

Podcast 4 - Niky Hamilton

This is the Physio Edge podcast Episode 4.

Hi, and welcome to the fourth episode of the Physio Edge podcast! This week we're going to dive deep into hips and labral tears. I'll be chatting to Niky Hamilton, a Physio that works closely with ortho surgeon Michael O'Sullivan, has designed post-op hip protocols for arthroscopic hip surgery, and basically can't get her hands on enough hips. She works out of the Sunshine Coast, Australia, and couldn't wait to give us some great detail on what causes labral tears and how to assess and treat them.

So let's go

Hi Niki how are you?

I am pretty good thanks how are you?

Yeah good thanks—that's good. Yeah- great to have you on the show.

Thank you very much for inviting me along. We have got some nice insights for people today—I hope so. (laughing)

So can you tell me a little bit about yourself?

Um, well I started physiotherapy back in the 90's and prior to physiotherapy I was enrolled in Engineering actually so my interest has always been maths and biomechanics and science before physio, ah and I was very lucky to think about it and change my mind and end up in physio so, I finished physio at the end of 1998 and spent the next two years realizing that I really didn't know that much at all so started attending as many conferences and lectures and workshops that I could do to try and improve my skills as a physio, then spent probably about 5 years over in the UK working and learning which was a really great experience and came back to Australia in 2005 and at that point started some work with Orthopaedic Hip Specialist, Dr Michael O'Sullivan and spent 5 years working with him which was a really good experience and learned a lot working with his patients and learning more about hips in the process and started my own practice, I think about 3 years ago now.

And your up in Queensland aren't you at the moment.

Yep, so my practice is up in Queensland and I spent probably about 3 years of that time when I first opened commuting down to Sydney to work with Michael O'Sullivan and also then running my own practice on the odd days but when I was back up in Queensland so flew back and forth for quite some time which was pretty exhausting but I really enjoyed the opportunity to do a little bit of work in both areas.

That is a pretty solid commute?

Yeah, (laughing) it was a pretty solid commute- but I think about it people probably spend more time sitting in traffic in Sydney than I did on a plane to be honest so—**getting feed some lovely airline food**. Yeah, yeah No- not really.

So you have obviously had a fair bit of experience then treating a lot of hips and that sort of thing.

Yeah, I think the time I had in Sydney I pretty much only treated hips and bums so I spent a lot of time looking at hips and bums and learning as much as I could and it was a really good time to gather my experience in that area.

And do you think you, like did you have the interest in the hip beforehand or what sort of fascinated you about the hip?

Um do you know, I think my original interest was actually in the pelvis and that started probably soon after I graduated and that interest started because I did a course where I realized I actually knew nothing and when you realize you know nothing you really want to explore, um more, so I spent quite some time after that course developing my skills on the pelvis and I think the hip came to me probably when I started working with Michael O'Sullivan's patients and realizing that the hip was really the other half to the pelvis. Ah—it seems like a really logical conclusion but it was a huge realization for me and, um, from there I realized that the hip is a fascinating place because it can have so many influences from the lower limb and from the pelvis and really to find out what's wrong with somebody you have to explore so many areas so it becomes a real detective problem when you are treating someone's hip and I enjoy the challenge.

And I guess you got to treat a lot of post-ops obviously and did you get to see a lot of people you know that you could sort of maybe change conservatively before surgery?

Agh- absolutely and I think that was the big thing is that initially I just started treating post operative hip arthroscopies and over about a 6 month period I was lucky enough to convince the surgeon to please start sending them to me pre-op to see how we could go with some of the ideas that I was implementing and agh for the most part some of the ideas were successful and sometimes not and um, but convincing the surgeon to start sending pre-op was a big leap- so that was really helpful.

And as far as surgery goes you probably would have seen a fair bit of a spectrum of different hip surgeries, but we are seeing a lot more you know acetabial labral surgery happening lately you know over the last 5 to 10 years so, do you think there are sort of more labral tears happening with different sports or do you think it is just being more recognized?

