

Hip Problems

with Simon Mellor

17th August 2020

TRANSCRIPT

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Steven Bruce

Now we're gonna be talking about hips today. And if you are a follower of the Academy, you will have seen Simon Mellor, our guest previously on the show. We talked then about his approach to hip replacement, which is an anterior approach. It's a recording well worth looking at if you haven't seen it before, useful information there for your patients. But today, we're going to be talking about diagnosis of hip history. I'll get my words right in a second. We're going to be talking about diagnosis of hip problems, different cases, and in particular, perhaps misdiagnosis of hip problems. But Simon, welcome back to APM.

Simon Mellor

Hi, Steven. Thank you very much for having me back here.

Steven Bruce

Now, it's very, very kind. Of course, people might not recognise you because you've changed your style of beard this time.

Simon Mellor

Yeah, well, it's direct effects of Coronavirus, I'm afraid. Having to get a FFP3 mask to fit securely onto a beard is not so easy. So that's why the slightly more trimmed hair is there.

Steven Bruce

Are you back to full pelt now in your own clinic?

Simon Mellor

So, for routine surgery, we have restarted routine operating. Obviously, everyone was aware that during the Coronavirus, meltdown that all of our ventilators from theatres had to be shipped over to intensive care units around the country to provide support there. We have got our equipment back now. And it's a new world. It's different to how we used to work, but things have improved. Yeah.

Steven Bruce

Interestingly I gather that most of those ventilators weren't necessary in the end anyway.

Simon Mellor

It's interesting down in London, they opened up a huge facility.

Steven Bruce

Nightingale Hospital.

Simon Mellor

Yeah, the Nightingale. It's probably one of the biggest ITU support facilities in the country ever. And it was, thank God it was not particularly heavily utilised. But is now there and available if we do need to have it for the dreaded second wave.

Steven Bruce

Yeah. So, we're going to talk today about, as I said, hip pain generally and diagnosis, misdiagnosis and before we came on air, you said you didn't want specifically to talk about hip arthritis. So what are we going to be talking about?

Simon Mellor

Well, we can talk about hip arthritis because at the end of the day, common things are common and a painful, stiff, hip causing rest pain and night pain and a limp is still most likely to be due to hip arthritis. But there are other conditions in and around the hip, that are obviously of relevance and importance to your viewers. I'm thinking specifically of not missing important diagnoses and right behind you now there is a slide showing up an X ray with on the left hand side, a normal looking hip joint and an arthritic hip in one x ray and then on the right hand side, a patient who presents with bilateral hip pain but they actually have sadly got metastatic bone disease from prostate cancer that you can see in the centre, all of those little metal clips which are the side effects of treatment for the prostate disease. And unfortunately, this patient's hip pain is now due to bone metastatic prostate cancer.

Steven Bruce

Can you actually see the metastases on this film?

Simon Mellor

It's difficult to see it the way projects but you can see usually with specifically prostate cancer, you get lytic and sclerotic lesions in the X ray, and if you look, especially in the femoral neck area, you'll see patches that are a lot whiter than normal and also zones that are darker than normal.

Steven Bruce

Particularly on the left-hand side then?

Simon Mellor

Yeah, you can see those white, spherical, circular blobs around the femoral neck which look whiter than the rest of the bone. But there are also patches where there is a lytic process going on, so bone destruction going on, and obviously, and that's a real patient, especially if you're in the physical therapy regime, where you have a patient with a painful hip and you want to try doing mobilisation exercises, for example, that patient may well have a degree of bone damage which could put them at risk of a fracture. And that's something that has to be borne in mind: without the benefit of a good history and, in this case, the benefit of a good X ray, then your viewers might fall into a trap and think this is just hip arthritis and treat them accordingly and God forbid they have a weakness in the bone there which could put them at risk of a fracture which would make a huge difference to their management.

Steven Bruce

Those little metal things in the middle there. What exactly are they?

Simon Mellor

Those will probably be metal staples from the patient having had a prostatectomy operation. The surgeon will have used clips at the time of surgery to stop bleeding vessels.

Steven Bruce

There must be about a hundred of them there.

Simon Mellor

Yes, lots and lots.

Steven Bruce

Yeah, indeed. So in terms of this particular case, then, if that were presenting to us, what would you be looking for in your case history?

Simon Mellor

So, the salient points are obviously the past medical history and the fact that your patient will say to you, if you ask them about their past medical history, they'll mention to you that they've had prostate cancer surgery and then maybe a drug history might indicate to you if they're on anti-prostate cancer medication long term. Then immediately your warning signals will be flashing in front of your eyes that you need to maybe pursue this a little bit further. You would want to talk to them about what their quality of pain is they're getting. Typically bone pain due to metastatic disease is an unremitting sort of pain that's present day and night. Night pain particularly is an issue with metastatic bone disease.

