eggs at the Academy, we have decided to postpone that broadcast because the General Osteopathic Council is putting on its own webinar about fitness to practice. So I suspect that a number of people will want to watch that and we wouldn't want to deplete their audience because it's such an important topic. However, we are getting representatives from the General Osteopathic Council into the studio here, in the not-too-distant future, I think in June. And we'll be talking about the CPD cycle for osteopaths and probably fitness to practice as well. That'll be of interest in some ways to chiropractors too, because the fitness to practice process is pretty much the same for both professions. So the day after that broadcast we're not having, which is Wednesday, the 18th, we are doing an evening broadcast. And this one is particularly aimed at undergrads or new grads who are trying to set up in business. But I guess anybody who's struggling with the whole process of getting their business running, I've got Elizabeth Curphey, an osteopath who has made it her business to advise people on setting up their own practices. She's coming into the studio,

we're going to talk about the perils and pitfalls of setting up in business, how you can make it more efficient, how you can make your business more successful. Because, as we all know, it's one of the things they just don't tell you in college, they train you with all this wonderful information, and don't tell you how to go out and earn some money from it when you leave college. Hopefully, if you're not an undergraduate or if you're not a new graduate, you'll join us as well because you can also lend your experience to those people who need that knowledge and help them be more successful as practitioners. Going on another week, lunchtime on the 19th. I've got Claire Minshull joining me online, Claire has been my guest in the studio in a number of occasions. She's brilliant, brilliant, brilliant in strength and conditioning. And I can't remember what we're going to talk about on that particular occasion. She and I had a discussion about it the other day, but it slipped my mind. And following that, Tuesday the 24th, another lunchtime discussion. This time with Zoe Mundell, Zoe, again, has been one of my guests on many occasions. So there's plenty of stuff coming up with the Academy. Tune in. We'll be launching our app very soon, which will be a great way of keeping yourself aware of what's going on. But for now, that's it for this evening. Hope you've enjoyed it. Hope to see you again soon. Good night.