Um, I think there's are a few things happening. I think um, probably what is happening is the first thing is that our MRI scans are better so we are picking up more labral tears but they were probably always there and we just didn't recognize them- so that's one thing and that can be a bad thing too in many

respects in that if you think about MRI scans and the lumbar spine, um you know 10-15 years ago lumbar spine MRI's got a lot better and we started recognizing disc pathology and thinking that everybody who had low back pain had a lumbar disc that needed some sort of surgical intervention, so we have since realized that with MRI scan at least if you scan somebody's low back after the age of about 50 most people have some sort of degeneration in their lumbar disc so it doesn't necessarily mean their pain is coming from their disc and I think in some ways the acetabular labral tears may be similar in that our scans are picking them up more readily so all of a sudden everybody that has got a hip pain oh they must have a labral tear and it is not necessarily always the cause of someone's symptoms and what they are realizing now is that as we get older sometimes people have labral tears that are asymptomatic so do we need to operate on all of these tears- probably not. So that is one reason that I think we are seeing more of them is that our imaging is better, argh I think the second reason that we are seeing more of them is that we are doing sports or more hip related sports into older ages, so perhaps 50 years ago we wouldn't see a woman in her 40's doing martial arts or yoga where as now it's not an uncommon thing so we are probably stressing joints in ways the we have never done before so that may be another reason that we are picking up more labral tears now.

Mmm, um and I want to talk to you abit more about the sort of, what happens following surgery as well, but to start off with obviously, we are trying to pick up who's going in the clinic if a physio is seeing patients that come in with hip pain and they might have had their scan, um, how might we be able to tell if someone is going to need surgery of if they have a labral- so how would you diagnose a labral tear I guess is a good place to start?

Um, so I think there are some fairly standard phyios tests that would pick up if someone has a labral tear, um the quadrant test is a test that can be used I mean you can have false positives with that test it's not, an MRI test is really the gold standard test that you would use um, the other types of symptoms that patient's will often report is a clicking or a sensation in the hips that something in clicking. It won't be a locking sensation like McMurray's in the knee or a cartilage problem in the knee but they will just report a clicking that happens, then I start to suspect that they might have a labral tear. Um, I don't think that as soon as someone has a labral tear that or I suspect that that they need to go and have a scan straight away necessarily and it does depend really on the patient's goals and how quickly they want to get back to their activities as to how soon I send them off for investigation um but um, I think that what I usually do is try is explain to a patient look I think that you possibly have a labral tear, we will start treating you as if you do to try and take some of the pressure off the labral tear with some rehabilitation exercises and if you don't go well, then we will send you off for an investigation. And often the patient is happy with that.

Yeah, and like you mentioned clicking, yep, so are we looking for clicking in all ranges or just particular movements?

Usually, um the clicking will be related to some sort of hip movement such as pivoting or rotation so getting in and out of a car or in or out of a chair is a classic or going up a flight of stairs so turning and pivoting on the hip people will often notice the clicking sensation and sometimes it can just be with hip flexion and often it won't be every time it happens it is just an intermittent click that seems to occur.

And is that fairly sensitive with you know your clicking on rotation for a labral tear?

Is it, do you mean is the test sensitive as in—yes it is highly correlated to a labral tear- highly correlated to a labral tear and it's often not necessarily painful either.

Yep, ok, so that painful clicking is a bit of an indication to you on rotation that there might be a labral tear? And you will often then start them with some sort of conservative program,- yes, yep so mmmhh, ok, great, and so where would you tend to start these people if you suspect that?

Um, I think it probably depends on a lot of things and it will depend on what I think has caused their labral tear to start with so if we start looking at what causes a labral tear really it can be divided into a few different sub-groups and the first sub-group and this is the least common is some sort of trauma. So if someone has had a really acute trauma that can create a labral tear sometimes the tears are so big that there is really no biomechanical reason that their tear has been loaded prior to that and usually they are probably the better group that do well with surgery.