Steven Bruce

Yeah. Is this a typical pattern for metastases from prostate cancer, that it goes into the femoral necks?

Simon Mellor

It goes into the bones everywhere, but the areas of bone which have a good blood supply will tend to be more predisposed to picking up metastatic deposits and that's often femoral neck, as well as the top of the lumbar spine. We sometimes see them in the mid shaft and upper part of the humerus as well. Those are the most common scenarios. There are certain cancers that tend to migrate to bone, the most common ones, easy to remember, they usually start with a letter B. So that's breast, bronchus, brostate, which is this one. And bhyroid as well, do you know about your bhyroid gland?

Simon Mellor

Indeed, both of them.

Simon Mellor

Yes. Thyroid and breast and bronchus and prostate are very common cancers which can spread to bone.

Steven Bruce

And is the pelvis often spared then?

Simon Mellor

No, you often get pelvic lesions as well. And that's often quite a challenging scenario as an orthopaedic surgeon, a patient who presents with isolated lesions within the upper part of the femur, we can hopefully stabilise those impending bone fractures with metal work to prevent a bone fracture. But if there's tabular involvement, then sometimes a surgical intervention can be very challenging. Sometimes the better alternative is to consider other modalities of treatment, you can get good pain relief with radiotherapy for instance, etc.

Steven Bruce

Well, I'm guessing it's always a fear, I imagine of any physical therapist, that they're going to miss a cancer and do some damage through fragile bones or so on. Although we had a really interesting show with a lady called Liz Carson who had suffered breast cancer and is a chiropractor and she was saying that one of the big fears that we have is that we'll cause somehow the cancer to spread through physical therapy. And she pointed out that's just not going to happen. I mean, the danger is obviously the fragility of the bone, as you pointed out, in this case. What comes through our clinics, of course, we're going to be thinking well should be, should we be sending this person off for perhaps hip replacement or is this something that we should manage ourselves? Which probably brings us on to this first case of yours, I think.

Simon Mellor

Yes. So, this is a great example of how I try to manage my patients holistically and not simply be blinkered and look at the obvious. I was referred to an elderly 74-year-old gentleman, I shouldn't say elderly of course, a 74 year old gentleman who had been extended to his primary care physician with a history of episodic right groin pain. He was limping and taking painkillers, and his GP had quite rightly sent him for an X ray. And the report for the X ray came back: right hip arthritis. It would be very simple as an orthopaedic surgeon to look at that description and think that in the clinic I'm going to spend a very short period of time with this person. I'm just going to focus on the severity of their symptoms and as quickly as possible, I'm going to decide are their symptoms bad enough for me to do a hip replacement. But if not, can I refer them to physical therapy of some sort, and not have to worry about them for the time being. But in fact, I like to think of myself as someone that's very interested in the background history and taking a good clinical history is paramount. So, in this particular case, if you actually go to the next slide, this patient when I actually asked him about his symptoms, he said "Well, I get pain when I stand up, especially when I'm coughing or if I'm straining. I don't get paid at night when I'm lying down." And I did the unusual step as an orthopaedic surgeon of actually examining my patient as well. And a full clinical examination is not just moving the hip joints and finding that it's stiff. We always as orthopaedic surgeons, we bang on and on and on, it's always look, feel, move. And look means looking for clinical signs. There may be scarring in and around the hip, there may be swelling, they may be erythema. And in this patient when he stood up, I always start my clinical examination with a patient standing, and, in fact, he drew his attention, when he was standing up, he said "Well, this is where it hurts." and he showed me his groin and there was a lump there.

And when I got him to lie down, the lump disappeared, and when I put my hand over the area where the lump was and got him to cough, the lump reappeared with a so-called cough impulse. And in this patient, in fact, his symptoms were all related to the inguinal hernia that he had developed over the last couple of months. And the fact that he had arthritis on his X ray was of interest to me but not of relevance to him. As was proved in the long run when he went off to see my colleague, the general surgeon, who promptly repaired his inguinal hernia and his symptoms all disappeared.

Steven Bruce

Interesting. You were, I'm sure, being very facetious in saying that unusually as an orthopaedic surgeon, you carried out a proper case history and examination. Speaking honestly, is it the case that there are some orthopaedic surgeons who might look at the X ray say "Yeah, clear arthritis, that's what it is, I'll just fix that."?

