Hips, Knees and Sports Injuries – The Best Approach – Ref 201

with Nadim Aslam

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TRANSCRIPT

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Steven Bruce
Good evening and welcome to the Academy of Physical Medicine. Once again, it's great to have you with us as always, I'm looking forward to this evening's CPD, I hope you are. Looking forward to it not just because of what we're going to learn from this evening's expert, but also because of what we also learn from your contributions. So if I can add a little bit of extra encouragement to keep your questions coming in, and not just questions, your own experience and your own opinions as well, that would be great. Before we start, I thought I'd update you on the APM soap opera, that is to say the move of my clinic from one place to another place about a quarter of a mile away. I only bring this up because you probably heard a lot about it in our recent emails. And I had to excuse myself from last week's case-based discussion because of it. Anyway, we have now completed. We have moved into our new clinic. New being the wrong word of course, because it's a 1624 building, so 400-year-old buildings come with their own challenges, but we are in, the patients are happy, the practitioners are happy and we started business yesterday having had two days off in the move between the two premises. So it is now all over apart from a few boxes and a significant amount of shouting which will take place between me and my conveyancing solicitors while I try and get some redress for the pain and grief they've caused. Anyway, I'm pleased to have got that off my chest. Let's turn to this evening's CPD. I should say thank you for all of those of you who sent in your good wishes during the tedious process that was that move. But let's get to this evening's CPD. My guest this evening is Mr. Nadim Aslam. He is a consultant orthopaedic specialist in the hip, the knee and in sports injuries. And as you can imagine, he has a wealth of experience. He's also a champion of the minimally invasive approach to surgery, which we'll hear quite a bit about in a short while, and I know it will be very dear to your hearts. He's written a whole load of journal articles. He's lectured across Europe and the States. He's trained in the States, trained in the UK, actually worked with a designer of one of the knee implants about which we'll hear later on. So there's not a lot he doesn't know about those particular areas of Orthopaedic Surgery and Clinical Work. What I'm hoping you'll get from this evening is of course, first of all a better understanding of the latest approach to surgery, which enables you to inform patients better and advise them on what might be suitable for them what the pros and cons are and refer them accordingly. But also hear Mr. Aslam's opinions on rehabilitation. And perhaps we can tempt him to offer his thoughts on how we can stop patients using his services by advising them appropriately beforehand. Nadim, great of you to join us. Thank you for coming along this evening. Do you reckon you can help us out with all those things?

Nadim Aslam
Yeah, yeah. Thank you very much for inviting me. We'll try our best to go through everything.

Steven Bruce
Well, I didn't say to people that actually I mean, you know, you are a very busy man. And I know that because it was a struggle to get our pre-broadcast chat organised because you were always in theatre doing endless lists of patients. And I see you've come straight from your clinic today, haven't you? So we're very grateful for you giving up your time, really are.

Nadim Aslam
Yeah, that's great. As you can imagine, after COVID was a huge...

Steven Bruce
Yeah, yeah. No shortage of business.

Nadim Aslam
Yeah, so a lot of stuff to sort of deal with. But time is good, it's all good.

Steven Bruce
Should we start off them with the hip?

Nadim Aslam
Yeah.

Steven Bruce
Now, you make a big thing on the website and elsewhere about your minimally invasive approach. Can you tell us what you mean by that, and how it contrasts with what we've had in the past?

Nadim Aslam
Yeah, I mean, the way that we got involved in this was conventionally when hip replacement surgery was done, yeah, brought forward by Charnley in the 1960s. The approach was that an incision was made completely from the top of the iliac crest all the way down to midpoint of the femur, and all the muscles were stripped around the hip. It may be, if Justin can show us images five to eight, I can talk through that. So if we have, image three please Justin. So here, what you can see here is, that's the basic sort of anatomy of the hip joint. Next image will show you where the capsule starts to come through. And the ligaments, there's the pubic femoral ligament, ischiofemoral ligament there, which is strong, stabilises the hip and then on top of that, you've got the capsule. So the next slide and then when, the next slide, please, Justin. So this slide demonstrates the nerves around the hip joint, the femoral nerve at the front, and the sciatic nerve going down round the back. And if you go to the next slide, please, Justin. So this is the key slide really, when surgeons conventionally did this operation, they stripped the piriformis muscle, the gluteus medius, minimus muscle, all of those muscles were stripped off the bone. So as a result, once the femur was resurfaced, the stem was put in and a socket was put in, you ended up with a lot of possible instability in the joint, and it took a while, all these muscles would have to be then sutured back on. And it took a good six weeks for them to heal back on.

Steven Bruce
I'm surprised at that. I'd always assumed that actually you'd bisect the muscle and work through it, not detach it completely from the bone.

Nadim Aslam
Well, in the original hip replacements that were done, Charnley actually removed the trochanter. So he actually removed a solid chunk of the greater trochanter. And then did the hip replacement and attached it back on the wires. But a lot of the approaches now stripped those posterior muscles, or some of the lateral muscles. So what we found was, we had patients who were in their 40s, who were in their 50s. And they were saying to us that look, you know, 30 years ago, we had to learn our back after surgery for six weeks, we couldn't drive for six weeks, we have to watch out for dislocations for months, you know,

things haven't progressed, we really want to get back to work quickly or drive quickly. So this led to the development of, in collaboration with the anaesthetist and the hospital anaesthetic staff, pre-assessment staff have a process, which was a team process, how we could improve the recovery and outcome for these patients. And part of that, a small part of that, but important parts of that was the surgical technique. So what we found was rather than go stripping all these muscles, we could actually go between the muscles, go onto the neck of the hip, and cut the neck in situ. So we didn't dislocate the joint, we cut the neck in situ, removed it with a corkscrew, which is essentially what you would do if somebody had a fractured hip, and then built the hip in situ, both the socket and the femoral component. So I can just show you quickly here. So here's a femoral component. Let me just show you actually here, this is a model where it shows a hip replacement. So the socket is resurfaced, the femur, the thigh bone has the stem which is put in. And because all the muscles were attached around *audio problems* as and were functional, what we found were the results are very, very interesting. First of all, the bleeding was minimal. We have less than 50 mils of blood loss compared to 500. Bruising and swelling was reduced. And we found that the hips are very, very difficult to dislocate, even on the table. So that gave us confidence that the recovery could be speeded up. So we allow people to drive after two weeks, we allow people to lie on their side straightaway. And we found that their recovery range, their pain, swelling, and everything improved substantially. And one of the reasons, I think the important, one of the important reasons I believe, is the capsule. Because when you develop arthritis, and your sort of colleagues will understand this, is that one of the first things that happens is the capsule starts to contract. So you get a loss of rotation of the joint that not only controls rotation, but it also has what we call a proprioceptive function, where it gives positional sense and pain receptors. And in a conventional hip it's removed, so you lose that feeling of balance and proprioception. Whereas with the approaches that we're doing now, we maintain the capsule, put it back in, put it back, attach it properly. And so I think patients feel more confident on the hip, because they get some degree of proprioception and feed back straightaway. So that's that in terms of hips. That's how we've sort of moved on and developed things.

Steven Bruce
Does the capsule recover after that and regain some of its flexibility or is it contracted because of the arthritis? Are you stuck with what you then got?