The second group, and that is a fairly small percentage of labral tears in actual fact, and the second group of people that I see that have labral tears, and this group of people form a larger section of the population are people who have developed labral tears gradually and um, gradually as a result of some sort of structural problem in their hip, so if say their acetabulum and their femoral head is not congruent, it could be that their acetabulum is too deep or their femoral head is not the right shape then if those two bones are not congruent that that person is doing a sport that involves a lot of hip movement which is taking those 2 bones to meet together and to compress together that can cause a compression on the labrum so we call that FAI or Femero-Acetabular Impingement um, so that can sometimes happen gradually over a period of time and if I see someone that has just a structural problem sometimes that sort of person needs surgery if they want to continue the activities that they are currently doing. Sometimes that person if they can modify their activities can avoid surgery but usually once you have some kind of bony structural impingement your activities are a little limited in what you can do with your hip.

I think the last group of people that I see and this again quite a big group is the group of people who develop labral tears slowly and gradually as a result of biomechanical overload. So it is kind of repetitive micro trauma on the labrum and I guess we need to start asking the question is what is the biomechanical

overload that happens on the hip that creates that, and, the answer to that is really firstly by looking at where the tears occur. So if we look at labral tears throughout research labral tears 95+ percent of the time in the western population will occur in the anterior superior surface of the labrum. So we need to ask ourselves ok if someone has developed a labral tear slowly over a period of time due to repetitive micro trauma what repetitive micro trauma is occurring on that anterior superior margin of the labrum. What are they doing to load that? And I think the things, and this can vary from patient to patient, but I think the things we are tending to see is that what we find is excessive femoral translation within the acetabulum in the anterior direction will overload the anterior superior part of the labrum. So this can occur for a number of reasons. One of them is standing with excessive femoral hyper-extension. So naturally, when our femur extends within the acetabulum our femoral head will tend to glide a little anterior, that's normal, and the shape of our acetabulum really is designed to absorb forces through the femur in the superior or posterior direction. So if you think about the acetabulum it is facing a little bit anterior and its facing a little bit inferior. So it is designed to absorb forces through the femur in the superior and posterior direction. If forces through the femur are heading a little bit more anterior, most of the body weight will then be sitting on that anterior superior part of the labrum. So I guess if someone has the habit of standing with their hips in hyperextension so you know these sort of patients that are hyper-mobile, or have hyper-extended knees or tend to stand in posterior pelvic tilt with sway, if they do that over a lifetime they are really weight bearing through their acetabular labrum over a lifetime and that is the kind of thing that will over a lifetime develop fraying and repetitive micro trauma. So, that's one of the things that I see that can contribute to that excessive anterior femoral glide.

So they are standing there loading up their acetabulum, well loading up their hip joint, you know, in weight bearing and they have got that femur sitting forward in the socket loading up the labrum. Is that the sort of pattern that you are looking at there?

Yes, yeah, so that's the sort of pattern, so that is the sort of person that usually will feel worse with walking, they will feel worse when they are wearing high heels, they can't stand for prolonged periods of time, um, and they tend to be the hyper mobile group that will develop this type of problem within the labrum.

Yep, and does that tend to be, do they tend to get pain more like in their groin or posterior hip or what's the pattern there.

Yeah, usually a labral tear will be, will present as groin pain or sometimes anterior thigh pain but mostly groin pain. That is usually the case.

Yeah, excellent ok and are there any other groups that you see that tend to be more prone to it?

Yeah, so the second thing that I see often with labral tears are people that have areas of hypertensivity within the hips so if we now look at activities such as hip flexion based activities such as cycling or sports where our hip is flexed what

normally happens to the hip when we flex the hip is that the femoral head should glide naturally a little posteriorly, so as we come up into hip flexion we have a certain amount of accessory glide that should occur, and that glide inflexion is in the posterior direction. Now if for some reason you have got hypertonicity in the back part of your hip somewhere in some muscle and your accessory glide into posterior, posterior accessory glide when you come up into flexion is restricted your femoral head will tend to follow the path of least resistance. So as you come up into flexion your femoral head will, it will tend to start gliding anterior because it is easier. So these kind of people will tend to have more pain with hip flexion based activities such as cycling, they will tend to be really, really tight around the back part of their hips so, and there is no one muscle, I think every patient is a little bit different as to where they grip and it is really a gripping strategy that they have. Um, common muscles are obturator internus, piriformis, um but you know there are all sorts of different areas that you can find at the back part of the hip and when these muscles are hypertonic in that they are constantly wired up and fired up and on, it just means that the hip can't have a nice axis of rotation when you go into flexion based activities. So they are the other kind of sub-group that I tend to see that develop over a period of time labral tears. So I think as a result when I am looking at someone's rehabilitation, I am really looking at why did they get their labral tear to start with and that will then affect my choice with their rehabilitation.