Simon Mellor

Well, I think what's interesting in modern medicine generally is there is a move towards pathways streamlining. What coronavirus has taught us also is that we can minimise footfall into the clinic or the hospital by doing a lot of remote consultation and a lot of zoom meetings, etc. And that's great, that helps prevent coronavirus spread and that could help with clinical pathways, but I'm a strong believer that there's nothing as good as actually meeting a patient face to face and a hands on clinical examination is paramount. I can understand how in a busy clinic setting, it can be difficult for a clinician to give due care and attention to every single patient, but I think it beholds to me to take my patients at face value and try and assess them as completely as possible.

Steven Bruce

I think one of the things that's been reinforced through this series of coronavirus shows that we've been producing is the number of people like yourself who have come on and said, "Yeah, sure, the X ray shows this, the MRI shows that but actually that's not the cause of the pain." And of course, we all like to think that we think around those things, but it's very easy to be drawn down that path when you can see something that looks clearly as though it ought to be providing the symptoms.

Simon Mellor

Absolutely. Okay. The reality is, as I said before, common things are common and if the history, the examination and the imaging all points to one particular pathology, then the likelihood is that pathology. There's an old saying, a joke saying, which I often say to my patients, if you see something flying across the sky, if it has feathers and it quacks, it's probably a duck. And in the same vein, if a patient comes to me with a history typical of hip arthritis and clinical examination shows the signs typical of hip arthritis and they have an X ray which fits in with hip arthritis, well, fine, that's the cause. But you always have to be mindful that I'm not treating an X ray. I'm treating a real human being.

Steven Bruce

So the key thing with the patient here, this elderly chap, standing could cause pain with arthritis, of course. So that's not really distinguishing or discriminating is it? But really it's observing what was going on and palpation, I imagine, which gave away the diagnosis here.

Simon Mellor

Absolutely. Absolutely. Remember, the hip joint is quite deeply positioned inside the groin area. So patients with hip arthritis will often describe groin pain and they may be confused by that because your average layperson doesn't think that that's where their hips should hurt. But generally, hip arthritis will give groin pain. But typically, unless their arthritis is particularly severe and associated with a lot of inflammation, and maybe fluid around their joint, they may not be tender in the groin. Palpation of the groin will reveal alternative things that are of relevance. I'm thinking, for example, a cough impulse as in this case, but equally as well, it's worthwhile examining your patients, an examination of the groin includes the examination for those as well. I certainly remember offhand over the last 15 years seeing at least one or two patients who presented with hip pain and they had some hip arthritis, but as an incidental finding they had enlarged lymph nodes, which took them along to a completely different investigative route.

Steven Bruce

Melanie sent in a question a little while ago. She said, would they present with restricted hip movement generally? And I think she's referring to your first slide with the metastases. I've asked for clarification but hasn't come in yet.

Simon Mellor

So if they have no hip arthritis and they have metastatic bone disease affecting the proximal femur and the acetabulum, they may have a perfectly normal range of movement in the hip joint.

Steven Bruce

And you've got an interesting tale of two hamstrings here as well, haven't you? That might be of particular interest to osteos, chiros and physios.

Simon Mellor

Yeah, I'm thinking particularly of proximal hamstring here, not just your standard hamstring sprain, the weekend warrior who just pulls a hamstring as they're running along. Just by a strange quirk of fate, literally just before lockdown and literally just at the end of lockdown, I saw two relatively young people with hamstrings avulsion injuries. So we're talking now about the ischial tuberosity and the avulsion of the proximal end of the hamstrings and the impact of, again, history, examination and investigations onto their management strategies.

Steven Bruce

How common is that? It sounds like it's quite hard to do.