Nadim Aslam
No, well the capsule, if you did a conventional hip replacement, the capsule will be excised. So what happens in that scenario is that the capsule is excised. Initially you end up with blood which becomes gel within two weeks, which becomes scar tissue, startings of scar tissue within about six weeks. And by three months the scar tissue goes from being like leather to very, very quite firm, strong rubbery material. You'll start to gain stability. It won't act as a contractor, but it will sort of give you some stability. Now, if the capsule is preserved, what will happen is from the beginning, you will get some structure which contains the bleeding, the hematoma, the swelling, and you will also have a structure which will be supple because it's released to a degree, but it will give proprioception and the feedback in the joint to give your patients the confidence that they can mobilise in the joint earlier. And I think the most important thing is it reduces the dislocation rate and the joint replacement, because as soon as you start to remove the capsule and the ligaments, the dislocation rates can be higher.

Steven Bruce
What is the comparable dislocation rate?

Nadim Aslam
So, if you look at, the dislocation rate is dependent on a number of factors. And the dislocation rate is dependent on preoperative factors such as patient factors, interoperative factors such as where you position the components, and the type of components and post operative rehabilitation. If we assume that the patients that we're choosing for surgery don't have a neurological disorder, such as Parkinson etc, and the post-op rehab is the same. And it's just based on the technique, then the dislocation rates reported are around about 3 to 5% for conventional hip replacement surgery, but for approaches which preserve these muscles, they're down to about 1%. Every hip, every artificial hip is taken to an extreme position, you know, can lever out just because of the way that it can, the hip can impinge on the socket itself. So I just demonstrate that. So here's a hip replacement, initially flexion, extension is not a problem, but there will be a stage where if you rotate the hip, but it impinges on the socket, and starts to lever out. But that's quite an extreme position. If your capsule and other structures are intact, then they will produce pain at that point, which will stop you going further. Whereas if you've got no feedback, you can lever out. That's the difference.

Steven Bruce
Are you still approaching this laterally this operation? Or do you come in from the front?

Nadim Aslam
No, what happened was, when I started developing this approach, I mean, the first few patients I had, were interested in the approach, which was called the Super Path, which is an approach that had come from America. Now, it's not an approach that I commonly did. So I offered to refer these patients to one or two people in the country who did it. But they were insistent that they wanted the approach done by ourselves. So we then went on a training programme, which involves going to Rotterdam, St. George's Canterbury workshops. And then what happened was, we carried out a list of three, four patients, with the surgeons who did this approach coming and joining us. And we found that the results were so good, that we continued. And I'll come back to your question, what we're doing is that those initial approaches, we started to approach from the top of the joint. So we're actually, what we were doing was making an incision around the trochanter. So if I can just show you a model of an arthritic joint. So that's an arthritic joint. Now, as you say, there's various approaches, you can come lateral, you can come directly on the side, there, you can come from the back, or you can come from the front, what we actually do is cut the hip from here to here in position and come from the top. Initially, we came from the top, which involved Xray controlled but what we found was that was quite, that was a very difficult way to approach the hip. So now we can't do a minimal invasive approach from here to here, and come from the posterior, slightly posterior, which allows us to go in and preserve the piriformis and the upper muscles.

Steven Bruce
When you showed your original slides, you talked about the femoral nerve and you talked about the sciatic nerve and of course branching off from there are lots of other nerves and they seem to be of course more anterior and posterior. What's the potential damage to nerves through your approach?

Nadim Aslam
Right, okay. So the important, the two common minimally invasive approaches are posterior and anterior. For the anterior one which I don't do, there's a high risk of damage to the lateral cutaneous nerve of the thigh, so your colleagues will know that that nerve goes just above the anterior superior iliac spine. It's a sensory nerve, which causes numbness over the lateral aspect of the thigh, made worse in a sitting position. So that can be quite painful, it's called myostatic paresthetica and it can be very painful condition. So that incidence on the femoral nerve and lateral cutaneous nerve, injury is higher in an anterior approach. In the posterior approach, we found that the incidence of nerve injury is reduced. So the quoted incidence of nerve injury in the posterior, normal posterior approach would be about 1 to 2%. My own experience has been that we've seen probably one in 300. And most of those are what we would call neuropraxias. So their nerves, which have been stretched, and develop a conduction block, which will recover, and we normally advise patients that they recover a millimetre a day, and can take 18 months to recover, we found probably about one in 300 cases of that which recovers normally within six weeks. There's a variation of that sciatic nerve, so it does split and sometimes it splits above the piriformis. Sometimes it splits in the piriformis. Sometimes it splits below, which is where it normally splits. So surgeons who release the piriformis, or retract the piriformis can sometimes, you know, inadvertently cause pressure on the nerve that way. I think most of these injuries are neuropraxias. We would advise observing and treating with passive movement. Absolute key is to maintain passive movement to the joint, the ankle joint, the foot joint for a foot drop until the nerve recovers. Because there are a number of patients who we sometimes see who haven't had passive exercises, or range of motion of the foot and the ankle. So by the time the nerve recovers, the joints are stiff. And then it's really impossible to rehab that.

Steven Bruce
That's really useful for us to know. There's a couple, several questions have now come in, the obvious one, which has been sent in by Matthew, who's for reasons you won't be aware of, is also known as Mrs. Trellis, probably mainly at weekends. He says, why doesn't everyone do it this way? Because you must have done this, because evidence suggests to you that it's the best approach. And yet, if we're all dealing in evidence-based medicine, everyone should be doing the same thing.

Nadim Aslam
Yeah, it's a common question that we get asked. Now, essentially, an operation has a sequence of steps. And every step that you do is based on your experience and who's trained you. So let's, for example, say that the most simplest step in the operation would be closure of the skin, now we have looked into this, and we always do an absorbable suture, subcutaneous closure, because it's cosmetic, you don't have to take any stitches out, there's no infection risk. But a significant number of surgeons will just use staples. Because it's easier. It's quicker. It's what they're used to. Now, a lot of the surgeons have trained under Charnley. So when I've trained with surgeons who trained with Charnley, now, the problem in Britain is that the majority of hip replacements that were done here, originally, were based on techniques, which involves cementing and a large amount of dissection and removing large amounts of bone. So when people have got used to those techniques, they kind of say, well, the majority hips do okay, anyway. And if we do a small approach, we can't see anything. So we'll stick to what we're doing. Part of it is the older generation of surgeons who don't understand the need to change. And then part of it is that it is technically much more difficult. And nowadays, you have to go, I mean, it's not like 20, 30 years ago that in a surgical

practice, you can start to sort of experiment and things. You really have to go and cultivate workshops and work out the process to do this. But if you go across to Europe, and you go to America, these approaches are now 70, 80% of the approaches that are coming in. So I think it's a combination of factors that most hip replacements will do well. So there's a 90% satisfaction in the hip replacement. Knee replacement is a different ballgame, is 80% satisfaction rate. So people say, well, 90%, okay, all right, fine, you have to lie on your back for six weeks. And you know, you have to protect it. But at about nine months, things will be the same. But what we find is that it's that initial return to activity and function, which is what patients want. In fact, we found that the recovery rates for such much quicker, that even on patients who are now any age, 80, 90, we do the same approach. Because we've got used to the approach now that we actually find it, we can do it easier than a conventional approach.

Steven Bruce
When you talk about those percentages in Europe and America, just how many, how many surgeons trained in this approach are there in this country, or what percentage of operations in this country are of this approach?

Nadim Aslam
So I'm saying the minimally invasive surgery in Britain, it had a bit of a bad name. And the reason was, that about 15, 20 years ago, the approaches came from America, and surgeons who weren't trained in doing the approaches started doing them. And one of the approaches in particular, which I talked about, when you come from the top into the trochanter, was an approach that was used by a few surgeons, and if you weren't, if you're not careful, it can lead to fracture. So the initial experiences when those approaches came, there were higher rates of fractures and injuries. And the same applies to uni compartmental, partial knee replacement. The experiences showed higher complication rates. So they fell out of favour. Now, I think now, there's a resurgence of these approaches, because now they've developed techniques and expertise to do them, so they're much more accurate, and that those complication rates have gone right down.