So for that second group of people where they have got that posterior tightness you are looking at that, coming into flexion, the hips just gliding forward and creating that pressure on the labrum how do you tend to approach that group?

Mmm, I think the first part is trying to educate them where they are gripping. Often what will happen to people is that they are tight in areas and they don't even know it so I spend a lot of time doing release work but also trying to get them to do their own release work and then trying to get them to figure out how to release their hip while they are flexing their hips. So usually I will start with squats but not straight up and down squats squats where they are figuring out how to centre their femoral head and release the back of their hip so their femoral head can glide posteriorly in that kind of activity. Um so, it is really focusing on a lot of release work to start with but release with their participation.

So a lot of feeling butts and poking around and getting and teaching people how to feel their own butt.

Yeah, pretty much, pretty much, that sums it up. (Laughing)

Excellent- great alright, so what about, I mean, I guess I am seeing a lot of martial artists, soccer players you know and that sort of thing that are coming in with possible or suspected labral tears, um, what sort of things in those sports do you find contributes to labral tears?

Umm, I think kicking sports is a hard one, I don't treat a lot of martial artists, but kicking sports, um, can be difficult and I think if I am looking at somebody who is kicking I usually try and divide it up into different stages so I can make sure I have got a good idea of as to why they have developed their labral tear to start with.

So in any kicking sport I would always look at the stance leg to start with. If they are not kicking from a stable base, um, it makes it very, very difficult to then treat the kicking leg and figure out what is going on. So they have got to have a stable base to kick from. So that is where I would start, even if it is the asymptomatic side and then I guess we are looking at with martial arts it is more of a lateral kick and with soccer it is more of an anterior, whereas AFL it is more of a forward flexion kick we are really looking at good muscle control throughout the kick to make sure the femoral head stays centered. So, um, I think with a forward kick, um and this is more research really that has come from Shirley Sahrmann, looking at what happens with hip control in hip flexion and I know Psoas for a lot of people is the big bad word and there is a lot of debate about Psoas, it is always a tricky one to debate, but what Shirley Sahrmann has realized is that if we look at a patient and they do an active hip flexion activity such as lying on their back and lifting their leg, if we take out the action of Psoas the femoral head will glide anteriorly so there will be increased pressure on the anterior superior labrum and increased pressure on the anterior hip joint. So our psoas, we suspect, works as a stabilizer of the femoral head to make sure the femoral head stays centered within the acetabulum and if doesn't work can contribute to anterior hip, um, pressure, and if it doesn't work then other muscles tend to increase in their tone to try and help out and those muscles typically are TFL, rectus femoris or abductor longus. So I guess, with any kind of kicking sport what I am looking for are typical muscle imbalances that may indicate that they don't have good centering of their femoral head and I start looking at that.

Excellent, and do you often find that, it is often more common in, that they have lost control in their stance leg or in their actual kicking leg?

Do you know often it is a bit of both, um, I nearly will often always start in their stance leg anyway because if they don't have that control then we are not going anywhere. And often you will find that, and this is what I have found is that when someone doesn't have good hip control on one side they often don't have good hip control or good control through their whole pelvic ring so then we start looking at the whole pelvis as a place of stability to start with for the hip. So then I often find that there are bilateral things going on.

Ok, um what about, you know, dancers, I suppose you would probably see a fair few of dancers, I know you are often involved in the dance courses as well for physios, Um, tell us a little bit about how the stuff you might see in dancers, how the physios that are treating them might be able to reduce those.