Simon Mellor

Hamstrings avulsion is an unusual injury, but it does occur. Traditionally, typically it's described as happening with water skiing. You can imagine in a position where you're water skiing, you're sort of leaning backwards, legs straight, holding onto the rope from the speedboat and slightly flexed at the hip joint region. And if the skis suddenly jam or catch on something, so that they stop suddenly and the boat pulls you forwards quickly and you sort of bend in the middle at great speed that will put an extreme force on the hamstrings at their origin point on the ischial tuberosity. So traditionally, water skiing was considered to be the typical scenario for causing this sort of an injury. In fact, my career, I've only seen a couple of people who've had hamstrings injuries because of water skiing, but it's usually a sports related or a high impact related injury. So the first patient was a 24 year old elite athlete, a lady who was playing with a couple of friends and was doing cartwheels in the park. And she did a cartwheel and felt that something just didn't go right. She landed awkwardly onto the right leg and flexed forwards with the right leg in an extended position at the knee joint and flexed the hip joint. Immediately was aware of pain at the buttock region but she didn't fall over. She was limping afterwards. It was sore when she sat down because obviously the ischial tuberosity, or the other name for it in layman's terms is the sit bone, and she was seen by her primary care physician who referred her for an ultrasound scan. And the ultrasound scan revealed an avulsion injury of the hamstrings origin. There was not much more in the way of information on the report from the radiographer who did the ultrasound scan, but that immediately prompted a referral to me. And for a couple of reasons which I'll come back to this patient had non-operative management. However, if we go to the next slide, the same story, this was literally just before lockdown. I saw a 26 year old high end amateur rugby player and he was involved in a high speed tackle, where he was struck on the upper thigh from in front at speed with his right foot planted on the ground right knee extended and the force from the tackle pushed his leg and his hips backwards but his body kept on moving forwards and he sustained a forced flexion injury at that right hip level. He fell over and he was unable to walk, he had to be carried off, and quite rapidly after he developed an incredibly impressive degree of swelling and bruising around the buttock and the posterior thigh area. He was immediately seen in A&E and his X rays were normal and this is where a problem arises for this gentleman, because his X rays were normal and he was sent off to physio. He was sent to the physiotherapists for treatment of his hamstrings injury, which was assumed to be a relatively minor innocuous thing. And it was actually four weeks later, when he was still having difficulty with walking and could not bend his knee actively, that somebody clicked, maybe this is more than just a torn hamstring. And he was referred to me and, in fact, he needed surgery to repair his avulsed hamstrings. And it was really difficult for me to organise that because we were at the stage where theatres were shutting almost in front of our eyes. Day by day, there were fewer places where I could actually get into theatre to operate on people. And as a result, it took about another week for me to get into theatre for his operation, which thankfully went well. But the issue with him, we know if you're going to repair hamstrings tendons, that hamstrings avulsion injuries, they retract and they get scarred down very quickly. And even four or five weeks or six weeks after surgery, the process of trying to mobilise this scarred retracted bulk of muscle tissue and pull it back up to the ischial tuberosity is actually very challenging.

Steven Bruce

What's your outside parameter then? How long do you think you could have left this before it was presumably irreparable or much more complicated?

Simon Mellor

Sadly, now, if you look at the world literature for hamstrings avulsions, there are a lot of patients who end up waiting for sometimes months to get to the stage where they see a specialist and go ahead with surgery. And the good news is that it's usually feasible to repair hamstrings avulsions even months down the line, but it's just surgically much more challenging. The typical hamstrings repair technique involves a small transverse incision, just at the bottom end of the buttock just in what we call the buttock fold. And if it's a fresh injury that's quite enough in order to grab hold of the tendon ends that have pulled off the ischial tuberosity and then pull them back up and reattach them. And after several weeks because of retraction and scarring, it usually means you have to have a more extensive incision with a transverse and a vertical limb to the surgery so that the dissection can go down low into the thigh in order to find the tendon ends and then mobilise them correctly and bring them back up to the ischial tuberosity.

Steven Bruce

And presumably that has consequences for rehabilitation afterwards.

Simon Mellor

Absolutely. Yeah.

Steven Bruce

When a hamstring avulses from the ischial tuberosity, how much bone does it take with it?

Simon Mellor

There's a classification system for hamstrings avulsions, which probably no one's ever heard of, but it's by Woods and the scenario is that you can pull off the tendons, there can be an incomplete tendon avulsion. There are three tendons gluing into the ischial tuberosity. And the biceps femoris and the semitendinosus actually are joined together at the top end to form what we call a conjoint tendon. And next to them just laterally is the semimembranosus tendon and you can pull off the conjoint tendon in isolation. The semimembranosus tendon in isolation, or all three of them, the conjoint and the semimembranosus, as a block that can be pulled off with a piece of bone or without. The bony injuries are more common in the children because that area represents a growth centre for the pelvis. So, there's a separate growth centre and therefore there's a cartilage layer, which is a weak spot. So, in children, a hamstrings avulsion will be associated with a piece of bone much more frequently. In adults, it's more typically a direct avulsion from the surface of the bone. So it's a failure of these Sharpey's fibres where the tendons actually glue on to the bone.

Steven Bruce

So in terms of management, and this is probably of no relevance to us as manual therapists, I'm just curious, if it's avulsed with a lump of bone, do you just stick the bone back on and glue it?