Steven Bruce
Right. In that case, when a patient comes to see one of us and says, oh, I've been told I need a hip replacement by whoever it might be. And we wax lyrical about what we're learning from you. And they say, great, that's the one I want, how do we refer them? How do they get this particular approach? Or is the NHS going to say, well, you can do that privately or you stay potluck?

Nadim Aslam
Yeah, I mean, the majority of patients that I see, 95% of patients that I see, interestingly, are word of mouth. So they're patients who've had mean, I've had some patients who come from Aberdeen, from different countries, from all over the country, and when you ask them, why have you come to see us, they've met patients who've had the surgery, or they're aware of daycare surgery and rehabilitation. So probably in Britain you're talking about, I would say less than 5% of surgeons do the minimally invasive approaches. I think, if you go forward in about 10 years' time, you'll find that the numbers will be substantially higher, because the new generation surgeons are looking into sort of being...

Steven Bruce
Is anybody being referred for this approach through the NHS? Or does it have to be private?

Nadim Aslam
No, I mean, I do the same approach through the NHS. And the problem at the moment with the NHS referral pathways after COVID is there are substantial delays. So a lot of patients are moving in terms of getting things done quicker. But really the answer to your question is yes, I do the same approach through the NHS as privately.

Steven Bruce
I hate to ask this question, but I think it is useful if we can give people, our patients a ballpark figure, what would they be expecting to spend in order to get your minimally invasive approach?

Nadim Aslam
Well, in terms of what most patients are given by a hospital and what we recommend is a package deal. So that includes the hospital stay, whether it's three days or five days or one day, the implant cost, there's anaesthetic cost, surgical cost, medication, physiotherapy, rehabilitation, and the package is now around 12,000 pounds. The hospitals that I work at, so there's groups that I work for.

Steven Bruce
And what do you think the waiting list would be in the NHS for a hip replacement at the moment? I saw some horror stories in the press the other day.

Nadim Aslam
Yeah, the waiting list is well above a year, coming up to two years. Now the problem is they are subcontracting out work. So what happens in the NHS is they can't cope. They send work to people who are not busy.

Steven Bruce
Are there any?

Nadim Aslam
You do find some, you know, they're all surgeons coming to treatment centres from abroad who are able to do the work. But, you know, in terms of NHS hospitals, they're extremely busy at the moment, in terms of because the backlog has been huge. The other problem that we're facing is the complexity of these cases has gone up, so people who've been waiting around, ended up with joints which would have been relatively easier to sort out. And now the femoral head has collapsed, or the joint has become contracted, or we're seeing some patients who literally got inflammatory conditions, and the joints have dissolved away. So you're going from a relatively easy reconstruction to now to a much more aggressive operation.

Steven Bruce
I'm sure I'm not alone in your audience this evening in thinking that, if you have impaired mobility, because you've got a hip problem, and you'd have to wait a year for that to be rectified. And then you've got to

spend several weeks lying virtually mobile on your back, there are all sorts of other potential health problems that come with that other than just problems of mobility.

Nadim Aslam
Yeah, I mean, there's a real, a lot of patients I'm seeing in the situation that you're describing. There are real problems, because a lot of them are elderly people who've looked after their spouses, they've looked after relatives who unfortunately had COVID, and or passed away. They've got substantial problems of their own. And they're deteriorating not only from a physical point of view, but from a mental point of view, there's a huge deterioration. The severity of pain that some of these patients are in, it's incredible. You see these patients, and they're literally shaking with pain some of them, and their relatives eventually said, look, you've got to get it down, forget your husband, and they've come in. What I always say to patients, and what the evidence suggests is that the fitter you are, and the more rehabilitation you've had prehabilitation, which we call before your surgery, the better your outcome will be. And I always say to patients that you'll have the surgery; the surgery is essentially like a trauma to the body. So as soon as you do an operation on most of these patients, and you go see them two hours later, they all look fine. But what happens is that over the next 24 hours, the body suddenly realises what you've done. And then it puts a significant strain on the heart, the chest *audio problems* a degree of cardiovascular conditioning. That's the response, which then you can call control problems for patients. And the key thing about hip replacement surgery is that the severe pain that they have before the surgery instantly goes after a hip replacement. A knee replacement is a totally different ballgame. But people come in with severe pain, the severe arthritic pain instantly goes after a hip replacement. And it's superseded by a dull ache on the side of the hip, but that severe pain completely good straightaway, unless they've got associated spinal problems. This is not clear. Which is one of the cases that we would recommend injections into the hips. Hip pain does not refer to the iliac crest, it doesn't normally refer to the sacroiliac joint, and it doesn't normally refer below the knee. If patients have got significant pain at night, and the pain is radiating below the knee, or if they've got any nerve paresthesia or neurological symptoms, I would have a high index suspicion there's a coexisting back problem. And in those cases, we would recommend a hip injection, before proceeding to surgery to be absolutely clear on the degree of pain from the hip joint referred from elsewhere. And I would say 10% of patients, 10 to 15% of patients don't have hip pain with severe hip arthritis, but they can have knee pain. And it's not uncommon for us to see patients who've had arthroscopies on the knee, keyhole operation, some even have have joint replacements on the knee. And at a later stage, it's been found out none of those have helped, the pain has continued. And the problem is higher up in the hip joint. And it's the obturator nerve which refers down towards the knee.

Steven Bruce
Yes. So what then is your diagnostic process with a new patient in your clinic? Bearing in mind that the audience this evening is not likely to have the luxury of being able to put in injections to the hip to eradicate that possible cause.

Nadim Aslam
In terms of assessment. So basically, the key is to assess the patient in terms of an accurate history. So location of pain, so most patients who have arthritis of the hip, especially if they've got superior arthritis at the hip, on the top of the femoral head, it's quite important point. So I'm going to show you that because

in most patients who develop arthritis, the arthritis develops at the top of the joint, there. Now that will show on an Xray, that the space has been lost, and they will complain of groin pain, almost universally groin pain, you do have a subset of patients where the arthritis is not at the top of the joint or at the bottom, but it's right in the centre. Now these patients are interesting because they basically have what we call medial sort of polar arthritis just on the ball deep in. And they usually have quite a good range of motion. And they don't normally report groin pain, they will report either trochantering pain, lateral pain, because the abductors are working stronger, or not infrequently they report pain deep in the buttock at the back. So I think clinical exam, so the history is important. If a patient reports significant pain at night, and the pain is worse at night than on walking that rings alarm bells for me, because that indicates that the pain is being produced in the hip joint without actually loading the hip joint. And that usually indicates to me there's a problem going on, within the back, in the facet joints, or other location. If the patient complains of neurological symptoms, below the knee, instantly, I'm thinking in my mind, have they got stenosis, have they got, you know, a degree of sciatic nerve impingement. Then, based on that, after the history is taken, the clinical examination becomes very important because most people, I mean, I've seen a number of people with knee symptoms who've come with knee pain. And as soon as they walk, they have a Trendelenburg gait. So what happens is the abductor muscles, the gluteus medius, and minimus muscles are weak, and they start to throw their shoulder over the affected side, as soon as you see a Trendelenburg gait in somebody with knee pain, you have to exclude a problem in the hip. And there's not uncommon, especially in adolescent children, that between the age of 13 and 15, that they will present with knee pain, and they can have a slipped growth plate. But going back to the adult situation which, that scenario, the slipped growth plate with knee pain in an adolescent is one of the commonest causes of orthopaedic litigation in that group.