So I don't claim to be a dance specialist by any means, but I have seen quite a few dancers with labral tears and problems within the hip, um and I think the

problem with dancers is that they really need huge ranges of movement to control. So they have got to have a really good inner stability within the acetabulum and the femur to maintain the centering of the femur throughout huge ranges. So that is a fairly unique sport and there are some great exercises that are run in a course by Sue Mayas which are really great for dancers.

Um, I think, the common mistakes that I see especially in younger dancers and I think as they get older if they are still dancing they have often got on top some of this, but in younger dancers the things that I see that contribute to anterior hip pain are firstly, living in turnout, so, and this is for classical ballet, this is what I am talking about, so in classical ballet, they obviously have to spend quite a bit of time in turnout and if your hip is externally rotated again then the natural accessory glide for femoral external rotation is anterior glide. So when you take your femur into external rotation the femoral head will tend to glide anterior just a little, and that is what is supposed to happen.

So during the class if they are in external rotation and turnout that is not a problem but if they leave the class, and then spend the rest of their life in turnout then they are living with hips and their femoral heads sitting anterior. So I try and encourage the young girls to look at that they need to be in turnout in the class and for various parts of the class, but when they leave the class they leave their turnout behind and they don't have to spend their life in turnout. Which is kind of a funny concept for some of the younger girls. Arh, and the other thing that I think is important which is a battle I think sometimes with the ballet teachers is that they don't need to live in posterior pelvic tilt and tuck so the young dancers are often taught that to get stable and strong, they need to tuck their bottoms under, tuck their pelvis's under and that is where they live. And unfortunately, that just again contributes to that overall hypertonicity in the back of the hip and excessive anterior glide of the femoral head. So if they live their life in posterior tuck and tilt it is not a good stability strategy it tends to lock their hip up in a forward direction and will give them hip problems in the long run. So they are the 2 sort of main things that I would focus on with a young dancer.

These guys are trying to attain, you know, like you say really big ranges of movement. How can they go about achieving, or how can the physios help them to achieve big ranges of movement that they need without causing problems? How can they teach them to control that?

Do you know, um I think their range of movement is largely dependant on their structure unfortunately. So, girls to get large ranges of hip abduction you actually need adequate external rotation of the hip which is why if the girls don't have adequate external rotation of the hip they are really limited in what they can do. So, unfortunately they are always going to be fighting a losing battle and what tends to happen then is that not only are the hips overloaded but then other joints are overloaded to try and make up for that loss of range. So then we start to get knee and foot problems as well. So, I think trying to gain more range in someone that structurally isn't able to gain that range, um, is just a recipe for disaster. So I think we really need to start thinking a little bit about who can and

can't pursue a ballet career. Um and most of the times in the ballet assessments that will come out. Um, I think those girls that have got good or adequate turnout range, then it is a matter of making sure that they have good inner range or stability within their hip and like I said there are a lot of different exercises that can be applied to make sure that these girls have good control and I think it is making sure initially that they have good control in inner range to start with without trying to get into the high load ranges um, when they haven't gained control in the inner range and I think that is sort of a fairly obvious statement that can be applied to almost any joint in the body really.

So they are trying to work and strengthen in the range they have actually got the control?

That's right yeah, so there is no use working out into a range that you haven't got good control with, especially if your injured.

Yeah, and I see that a lot in martial artists, they are kicking right at their end of range you know.

And I think unfortunately the girls are naturally, there is a little competitive edge that happens how far can I go with this, how long can I hold this, compared to the girl next to me and if they are injured, they really need to be coming out of those high ranges and learning to control their inner ranges first.

Yeah, one of the other things I see, you have probably seen the same in these sort of dancers, I have seen in martial arts, from my history of doing martial arts, people, you know getting out as far as they can in the splits and then sort of rolling through their splits.

Yeah, and if they don't have the structure to support that then they are really just adding to a lot of sort of lifetime of problems through their hip joints unfortunately.

Um, it's almost seems like they are forcing their femoral head against that labrum

Yes, cringing, yeah awful. (laughing).