Simon Mellor

Well, not glue but yes. Yes, if the tendons are attached to the bone, and that actually makes surgical repair that a little bit easier because it's a question of finding the fragment of bone and then like a jigsaw puzzle, placing that piece of bone exactly where it came from, and fixing it in place usually with screws, which will hold the bone in place perfectly. The tendon avulsions where they just pulled off the bone itself usually involves insertion of what we call suture anchors. So, like a metallic corkscrew anchor which is screwed into the bone itself and these metal corkscrews, they have sutures attached to them already. And you can then use those sutures to lasso the tendons back to the surface of the bone.

Steven Bruce

I had a question come in from someone who remains anonymous. They asked what makes hamstring injuries retract so quickly? And if they are old, do you think that we can make a difference? Either surgically or manually? You even old ones can be fixed surgically. But do you think manual therapy can help in any way?

Simon Mellor

I don't think so. If there's a complete hamstrings avulsion, these patients though it looks different, I mean, this is the message I wanted to get across, the difference between these two case scenarios I've mentioned. A complete hamstrings avulsion, your patient will have an incredible degree of swelling and bruising, quite remarkable bruising. So really quite marked incredible swelling and bruising all the way down the leg. And with a patient lying prone, as in this photograph, you ask your patients to lift their foot off the bed. And on the normal side, they'll lift their foot off the bed because their hamstrings are intact. And on the injured side, they will just there'll be no active knee flexion because there's no link left where these tendons have been ripped off from the ischial tuberosity. So, in fact, clinical findings are quite impressive for the severe degree of injury, where all three tendons have been avulsed.

Steven Bruce

So in terms of case history and diagnosis, you've got the benefit I imagine of very rapid access to imagery. Without that what would be the key things which to you would say I need to get this scanned in case there's an avulsion here?

Simon Mellor

So, when you examine the patient clinically you will also, if you're in the early phases, you'll probably be able to feel a defect. So, when the patient tries to flex the knee lying in the prone position, obviously the muscle bulk is still attached at the level of the knee joint but that contraction of the muscle just pulls the tendons further down into the thigh. And in that situation if you feel under the buttock fold, your hand will fall into

a depression where the tendons have been ripped away. And there'll be a clear difference between the two legs.

Steven Bruce

Would you be able to notice if it were only a partial avulsion, if it was only one of the tendons?

Simon Mellor

So, with partial avulsions, this was the interesting scenario. The lady that presented to me just after coronavirus lockdown, she'd had a single tendon avulsion. Although her ultrasound scan had said avulsion of hamstrings tendon, we went ahead and got an MRI scan for her. I knew in advance of the MRI scan, she didn't have the clinical features that to me that suggested a complete avulsion injury. The MRI scan was confirmatory. The scan showed up that just she just had a one tendon injury and the tendon was just retracted a centimetre or so from where it should be and the other tendons were intact. So for her non-operative management was the correct course of action. Where you have complete avulsion of all the tendons, and there's retraction of five centimetres down into the thigh for example, then clearly that patient is going to have a very poor functional outcome in the long run without surgical repair.

Steven Bruce

Right. But again, I guess my question for all those manual therapists who can't refer immediately to MRI, if there's a partial avulsion clinically what is it that might make them say- Is it because it's simply going to be not responding to treatment that would send them on to you or for imaging?

Simon Mellor

With a partial avulsion you will probably see less in the way swelling and bruising. They will have active knee flexion against gravity and against resistance but weaker than the contralateral side. And for that person a sensible rehabilitation programme will hopefully see progress week by week with improvements in clinical function. It is always nice to have the imaging at hand but I understand entirely when it's difficult to obtain that you have to act in terms of clinical acumen and understand the severity of injury and the difference between the two types of injury that we've described here today.

Steven Bruce

Veera has sent in a question asking how you would progress the rehab for a major tear and repair.

Simon Mellor

So post-operative rehabilitation after hamstrings is a subject of conjecture. There are lots of different rehab protocols that are published in the literature. My own preference has been to just put the patients into a post-operative knee brace, which limits them from flexing the knee. So, the knee brace will be initially fixed in about 30 degrees of flexion but they can't flex beyond there. And then gradually week on week they can increase knee flexion because obviously that's then pulling on the hamstrings origin. There are certain surgeons worldwide who use different techniques. There's a technique which sounds quite unusual, where after surgery the patient wears a belt 24 hours a day with an elastic band attached to the back of the belt and

the elastic band runs down to the ankle so that they can only walk with the knee flexed up behind them. They can actively extend the knee using their quads, but as soon as they relax the knee springs back into flexion. And the idea is then that there's no drive from the hamstrings firing and pulling on the ischial tuberosity.