Steven Bruce
Is this because the diagnosis is missed?

Nadim Aslam
The diagnosis is missed, and the diagnosis is pathognomonic. The typical way to make that diagnosis is if you look at the patient, and you put them on the bed, and you look at the legs and you look at the feet, the side where the hip has slipped, the growth plate has slipped, the foot is externally rotated, it's almost diagnostic of the whole condition, you'll see that there's a huge external rotation because if this is the growth plate, when you get slippage at the growth plate, what happens is the leg rotates out, so that slippage happens, you get external rotation to the foot. And the patient often is complaining of knee pain. It's been a sports injury, rugby injury, maybe related to an endocrine condition, it's usually children are slightly more prone should we say than adolescent, sometimes hypothyroid problems, and they've during sport or an incident suddenly get knee pain and they can't weight bear on the hip. Now that scenario, coming back to the adult scenario, where the Trendelenburg gait is important. And then the assessment of the gait looking at the position of the foot is important because what your colleagues will find is that when you start to develop arthritis, one of the first thing that happens is that slide that I showed you, where, let me just take this here, the capsule fibres go forward like this and around there one of the first things that happens is that you start to get external rotation because the capsule at the back contracts, then you start to get external rotation of the foot and lose internal rotation. That's one of the signs of early arthritis of the hip, early arthritis of the shoulder that you get a capsular contracture, loss of internal rotation. Where you start to see external rotation of the hip, so that scene on examination, sometimes

you can see a shortening of the hip, but I think a significant proportion of the population have asymmetry and leg length anyway. So that can be difficult. But you get one group which have painful restricted hip movements with a capsular contracture, which is entirely clear, that's a clear-cut group, they'll have painful restriction and they'll lose external rotation. If you flex the hip up to 90 degrees, and you compare the degree of internal and external rotation, they'll have a contracted stiff joint, which will reproduce groin pain. The group that often get misdiagnosed or missed or don't normally get the, people underestimate the severity of their pain is the group that have arthritis on the inside of the hip joint, because that group, I talked about referring to the back the buttock, that group, if you rotate the hip, the hip movements are actually quite free. Because the capsule doesn't contract in that situation, it's more of a central grinding. And in that group it's quite interesting because that type pattern of arthritis, I found is associated with a large number of patients who develop trochanteric pain. And although surgeons and people call that bursitis, I don't think that pain on the lateral aspect of the hip is of a bursitis. I think it's related to the gluteus medius and minimus muscles, and they're having to work harder. It's almost like a tennis elbow.

Steven Bruce
I've heard other people say that trochanteric bursitis is overdiagnosed. You're kind of backing that. Do you ever see it?

Nadim Aslam
Well, I think the majority of cases that are diagnosed as trochanteric bursitis, because the bursar is very small. So the majority of cases that are diagnosed as a trochanteric and if I could get Justin to bring back the slide there, I can't remember the final slide we looked at is lateral sided, hip pain, and I call the term greater trochanteric pain syndrome. That means pain over the greater trochanter, and an image that Justin showed us. And you'll see there is, there's the tendon of the piriformis and the gluteus medius, minimus tendon attaching there. And there's under 30 of these cases, I believe that you can sometimes have a traumatic tear or a partial tear of the gluteus medius or minimus, but the majority of those are tendinopathy. And by tendinopathy, what we're talking about is a process where we've got degeneration in the tendon. And as a result of that degeneration, we're getting abnormal micro vascularisation with sensitive nerve endings going in. And there was a trial done looking at patients who presented to practitioners with lateral sided hip pain, and they were put into three groups. So one group was do nothing. The second group was steroid injection. And the third group was a specialist set of exercises by the osteopath, a physiotherapist based on, you know, excentric stretches and working on the abductor muscles. And what that trial found was that if you did nothing at two years, 50% got better anyway. If you did a steroid injection, it helped with your pain for around one or two months. But at two years, there were still 50% of people affected. But the most effective intervention, at two months another year was a dedicated structured exercise programme based on physiotherapy, osteopathy and so on. And I think acupuncture also has an important role in that situation because acupuncture, what it does is, if one understands the pathophysiology of tendon, what's happened is, it's become degenerate. It's developed micro vascularisation with sensitive nerve endings. But what the acupuncture needling does is it causes scarring or fibrosis which kind of seals up and breaks down the sensitive nerve ends. And certainly, you know, it's not uncommon. Patients with hip arthritis have lateral sided hip pain. And the important thing for the practitioner to understand, is this a primary problem? In other words, is the problem, is the hip joint normal? And the problem arising from the muscles around the side of the hip? Or is it a secondary

problem in that the hip is so stiff that muscles are trying to force it all the time. And they're becoming, you know, inflamed and... So yeah, so I think bursitis is an inaccurate term in most of these cases.

Steven Bruce
I've got quite a few questions that have come in while we've been talking, Nadim. In fact, some of that became in quite some time ago. Carrie asked an interesting one, she said, with these new hip replacements. So what you showed us with this approach, can this be done to replace as a revision of an older, different style of hip replacement or not, and what's the life expectancy of your hip replacements.

Nadim Aslam
So I mean, the life expectancy of a hip replacement, whether you do a minimally invasive approach or an open approach, nowadays, we would say there's a 95%, 90 to 95% 10-year survival, which means that 90% to 95% of hips will last at least 10 years. So what we found over the years, as the hip replacements have done better than what we thought we used to say to people, you can't have it till you're 60, because after 10 years, you'll need another one. But what we're now finding is that these hips, if they're done accurately, can last 20 years, 25 years. So the approach, I believe the approach doesn't significantly affect the survival of the implant. Coming back to the revision stage, I think the revision situation is a difficult situation, because you have to be flexible in a revision situation. So if you've got severe damage, and depending on the individual case, there's a lot of bone loss or the implant is infected, then you have to be prepared, I think, to really do quite an extensive sort of wash out debridement and release. If it's a straightforward revision, for example, that the socket, the liner of the socket has worn, then you could do a lesser approach to place that. Now, so, if you look at most hip replacement, so, my preference in a younger patient, in fact, most patients is to use ceramic as the bearing. So conventionally, hip replacements are similar. So conventionally, we use polyethylene plastic on the socket. And then a socket, which I use uncemented, Charnley used the cemented socket. Nowadays, the bottom sockets aren't cemented, they're coated, you can see here, they're coated by coating, the bone will bond on to. So, if you avoid the initial complications, which are infection, dislocation, and you're 10, 20 years down the line, and the socket, wears in these modern cups, you can just remove the liner and keep the cup in place, and then insert a new liner in. So that's a relatively straightforward revision. If you've got a whole thing that's failed, then you'll need a bigger exposure. And then on the femoral side, the reason for most revisions is that the stem has become loose. So that's either because over a period of millions of cycles, lots of wear particles have been produced from the plastic, which has led to the loosening or it's a failure of the stem to actually bond to the bone, which can be a biological failure due to infection, for example. So in the revision situation be prepared for extensive approaches. There's no difference in terms of life survival of these implants, and it's much better than we thought.

Steven Bruce
How do you go about replacing or revising if it's a stem problem rather than the socket? Can you just take it out, stuff some more glue in and stick it back together again?