And it is often, you know, what their instructors are telling them to do.

Yeah, and this is the thing, this is what I am finding as well with the posterior pelvic tilt is that I get a girl in with hip problems and I tell her that she needs to come out of posterior pelvic tilt and she has been told in the class that that is what she needs to do. Um, and that is part of what is driving her hip forward so you end up finding a bit of a battle with some of the teachers or the coaches and again that is probably with a whole range of sports really.

Mmm and it is nice to be able to educate your patients, alright, if your teacher is telling you roll through your splits or that sort of stuff.....

Yeah, so this is, you need to keep it within this range or try and alter their position while they are doing that- I think is the key. And I think sometimes as well, um, if the good thing about dancers is that they have great body awareness so if I can educate a young girl that if you stand on one leg in this position with posterior pelvic tilt or tuck and it hurts your hip, lets change that position alittle, get this muscle to switch off and educate them how to do it and it should feel better. So, the only thing is with that in learning a new way of doing an exercise or a task is that initially you need to work harder at trying to train control around that area to start with. But it should feel better in their bodies.

Mmm, so you are taking it into, sort of their meaningful task.

Yeah, exactly, exactly.

Something, where a position that they are used to that might be using in dance-

Yeah that's right. Exactly, yes, there is no use lying them on their backs on the table and telling them this is how they need to exercise. They need to be in their dancing positions a lot of the time. They may need to develop strength and control with certain exercises that are off-loaded but I like to quickly get them into positions that they would need to be in dance and see if they can maintain that kind of control throughout their postures.

Yeah, great, and that is good advice, you know, getting those patients up and getting them into something where they are going to be able to apply when they are in the dance studio.

Absolutely, and that is not just with dance, that is with any sport, if you are re-training a muscle and it doesn't seem to make sense to the patient as to why you are doing that, you need to then if it is with a tennis serve, get a tennis racquet in their hand or if it's any sport really, it makes sense to sort of apply it to that person's sport.

Excellent, ok and where can physio's find out abit more about you Nichole?

Um, well you can probably go to my website if you wanted to and that is synergyphysio.com.au um, and there is more information about me I think on your website as well which is clinicaledge.com.au where you teach the "Irritable Hip" Course. So I also take that course a couple of times in Sydney and I am running that one up in Brisbane in October and hopefully in Melbourne at the end of the year so hopefully that will be good.

Yeah, excellent so there is always great feedback for the course and it is good chance to find out abit more about re-habing.

Yeah, so in the course I talk a little bit more about um, how to assess a hip and then what to look at pre-operatively and then what to do post-operatively for someone who has had a labral tear.

Awesome, well thanks Nichole,

No problems- Thank you.

Alright great.

Thanks Niky, some great info there. She obviously has a lot of experience, particularly with hips, and had some nice insights into the causes of labral tears. Niky has presented a few online educational videos for Clinical Edge, the podcast sponsor, including Thoracic Outlet Syndrome, Standing Posture Assessment and coming out very soon - a video on Acetabular Labral tears and their rehab. You can check it out at www.clinicaledge.com.au, become a member and get access to all of the online education. Niky presents the Irritable Hip course for Clinical Edge, which you can find out more details and enrol at www.clinicaledge.com.au

Thanks Clinical Edge for making this podcast possible, and thanks to everyone who has written reviews on iTunes. We have had some more 5 star reviews, and I want to give a shout out to RWright, who gave us 5 stars and said he would "give us 6 stars if he could" Champion.

If you have enjoyed the podcast, please give us a review on iTunes, it really helps us get featured in iTunes, and lets me know that people are listening and enjoying the show.

Next time, we have a great episode, we will be talking to world renowned Physio and researcher Jill Cook all about tendinopathy, and.... you will want to be sitting down for this one, as it is likely to change your ideas and treatments for tendinopathy in a big way.

In the meantime, you can contact me at david@physioedge.com.au, find the shownotes with links at physioedge.com.au, and connect with us on facebook at facebook.com/clinicaledge

Until next time, I'm out, and thanks for listening.