Steven Bruce

Nick has asked whether well directed pain management along with soft tissue physical therapy to the distal hams would help with prolonging or improving the outcome if there was a long wait for surgery? What is the standard wait for surgery in, say, the NHS rather than in a private practice such as yours?

Simon Mellor

So I work both NHS and private, I try to manage my patients and typically, in both scenarios, for me a complete hamstrings avulsion injury like this represents a surgical urgency. And I'd like to get my patient into theatre at the very outset, within about 10 days to two weeks after the date of the injury. I don't want my patients waiting longer. As I said before, the longer delay there is, the more difficult my job is in terms of the surgical procedure. So, I don't think there should be any real impediment to prevent this from being considered as a significant injury and therefore requiring urgent surgery. I don't think there's any harm in organising distal massage therapy to try and keep the soft tissues in as good a condition as possible. At the very least if it helps to dissipate swelling, edema, bruising, then that will help with wound healing as well. And I think that's a worthwhile process to take place, pending the surgical procedure.

Steven Bruce

Dorothy's asked whether there's any chance of damage to the nerve supply with a complete avulsion?

Simon Mellor

So, it's not the nerves supplying the muscles that gets damaged but right next to these tendons, if you look at the diagram just behind yourself there, Steven, you can see there's the conjoint tendon on the left-hand side and then just to the right of that there is the semimebranosus tendon. And literally next to that, between that and the femoral neck that you can see next to it, this diagram misses out the most important point which is it's right next to the sciatic nerve. And so, you can get sciatic nerve involvement at the level of the injury as part of the process of the injury because the avulsion and the traction will put traction, because there are soft tissue adhesions between these muscle bellies and the sheath that surrounds the sciatic nerve. So, some patients will appear with evidence of a sciatic nerve injury so they will have numbness and weakness with a foot drop. So, it's not a direct injury to the nerve supply to the muscle belly of the hamstrings, it's damage to the sciatic nerve next to it with effects further down the leg. And in fact, one of the primary indicators for going ahead with surgical repair is if there is significant sciatic nerve injury, then part of the surgery involves exposing the sciatic nerve, decompressing the sciatic nerve at the same time as doing the hamstrings repair.

Steven Bruce

Okay, so that injury is compression through swelling?

Simon Mellor

It's a combination, it's scar tissue and it's also compression.

Steven Bruce

Lucy says what are the long-term outcomes like for surgical repair in cases that had significant retraction?

Simon Mellor

Very good generally, as long as, as I said, earlier repair results in better outcomes. And I'm pleased to say, certainly I don't have a massive case series of hamstrings repairs over my career, but I'm pleased to say that the majority of patients have done very well. And my one index case, the 58-year-old water skier that I managed many years ago went straight back to water skiing without any difficulty in the long run

Steven Bruce

Nick's asked whether, in your experience, a partial tear would be more painful than complete avulsion?

Simon Mellor

No, no, my experience has been that when there's a complete avulsion, it's very sore. And you can see the picture the amount of swelling and bruising, you can understand why Yes, a partial injury will hurt, it will be painful, but the patient will still usually be mobile, maybe just limping a little bit. But with a complete avulsion, often patients arrive in the clinic, non-weight bearing on crutches and in significant pain, unable to sit comfortably. It's a very significant injury, as you'd expect, usually because it's a high velocity injury.

Steven Bruce

Alistair asked a question, it's kind of related to what I was asking earlier on but Alistair is asking basically how would you distinguish between avulsion fractures and significant hamstring tears in clinic without the benefit of imagery?

Simon Mellor

I don't think you'd be able to differentiate an avulsion, a fracture avulsion and just a soft tissue injury in the clinical setting. I think that would be very difficult. I think probably with the right history. And certainly with these clinical findings, I would have suggested that the right course of action is to go ahead and get some sort of imaging as part of your initial assessment.

Steven Bruce

Difficult, though, isn't it for so many physical therapists because a lot of patients are going to be very reluctant to go off for MRIs because they're very expensive unless they've got medical insurance, which so few people have, and of course, statistically, an avulsion fracture is much less likely to occur than a bog-standard hamstring tear. I suspect that in many cases, people are going to manage these things with normal manual therapy and then only thinking about imagery if it doesn't get better.