Nadim Aslam
Yeah, well, it depends on what the cause of the problem is. If the cause of the problem is that the femur, the thigh bone has not bonded, then you can just remove the stem, clean the bone and place another stem in which can be cemented, it's probably best to then cement the stem in because we've already had

a failure of integration of the stem. The big problem in joint replacement surgery is infection. And I always say to patients, and doctors and practitioners that if the wound has not healed, two weeks after surgery, there is a problem. And if the wound is still leaking, and specialists are seeing patients after two weeks and the wound hasn't healed, then there is a real possibility that there's infection there. Once you get an infection, the problem with infection is that once you get infection, it sticks to the bone. And it sticks to more importantly, it sticks to the implant. So it's very, very difficult to get to the organisms and the bacteria without removing everything and in that scenario, you have to literally remove everything, put in a temporary hip or spacer, then gives six weeks of intravenous antibiotics and come in and redo the operation. But it's rare. The risk of infection is 1% in a hip, 3% in the knee, but it is a substantial problem that we try to sort of minimise and avoid.

Steven Bruce
Anything patients can do to assist in that process?

Nadim Aslam
Yeah, so basically, what are the risks for infection? So the risk for infection again, you can divide that into preoperative factors, surgical factors, technique, the operating environment, and then post operative factors. The preoperative factors, which dictate infection risk are, diabetes, if you've got poorly controlled diabetes, if you're on steroids, high dose steroids, polymyalgia rheumatica, rheumatoid, if you've got poorly controlled inflammatory conditions, if you've got psoriasis, or eczema, which is poorly controlled over the joint, that's associated with a higher infection risk, if you're on blood thinners, and you're prone to bleeding, that can be associated with a higher risk as well. Those are pre and then nutrition. If you've got patients whose nutrition is poor, both in terms of protein, muscle bulk supplements, then again, they're going to find it very difficult to fight off any form of inoculation at the time of surgery. The two main things which in 1976, which almost eliminated infection in Orthopaedic Surgery, were the introduction of clean air theatres, laminar flow, and the use of antibiotics. In 1960, when Charnley first did his hip replacement, the indication for a hip replacement was you had to be in a wheelchair. You had to be on morphine for two years. The patients were basically coming to Wrightington Hospital, in wheelchairs, on morphine for two years, unable to walk. And the infection rates of those hip replacements were 20%. 20% was the infection rate at that time. And it was pure coincidence that the Clean Air theatres were developed, because what happened was Charnley found that these infection rates were so high, he wanted to develop airflow system in the theatre. And he actually contacted a company which worked in a brewery called Howarth Brewery Company. They used clean air filter systems for making beer or fermenting beer. And they had warehouses which are huge warehouses full of air systems. So they were invited to Wrightington. Charnley said, this is a small area, I want you to bring that for me. And they almost sort of, and there he was sceptical that they'd be able to deliver that they almost laughed at him, thinking, look, we're dealing with warehouses, this won't be a problem. So the first operating theatre was, in fact, a tent. It was almost like a tent and called a Howarth enclosure in Wrightington with airflow things, which reduced the infection rate almost instantly from 20% to five.

Steven Bruce
Actually, you might have come across this, it's a book but it was based on a couple of studies. I read it six or nine months ago now. But it was about the effectiveness of checklists in improving all sorts of outcomes. But one of the studies behind it was a medical one. And I can't remember the author, I can't

remember who conducted the study, but essentially it was in America, they said right, when you're doing surgery, here's your checklist. And it's not the surgeon who does this. It's the probably the lead nurse or ward sister, whatever they were called in those, who goes through the checklist and makes sure that everyone is wearing two pairs of gloves and has washed their hands and has done all the basic stuff. And apparently, it dramatically dropped the infection rates in theatre, but it was really resisted by a lot of people because they thought we don't need a checklist to tell us these things. They're obvious, but in virtually every case people were missing some stages in those theatre processes.

Nadim Aslam
Yeah, I mean, what happened was, the checklists that were developed were developed in a situation, they were used commonly for the aircraft industry. Pilots used all these checklists.

Steven Bruce
But only surprisingly recently, relatively recently they started using checklist, isn't it? You'd thought they'd have always done it.

Nadim Aslam
Yes. So what happened was I think there was a crash, a pilot crash. Somewhere aircraft crashed somewhere, then there was a medical emergency at that site. And what they found were that things were all over the place, no organised structure, disorganisation. The pilots found this incredibly strange, they said, we have 100 checklists that we did before we start the aircraft. And this is dealing with a fatal almost surgically critically ill patient. So they introduced, the World Health Organisation, introduced the checklist that you're describing, what essentially now happens before every case, there's a team brief. Everybody's introduced to everybody, and each patient is discussed in terms of, are the implants available? What antibiotics are they on, what allergies are on? Are there any specific steps in the operation? Any particular implants or equipment that's required? Is Xray required? What's the anticipated blood loss to be required, urinary catheter, do we have any important steps that we need to take into account and so, is the surgical site marked, is the consent appropriate. I mean, COVID has increased the complication rate in joint replacement surgery by 20 to 40%. So, if you have COVID, and you have a joint replacement, or if you have a joint replacement and you develop a COVID infection, your risk of complication goes up to 20 to 40%. And a large number of those risks are the respiratory risks, or, more importantly, thrombosis risk, because one of the important things that people are not picking up, which I think is the main reason that people have a high mortality with COVID, is the fact of the blood coagulation and the thrombosis risk, because the majority of these people dying after joint replacements who develop COVID are dying from a pulmonary embolus or thrombosis of the major vessels. And so these checklists were introduced, there was resistance from surgeons and various people, but now they're integrated and it's compulsory part. And it's used to reduce errors from human factors. So minimise errors and minimise variation. And it's been a very it's been a while.

Steven Bruce
Of course, in retrospect it seems blindingly obvious, but as you say there was some resistance. I've got a whole load of questions which I will not be forgiven if I didn't get through some of them, Nadim. Morag says, how new is the approach that you're using?

Nadim Aslam
The approach that I'm using has been used in America for over 10 years. For 5, 10 years. Here it's used by surgeons in the last 5, 10 years, but it's not commonly used. But it's not a new novel approach. I've tried various approaches. And I've kind of, I was quite lucky that I was able to work on cadavers, which helped me understand the anatomy, and allowed me to sort of develop approaches without putting patients at risk. And what I found was that what I've done, what I've kind of done is taken the good parts out of all the approaches that I'm aware of, minimise the degree of soft tissue damage without affecting the ability to put the components in properly. So the minimally invasive posterior approach, which I've settled on, is not a uncommon approach. It's been done for 5, 10 years in the world.

Steven Bruce
I said, there's a lot of people watching who rather like me are thinking surely all surgeons practice on cadavers before they have a go on a live body, don't they?

Nadim Aslam
No, no, no, it's uncommon. Yeah, most most surgeons who are trained, they usually train to do supervision on during operation, so they do parts of operations. So your trainer, you'll end up doing the incision, or the approach. Then one day you'll do the socket. Weeks on you'll do the femoral component and the whole thing is put together over a training programme. Because cadavers are very expensive. So cadaver training is not commonly done. But unless you then go on to develop some specific techniques, but it's certainly most people learn on the job as it were.

Steven Bruce
That's why it's always best to get a surgeon who's been doing it for a while. Regarding dislocations, which you mentioned earlier on, you said that the dislocation rate is lower if you don't have to damage the capsule. Caroline has asked why, surely it must be possible to invent a deeper socket or a tighter enclosure to prevent dislocations all together.