Simon Mellor

I think if you see somebody with a simple hamstrings tear, and correct me if I'm wrong, but you'd expect them to be in pain on day one but if you reassess them, even a week later, you'll see they have active flexion of the knee against resistance returning, the clinical features will be settling and that will give you the added reassurance that you're not in that case dealing with a hamstring avulsion. And I think, you know, five days or a week delay before referral is not an issue, that's not going to make a massive difference to that patient's outcome. I think it's perfectly acceptable because otherwise our secondary care is going to be flooded with hundreds of people with simple hamstrings tears, where there's this query about whether they have an avulsion injury, and that's clearly not practical. I think it's perfectly acceptable that you assess your patient initially and diagnose they have a hamstrings injury of some sort, reassessing after several days and if they have marked clinical features of that stage and a complete lack of knee flexion against resistance or against gravity, then at that stage it's fair to refer them on for imaging.

Steven Bruce

Okay. Simon, in your last slide here on this particular topic I think, one of your bullet points is athletic aspirations at the bottom there what was the significance of that?

Simon Mellor

Only as much as I saw recently that, I don't know if your viewers have heard of Harry Kane, he's a professional football player plays for spurs and for England, and he's had over his career a number of hamstrings injuries, which the majority of your hamstrings tears have no great relevance, but they've always they've always left him maybe slightly suspect in terms of his abilities with regards to his hamstrings. And I've noticed that recently, he had a further hamstring injury, and he went on and had surgery. And so for my elite athlete patient, were I to see somebody with a hamstrings avulsion injury, where there is a borderline decision between operative intervention or not, maybe they have two tendons avulsed but it's not really very far in terms of retraction, but they want to have the best possible outcome. I think possibly, it's worth pointing out that long term power output from the hamstrings is probably going to be better if they have those tendons repaired rather than allow them to gum up and scar in the situation they're at. And for an elite athlete, even a 5% loss of hamstrings power in the long run will be an important factor. And so yeah, the patient's aspirations do come into bearing to some extent.

Steven Bruce

Okay. Astonishingly we're running out of time already. And I wonder if we ought to move on to these images here and the final video that you've got because the final video is probably quite an encouraging one.

Simon Mellor

Yeah, I just thought it was worthwhile pointing out. I mean, I said I wasn't gonna talk about hip arthritis particularly but just because I had this interesting clinical case. This lady is in her 70s and she's otherwise fit and well, but was referred to me because she has bilateral hip pain, severe pain affecting her ability to stand and walk with marked stiffness in the hip joints and in fact, clunking coming from the hip joints when the hip is flexed and rotated, which is, you know, quite a clear feature of severe hip arthritis. And I think you

can probably see that the X rays show up, marked degenerative arthritis with bone on bone contact in both of her hips. And relevant point in terms of clinical examination was that she has fixed flexion deformity in both of her hips, which is again quite a typical scenario with hip arthritis to get a degree of fixed flexion, but in her case it was quite a moderate degree of fixed flexion deformity and her immobility and functional impairment from these hips is quite, quite significant. I don't know if there was a video, I think the next slide shows a video. It might be worthwhile just showing this. This is this lady trying to walk. And you can see, I mean, I've not included her face, but you can just imagine the grimacing that she had, she's going through such significant pain as she tries to walk with these bad arthritic hips, and you can just about make up and she's stooping forwards at the hip joint. And that's not because she feels more comfortable. It's because she can't stand up erect, she can't stand straight because their hips are in a fixed flexed position. Now, my traditional treatment for severe hip arthritis is a hip replacement. And over my years, I have tended to recommend that patients have the most severe hip replaced first. And if they are very happy with the outcome from surgery and they recover well, then maybe two or three months later to have the next hip replacement on the other side. But this lady is going to go ahead and have bilateral simultaneous hip replacements. And I don't know if any of your viewers are aware that this is something that's feasible. Generally, we tend to see patients who have a hip that is worse than the other. But this lady is going to have difficulty with rehabilitation. If I operate on one of her hips and give her a hip replacement which then has good range of movement, she'll want to stand up straight to walk, but then the other hip will be in a flexed position still, so she'll have difficulty mobilising. And bilateral hip replacement surgery is well described in the literature. There are higher risks having bilateral simultaneous hip replacement surgery.

Steven Bruce

Why? What are the higher risks of bilateral surgery?

Simon Mellor

The surgery is obviously, the duration of surgery has doubled. The timescale involved, more blood loss, more anaesthetic gases, longer time in theatre with the effects of potentially hypothermia if you're not making sure your patient is well warmed, fluid losses, all of these will increase the potential risks to the patient. Blood loss in itself is an issue, there's a higher incidence of transfusions in patients who have bilateral hip replacements. And we now know that transfusion in itself is great if you're anaemic, but there are side effects to transfusion as well, immunologically speaking. So I think the decision about going ahead with hip replacement surgery for both hips in the same setting is a difficult decision to take but for this lady it's the right decision. She's generally fit and well, she doesn't have major medical comorbidities. If you look at the literature about bilateral hip replacement surgery, generally, people advise that you have bilateral hip replacements if you're young enough to be fit and able to withstand such a prolonged surgery time. Or, paradoxically, if you're very old and frail, to the point where the surgeon feels you might not be able to go to two single separate operations and it's better to have them both done at the same sitting. I have to say in my career, I've tended to avoid bilateral hip replacement surgery unless it's really necessary. And this lady I think, represents a particular scenario where the correct course of action will be to go ahead and operate on both hips at the same sitting.

Steven Bruce

Would I be right in thinking that with the risks from coronavirus COVID-19 that actually is better to get her in once than get her in twice?

Simon Mellor

Yeah, there is a theoretical risk from Coronavirus affecting our elective patients. Thankfully we are doing above and beyond what is necessary to minimise that risk for our elective patients. In fact, the elective patients having routine hip and knee replacement surgery now are the safest people because they are being asked to self-isolate prior to surgery. They have coronavirus tests, both two weeks before surgery and also three days before surgery. So, we are pretty sure that when they come into hospital, they are coronavirus negative. They are having surgery in what we call a green hospital. So, hospitals in this country now separated out into hospitals where there are coronavirus patients and hospitals which are coronavirus free. So elective surgical departments are in green hospitals where there is no coronavirus. Staff obviously wearing gloves and masks. Patients are separated from the other patients in the hospital, no visitors in the hospital. All of these features are introduced. So that realistically, I think having elective hip surgery at the moment is probably at its safest because we're taking all of these precautions.

Steven Bruce

I think in the last show we did with you, you said that the vast majority of your anterior approach hip replacements, I think they were back on their feet the same day weren't they?

Simon Mellor

Same day or next day. I have a number of patients that will typically come in, have surgery and go home the next day.

Steven Bruce

So, this this lady would not be in hospital for a particularly long time?

Simon Mellor

No, because of her age and the fact she's having both hips done, it might take a little bit longer. But I'd still like to imagine that she should be up and walking, and walking more comfortably than she is now, less than 24 hours after surgery.

Steven Bruce

Simon, that's brilliant. I mean, are you making life difficult for yourself? Because I've had one comment saying how wonderful it is listening to real cases like this and please, can you come in and talk to us again. So if we can get you back in again, then I'd like to. There were a couple of things that came in, the cancer issue was particularly of interest to people and I forget who it was now, Daniel said does the imagery, does X ray increase the risk of metastasis?

Simon Mellor

Does imaging increase the risk? You mean by having x rays?

Steven Bruce

Extra radiation, yeah.

Simon Mellor

No. So having an X ray, pelvic X ray, I'm not entirely sure of the exact figures, but from my recollection, I know a chest X ray is less radiation than you get flying across the Atlantic. So, from that point of view, I think having a pelvic X ray has no bearing in terms of the risk of metastatic deposits.

Steven Bruce

And the other thing, I was asked to clarify my comment earlier on about the fact that physical therapy is not going to spread metastases. And I think people also look at the broadcasts we did with Liz Carson on breast cancer when I think it came was quite a relief and a revelation to lots of people that soft tissue stuff does not spread cancer. But it's commonly held misconception that we could do that if we're treating people who've been diagnosed with cancer. I imagine you'd back me up on that?

Simon Mellor

Absolutely. I mean, even even as a trainee myself when I was a junior doctor I remember being taught if a male patient presented with a testicular cancer, then really, only one doctor should examine the patient for fear that repeated examinations would cause some sort of progression or spread of the disease. I think that, certainly in my sphere in terms of bony cancers, no, I don't think any indication that-

Steven Bruce

Liz's message was very, very clear that physical therapy is not only useful, it's really, really important, particularly in breast cancers where a lot of the tissue around the breast could be affected and if you're going to recover and rehab successfully, you don't have to wait five years before you can do soft tissue on a repaired breast.

Simon Mellor

Absolutely, yeah, I'd agree entirely.

Steven Bruce

But anyway, Simon that's been fantastic. Thank you for giving up your time again to be with us. I really hope we can get you in again in the not too distant future, but it's great to hear your side of the thing when it comes to hip problems. And also, to clarify in our own minds when we need to refer and the differences between different levels of injury that can occur with the hamstrings as well. So, very grateful for that and thank you again.

Simon Mellor

Steven, thank you very much for having me.