Nadim Aslam
You can, the dislocation risk has to be based on, it's a fine balance between constraint and range of motion. So for example, let's say for argument's sake, you had a socket. So let's say for argument's sake, and you just get a socket. So you had a socket, which was like this, that you had a liner, which the head actually clicked into, which it can, and that's called a constraint socket. And that's absolutely fine, you know, if you're 85, if you've got Parkinson's, and you've got nerve problems, because for the most part, you're not going to, you're not going to take the hip to an extreme. But if you're a young patient, what happens is, every time you take it to the extreme, rather than the force being dissipated by a bit of movement at that junction, the whole construct is being levered. Constraint there will lead to rather than a bit of dissipation of force of the head, it will lead to the whole implant being pulled. Same thing applies to the knee, the most constrained knee is a hinge joint, so the knee is hinged itself. So it's fixed together, but the forces that are dissipated onto the bone, and then will be associated by this thing. So when hip resurfacing was developed, which has now fallen out of favour, which was when in the hip resurfacing, so here's a thigh bone, one we prepared earlier, to in a hip replacement, the bone is cut from here to here, the head is removed. Now a hip resurfacing is an operation where the head was basically prepared and a metal socket was placed on top of it. It's what Andy Murray has had. It's something that's fallen out

of, you know, it's not in common use anymore, because a high failure rate, because you had a metal head and...

Steven Bruce
That's something Andy Murray quite used to it, I thought. Sorry, Andy Murray fans.

Nadim Aslam
Yeah. But what that meant was that you had a large head, and then you have a lot larger, you had a socket. So the larger the head is, the more difficult it was to dislocate. But the problem with having larger heads as you produce more wear, so the wear is produced by the surface area contact on the plastic. So the larger the head, you have more wear.

Steven Bruce
Basically, it's a tradeoff.

Nadim Aslam
Yeah, the question being asked is a good question. But it's a tradeoff, do you want earlier loosening to one constraint? And I think there is a situation where you've got Parkinson's or neurological, or people with dementia, elderly people where you will go for this situation where you're going for constraint socket, rather than the risk of dislocation.

Steven Bruce
Okay. I wonder if you're going to give Steven some advice, not me, someone else. He says he's a recent 53-year-old lady with significant limitation of hip movement, Xray and MRI scans and two consultant opinions, one says severe OA of the hip, second OA of the hip and additional injury. And she's waiting 18 months for surgery. But diagnostic information had no benefit. Diagnostic injection, sorry, had no benefit. Sorry, I couldn't read the question. What was your suggestions for him in terms of advising this patient?

Nadim Aslam
If Xray shows substantial damage, and the MRI scan has confirmed that, that is likely that a substantial proportion of the pain is coming from the hip joint. If clinical examination shows that the hip movements are contracted and the pain is in the groin, then it's likely that the hip is still the source of the pain. If they've got no associated spinal symptoms, no neurology, then the question then is essentially the question being asked is, that the hip has been injected and it's not got rid of the pain. Now, if your examination is still showing that the pain is in the hip, and the contractor is there and there's no spinal symptoms, I still think there's a high index that the pain is from the hip and it's not infrequent, but these injections don't work. So first, I'd like to clarify who's done the injection, was it done under Xray control, was dye put in, was it done by the treating surgeon or was it done by a radiologist or radiographer. And secondly, I would probably repeat that injection myself. So you can be absolutely clear by putting dye in that you're in the right place. Now, it's not uncommon that patients who have an injection have, they're normally given local anaesthetic and they're given steroids, it's not uncommon and I've seen it very often. You a painful hip patient comes into the room, you inject the hip, and they get off the bed, and they're absolutely brilliant, the pain is gone. They're walking around, everything's fantastic. At the end of six

hours, the local anaesthetic wears off, patients pain returns. The patient comes back to see you in two months. And they don't remember, they don't recollect the six hours where their pain went. All they remember is that the pain came back, the steroid for whatever reason hasn't kicked in, normally we say to patients that the injection will wear off in six hours. In some cases, the steroid will kick in at the same time. In other cases, your pain will get worse. And the steroids should kick in within one to two weeks. So this could be a situation where that patient, and we give them pain diaries, specifically for this reason, that the pain would have been relieved straightaway. But the steroid hasn't kicked in to work because the arthritis is too severe. And all they remember is that, oh, I'm in pain, and it's not worked. So I'd like to clarify those points because in the absence of spinal symptoms, with a strong index of suspicion of examination of stiffness of the hip, in which confirms that, I think there's a substantial chance the pain is from the hip and the and the injection should be repeated and a clear description of pain relief and timing should be taken.

Steven Bruce
Yeah. Okay. I know, some people have asked already that we move on to the knee. But I've got so many questions left about the hip. I'm just wondering whether we ought to stick with that and make sure everyone's questions are answered. And then perhaps I could impose upon Mr. Aslam to come back and do us another session on the knee and sports injuries and so on. We're going to get him on camera now, he's nodding on camera.

Nadim Aslam
The knee is fascinating, because we can talk about complete knee replacements, partial.

Steven Bruce
I would love to, yes, I have a personal interest in those. So we'll spent a lot of time on those ones. So please forgive me. I said, we talked about hip and knee but there's a lot of interest in the hip. And I'd like to exhaust the questions if I can. Lawrence's says, how soon after surgery can the patient weight bear? I knew you were talking about daycases earlier on. Do you do those for hips?

Nadim Aslam
Yeah, I mean, when I carried out the first ever daycase hip replacement for Spire, for BMI. What led that development? So the answer to the question that your colleague has asked is you can weight bear straight after a hip replacement. If there's no concern about the fixation of the implants, then you can put full weight bear on straightaway. The only reason you wouldn't weight bear fully, which I think is the wrong thing to do, is if you have concern that your fixation was not right, the fixation of the stem is probably going to be okay unless you think that there's a hairline fracture, and then you have to be careful for six weeks. On the socket, you sometimes worry that the socket has not fitted into the acetabulum well, and therefore you've put some screws in to augment it, but you're worried it may move. In those situations, you can adopt an approach that you say don't put any weight on, this is what orthopaedic surgeons get confused, is what we know is the way that the mechanics work around the hip joint that you actually put more force through the hip by going non weight bearing than you do by partial weight bearing. So it's a misconception that you're putting no weight through a hip is better than putting...

Steven Bruce
How does that happen?

Nadim Aslam
Well, it happens because the way that the forces work around the hip, and it's called a joint reaction force, it's the way that the forces work. The muscular forces work. The combination of the abductors, combination of the tension around the hip, that when you put your foot down and I'm not talking about full weight bearing, but I'm talking about putting your foot down slightly, you dissipate some of those forces to the ground. Whereas if you don't put weight down, all those forces and stresses are going into the hip joint. And if your colleagues have got a scale, it's quite interesting actually, that it's very interesting how much if you stand on a scale, and you just put one foot on it and see how much weight you can put in, it's quite interesting, actually, because just by putting your foot onto the scale, just gently, you're putting about 20 to 20% of your body weight through 20, 30%. So, I always think it's better to partial weight bear, than to non-weight bear. Coming back to the daycase situation, I wanted to, I mean, in America, at this moment, 70% of joint replacements are done as daycase. So, outpatient surgery, so patients come in, the operation is done. And then they're sent home 70, 80% of surgery is done that way. In Britain, less than one, 2% is done at the moment. And what we wanted for us, the importance of daycare surgery was, in order to get a patient home on the same day, you have to be at the top of your game, basically. But not only in terms of surgery, because that's a small part. But in terms of the efficiency of processes. So you have to have the patient conditioned, they've got to be prehabed on what they're having, they've got to be motivated, you've got to have the pain control absolutely perfectly. So you don't put morphine in the spinal, you don't give them opiates, which will make them sick. You use a short acting spinal, you get them out of bed straightaway, you give them a glycaemic drink, you keep the blood pressure maintained, the physios will be with them within half an hour, soon as the spinal wears off, not waiting till the next day. So essentially, the Xray's done on the way down from theatre, the whole processes have to be absolutely on top. So that's why we set out to do that. Because we thought, right, let's optimise things and see if we can achieve that, and what we found was that we managed to do before COVID came in, around about four or five patients which literally came in the morning had that surgery, they're walking, and they're going home by five o'clock. In fact, one of the cases I did went home on a Friday, it was a daycare, and the next day, he actually went to theatre, the opera. You know, somebody caught him watching the opera asked him what was going on. He said, I've had my hip done yesterday. So we don't recommend that sort of rehabilitation. But it was interesting to me that he was able the next day to go to the opera.

Steven Bruce
Isn't there a considerable pressure on the NHS to do this? Because think of the impact on waiting lists if you can take three days down to one.

Nadim Aslam
It is pressure there. This is exactly what's being developed at the moment you see, and what we call Enhanced Recovery Protocols. These protocols are coming into the NHS, that early discharge, don't give opioids, minimise risk, get physiotherapy straightaway, get people up. So your hip replacement involved hospital stay for two weeks, you know, about 10 years ago, 20 years ago. Now, you know, they're down to sort of daycare surgery. But I think there's one important thing. Two things, one is the American system,

means that people often go into rehabilitation places, for example, hotels, because it's cheaper to do the surgery, put somebody in a hotel than pay 700 pound a night in an acute hospital. The other which I think is important is that most people on the night of their surgery will be okay. You go see them in the evening. They all look absolutely fine. So the Americans, they get them out then. A lot of them will struggle with pain and discomfort and the rest of it. There's always a bad day. But people just absorb that at home. Once you keep people in overnight, and they go down that inflammatory phase...

Steven Bruce
It's hard to get them out. Yes.

Nadim Aslam
Then you won't be able to get them out for two days.

Steven Bruce
But there's no increase in risk by dismissing people after a day?

Nadim Aslam
I mean the American studies say there is no increased risk. Because you can't do that for everybody. So you basically have strict criteria who to monitor and there's a backup 24-hour backup, the nurses are happy to take any calls and see you back in. So I think in the correctedly selected people who are suitable, the risks are minimal.

Steven Bruce
Adam's asked a technical question about infection. He says what's the mechanism exactly, which substances or cells stick to which tissues when you were talking about infection sticking to implants. And does the infection affect the bone and soft tissues and kind of infiltrate into the surface of the bone?

Nadim Aslam
Yeah and the infection, the main source of the infecting organism is the skin. So, the commonest cause of infection is staph epidermis or staph aureus, which are normal commensal organisms, normal organisms on the skin. So, we try to minimise that by giving doing swaps of staph aureus, MRSA before surgery, giving people washes. If patients are MRSA positive, which is a form of staph aureus, which is resistant to penicillin, that's a contraindication until it's eliminated for a joint replacement. Now, once you get contamination, the majority of people, everybody I would have thought, gets a degree of inoculation during surgery, but most people have a strong immune system, the contaminant, the inoculation, is hit by the antibiotics we give for 24-48 hours. And it doesn't go on to develop an infection. Unfortunately, in a small subset of patients, which may be diabetic or steroid, or whether there's been excessive time taken for the surgery, excessive tissue damage, the infection, the staph aureus, which is the infection in most cases, then becomes a deep infection. Now, what then happens is it forms a biofilm, that protective film around it, so it will attach, the initial biofilm is formed on the implant, whether it's the socket or the stem. Now, the analogy that I give to patients is, if you imagine a nest of ants, and the ants are bacteria, you can have a nest of ants under a brick. And you can fire a hose pipe on that brick. And the water's going to go everywhere. Let's say the water is antibiotics. But the ants are going to remain under the brick. Soon as you remove the brick, you've got millions of ants running everywhere. And you can fire the hose

pipe and you hit them all. So the same analogy happens, the bacteria go on to the implant, form a biofilm, so you can give as much antibiotics as you want. But they can't penetrate because they're hiding in the metal. So in that situation, there are two situations. If an infection develops within six weeks to three months, there is now an option which we call debridement and implant retention, it's called a dare, in that situation, the surgeon can go in, keep the implants in, wash everything thoroughly, debride, take away any granulation tissue plus whatever, and then give six weeks of antibiotics. And depending on the organism, there can be success rates of up to 70%. If the infection becomes established, then the infection will start to involve the bone possibly, they certainly will involve the soft tissue because you'll get an inflammatory response, you'll get puss, you'll get tissue involvement, soft tissue, if the infection is prolonged as long standing, then you can get an infection of the bone. And in those situations, you won't be able to eradicate it unless you remove the implants, then that's where you have to go in, remove everything, debride everything, put in antibiotics, spaces and cement, and then leave that in for six weeks to eight weeks until the blood tests go back to normal. And the blood tests that they monitor are C reactive protein and the white cell count. But when they've normalised after about two months of antibiotics, then the surgeon can go in and replace everything. So that's the way that the infection is approached nowadays. But it's all about the inoculation at the time of surgery. I just want to correct one thing, there is a group of patients who essentially have a hip replacement replacement and you absolutely find no problems. But they then develop whether it's within a year or five years or 10 years, a septicemia. Whether they develop that from a tooth abscess, or they develop that from a urinary tract infection, or they develop that from an infection anywhere in the body. Once you get an infection anywhere in the body which gets into the bloodstream, and you've got high temperature and you feel unwell. Then unfortunately there's a high incidence that will deposit on the metal And that's the other way that infection develops, then you start to get weird organisms, such as the urinary tract organisms E-coli, or the organisms that come from the bowel, but most infections which happen at the time of surgery are skin contaminants.

Steven Bruce
Regarding the stems, W05.6. I think he's W07 on furlough, if I remember correctly, so your furlough time is coming to an end W05.6. He says, do the stem loosenings occur less in natural bondings into coral like stems, they're the ones with the holes in them, aren't they?

Nadim Aslam
Yeah, I think conventionally people always think that cemented stems are stronger. Because in Britain, I mean, to give you an example, in Britain 10 years ago, 90% of stems were cemented, now it's about 50/50. In America 95% of stem cells uncemented, and in Europe. The cement was something which was introduced in Britain by Charnley, we've continued. In America, Europe, almost universally uncemented stems are used. Now, it's a misconception that a cemented stem is stronger than an uncemented. Because when you have an uncemented stem, you get biological fixation. So the bone actually grows into the stem, to the microporous structure, that, if it happens, is a much, much stronger bond. So to take out an uncemented stem, it will rip a lot of bone off because the bone is integrated, whereas cement essentially like a grout. So, you know, some of these stems you can just knock out relatively easily, the stem from the cement, and then the cement that has to be sort of taken off of the bone. So the best bond is a biological bond. Some surgeons say well, I don't really want to use it uncemented stem because it's hard to get out. But my feeling is well, you shouldn't be. Let's hope you don't need to take it out. Because yeah, you're putting it in to stay a long time.

Steven Bruce
Indeed. Thank you. Marian sends in a case of hers. So she has a patient, a lady in her 50s diagnosed with significant arthritis via MRI. On passive extension her hip joint locks, has a massive clunk before returning to neutral. She says, is this presumably due to the anterior shortening of the capsule.

Nadim Aslam
Right okay. So, clunking of the hip can be classified into two situations. There's an audible clunk and there's a visible clunk. The visible clunk group are usually younger patients, teenagers, 20s, 30s, who will stand, and they will rotate their pelvis and you will see the most alarming thud and you'll see something clunk and they'll say to you, look, I can dislocate my hip. And what they're doing is what they're demonstrating is tightness of the iliotibial band. And it literally flips around the trochanter like that. It may not look too dramatic when I'm doing it there but when you see somebody do that standing but there's a big, massive muscle which flips around that so forcefully, it's literally a clunk, that's known as a snapping tensor fascia lata. The treatment for that is stretches and then release. What you're describing is the second cause of a clunk, in a joint which is non arthritic, you can get clunking from a labral tear, and usually is the iliopsoas tendon. And usually that clunk happens over the anterior aspect of the hip. And this is like a deep, sort of deep clunk, not visible, it's a deep dull clunk, which happens over the anterior aspect of the hip. When you're extending the hip or you're flexing the hip, issues in the iliopsoas tendon that give you that clunk. And the capsule's unlikely to give you that clunk. There is a differential that, you know, you may be an osteophyte, but that would be extremely painful. Or it could be a clunk that's happening because of the labral tear. But again, you know, that's unlikely in extension, the most likely thing is that the iliopsoas tendon, which is the main hip flexor, is subluxing over the front of the hip.

Steven Bruce
And that's what's giving it that sense of locking at the end of motion as well, is that lock is going to force its way past that tendon.

Nadim Aslam
Yeah, it can do. It can give you the impression of locking or giving way or pain inhibition.

Steven Bruce
Marian, I hope that's helpful for your patient. I think you did answer this earlier on, I'll ask this anyway, what's called *audio problems*

Nadim Aslam
...come back to Marian. The way to diagnose that, if you actually wanted diagnostic information, is to get somebody to do an ultrasound and do that manoeuvre. Because it'd be quite clear if somebody ultrasounds the front of the hip, and takes it to where you're saying, they'll see the clunk.

Steven Bruce
Very helpful, thank you.

Nadim Aslam
At the same time, inject it because you might as well treat the problem. If it's clunking a local anaesthetic steroid injection will deal with the problem as well and if it's painful.

Steven Bruce
Osteopathy partnership said, if you have to cut open the joint capsule, which is the majority of surgery in the UK, is there a greater chance of dislocations or complications there? You answered that earlier on. But I thought you said it was because they remove the capsule not simply because they cut it.

Nadim Aslam
Yeah, I think you have to, with the capsule you have to go through to approach the joint. So the question is, what do you do with the capsule, I think if you repair it to a degree, and you repair the structures, it's associated with a lower dislocation rate. If you excise the capsule, then eventually you will get scarring and you'll get the blood going to gel, to hematoma, to leather, to rubbery fibrous tissue over three months, but it's associated with a higher dislocation risk. So ending on, how surgeons do the operation, some dismiss the capsule, they don't think much about it. Others, you know, cobble it together. So I believe that the capsule is important in proprioception. So I believe that it gives you feedback to the brain. And why these patients feel more confident on the hip. It's because that structure, which has got receptors in, is giving them the confidence that their joint is okay. Whereas if you remove it, I think part of it may be the mechanical effect. But I think it's the proprioceptive effect to the brain is more important.

Steven Bruce
Yes, thank you. Once we had a case-based discussion, and one of the cases being discussed was of a lady whose age I can't remember, but she had a dreadfully arthritic hip, but she was reluctant to go for surgery because she was terrified about general anaesthesia. Victoria has asked, would you generally use a general or would you go for spinal for hip operations?

Nadim Aslam
The gold standard now, the gold standard by far, for patients is to have a spinal. Now the problem is a lot of patients worry that if they have a spinal that they're going to be awake, and they're going to hear the hammer and the chisels and the drills and so on. Now, almost invariably, after spinal patients are often given sedation, so they're not aware of anything. Now, why is the spinal better? The spinal is regarded as better for a number of reasons. One is that it will effectively give you total pain relief. So everything below the waist will be numb. And that's consistent for about six hours, eight hours, so you have no pain whatsoever. Second, it will dilate the veins. So it leads to a reduction in blood pressure, dilation of the veins, which reduces the risk of thrombosis and also, it reduces the risks of problems with high blood pressure. So there's the three, four reasons a spinal is much better for pain control for thrombosis risk and for management of blood loss during the surgery. That's the gold standard, the spinal.

Steven Bruce
Right. And that's actually very useful, particularly for whoever had that patient last week because I guess everybody imagines if they're going in for this sort of surgery that they're going to be knocked out. And I don't know what the risks are from general anaesthetics these days, but nevertheless, they must be higher than from the spinal blocks.

Nadim Aslam
I mean, the risks may be low, but the problem is once you have a general, you feel nauseous, you feel tired, the general anaesthetic can knock you for six. So your recovery rates are much lower, and the pain control is not better. Because you are fine when you're asleep, as soon as you wake up, it's very difficult then to get on top of the pain. So you need to give them opiates, which have their side effects. And so, with the spinal you don't need to give those opioids.

Steven Bruce
Fascinating stuff. You mentioned labral tears earlier on. Lucy has asked, whether you see these very often and if so, can you give us a bit of info about those?

Nadim Aslam
Yeah, I mean, there was a group of patients who sometimes, you know, in their 30s or 40s have normal X rays, but they have catching pain in the groin. Often when they're driving, often when they're turning or twisting. And they almost describe a very deep sharp pain in the groin. So those patients have what we call a positive impingement sort of test. And they often describe the pain like this, they don't point to the pain. So if they've got pain in the hip, most people say, my pain is there or my pain is there. But they say it's there. It's like that it's a C-shaped distribution. It's in the middle, you know, or can't pinpoint it, it's worse when I'm driving. It's worse when I'm turning. And they're describing what's happening there is they're getting a bit of impingement, the hip on flexion is catching somewhere. Now the problem is, labral pathology is common. So if you take 100 people, you do an MRI scan, you will see labral tears in a substantial number. And the vast majority of those aren't the cause of the pain. So very occasionally, you get somebody with a good joint space, and they have a labral tear, which is picked up on an MRI arthrogram. And they respond, you can do keyhole surgery for the hip. And they do well. But as soon as you've got signs of arthritis, treating labral or cartilage tears in the knee, are not predictable, because you can treat the labrum, but you'll end up with another problem. So the problem with imaging is that the basic imaging of a hip Xray or knee Xray is more useful in many ways. Because if you're seeing arthritic changes in that, that usually means that you've got a clear-cut diagnosis. If you carry out MRI scans, you start to see all sorts of things. And the analogy that I give to patients is, you've got a secondhand car, you're driving, your screen wash finishes, what do you do? You open the bonnet, you fill it with water, close the bonnet, carry on. Now if I didn't tell you that your screen wash finished, and I said, look, there's a problem with your engine and open the bonnet. They'll diagnose 200 problems and they'll miss the screen wash, because it's the most simplest. So be very careful interpreting MRI images without clinical examination, especially when it comes to labral pathology.

Steven Bruce
Nadim, thank you, I can tell by the clock above immediately above your head it's now nine o'clock. We're out of time. I hope you will forgive me for not moving on to knees. But I equally I'm really hoping that you'll come back and do knees with us another time, Nadim, because this has been fascinating stuff and a lot of really useful stuff. And we didn't even get on to rehabbing hips. But perhaps I can get some pointers to who we might get into talk about that separately from yourself at some point. Really kind of need to give it so much time this evening. And I appreciate that. You're working very hard, both in theatre and in clinic and giving up time for us is a real privilege. Thank you.

Nadim Aslam
No, thank you. Yeah, it's been very, very good, actually, no problem. We'll do knees some time. We'll do whatever...

Steven Bruce
Thank you. I'm glad you said that. And you are now on record as having said it, we had just a very small shade under 400 People watching, so as I said to you earlier on. This is a popular subject and it's a good number for a live broadcast. Thank you for that though, and we'll see you again at some point in the future.