

# Ankle Rehabilitation

with Tim Allardyce

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## TRANSCRIPT

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Claire :

Today, I'm joined by Tim Allardyce from Rehab My Patient, he's a physiotherapist and an osteopath who's been on before talking about telehealth appointments. And today he's here to talk about ankle rehab. Hi Tim. What would you like to talk to us about with the ankle rehab today?

Tim :

Well, I'm going to really focus mostly on rehabilitation of the ankle, so I really want to make it as practical as you can on a webinar. So I'm going to do some demos and talk you through some exercises, & some rehab protocols. But I thought it might be nice just to run for a little bit about ankle prevalence and a little bit about common ankle injuries. So we get a sort of a background of it as well and I'll just put it out that I'm not a podiatrist. So actually, there's probably many people out there that know far more intricate things about ankles, but I pretty much, know the stuff when it comes to rehabilitation. And that's my real kind of expertise is, looking at the ankle and working out how are we going to get that ankle back to full function. And so that's what I'll talk to you about today.

Claire :

Right. What are the most common ankle injuries that you tend to see?

Tim :

So first of all, we should look at if we've been strict with the ankle, or are we actually also going down to the foot as well. If we began to be strict with the ankle, by far the most common ankle injury is the ankle sprain. So you've got your inversion sprain and you have your e-version sprain, which I think everyone's going to be familiar with. You've also got things like ankle osteoarthritis. You've got Peroneal tendinopathy, going down slightly towards the foot, you've got, obviously very common, Plantar Fasciitis, and then going further down the foot, you've got things like fifth metatarsal stress fractures, and going into toe problems, such as hallux valgus, hallux limitus and rigidus. So habitus valgus, or bunions, of course, and then you've got sort of functional issues, things like pronation and dropped arches or Pes planus, or high arches, so you've got functional issues as well.

Claire :

Right, and the most common injuries you see, is it sport related or a wear and tear type injury? What kind of things do you see mostly?

Tim :

Well it depends on what environment you're working in, and there are different prevalence's of injuries depending on certain ages. For example, the younger ankle injury does tend to be the classic ankle sprain, and there's a high prevalence in females, and one of my first placements was when I studied my masters with a super league netball team and they had every single one of the team had recurrent ankle sprains, and they, had a very strong protocol towards rehabilitation and stabilization of the ankle because it was such a big problem. So we know certain sports, are very prevalent for ankle injuries, especially ankle sprains. And obviously as your demographic gets older, you're much more likely to have your degenerative ankle problems, such as your Osteoarthritis, or maybe just general ankle stiffness, like your Hallux Limitus, and your Rigidus. So it depends on age and demographics really. If you're looking at sports injuries, you can certainly have overuse problems.

Your overuse injuries tend to be your Tendonopathies, such as Achilles Tendonopathy, Peroneal Tendonopathy, Plantar Fasciitis, they tend to be typical athlete runner problems. Not, always of course, they can just be general problems, but they're quite commonly, running issues, active sports issues, And then you've got traumatic injuries, you know, your traumatic problems are your ankle fractures and you can have stress fractures, which are overuse injuries, or you can have trauma fractures, which could be jumping from a height or road traffic accident or some other sort of traumatic injury to the ankle, which could be a Talus fracture or Calcaneal fracture or of course, the big sports one is the bimalleolar fracture / ankle dislocation, which is the fracture through the Tibia and Fibula where the ankle then dislocates, which you occasionally see in football. I remember a few years ago talking live on Radio Five Live about a very promising footballer called Eduardo, and he was very badly taken out by a tackle. It breaks the Tib and Fib, dislocates the ankle at the same time, and it's a very, very nasty injury, and is always a surgical job.

Claire :

Can I go back to when you talked about the female netball players and the strict protocol they have to strengthen it. Did it work? Did it then reduce their injuries when they went through the protocol, and what was it?

Tim :

Well, we know about 70% to 75% of ankle sprains are recurrent, which is a major, major problem. So you're much more likely if you have actually sprained an ankle, you're actually statistically much more likely to have had a previous ankle sprain. It's amazing that actually people can go through their whole life without an ankle sprain, yet some people have repeated ankle sprains every year, every two years. This is because once you lose the innate intrinsic stability of the ankle, it is very hard to regain full stability back to the ankle. So after ankle sprain, there's two issues. First of all, what tends to happen, as you know, as a child or younger person, you tend to be more mobile. It's the ankle hasn't built this strength and stability around the joint, and children that play sport, they do sometimes just roll ankles and second of all, it tends to be generally badly rehabbed.

Tim :

So people tend to leave it and just let it get better, which is fine, I mean that's a normal thing for a lot of people just to let the swelling go down, but they don't think about, well should I re-strengthen it, so that they're not necessarily aware of, or realize that the ankle has been left with an instability or weakness. You see the problem is once you've rolled an ankle, you know you've made damage, let's say it's an inversion sprain. So you've rolled over on the outside of the ankle, the most common types of ankle injuries, and you may tear one of the lateral complex ligaments such as the Anterior Talofibular Ligament, or the posterior, or the Calcaneo Fibula Ligament Okay, so once you tear those ligaments, now we all know there's three grades of ligament tear, you know, you can have a small tear which is a Grade 1, or a Grade 2 or 3, and if you take out or rupture those ligaments, it's actually very hard to regain the internal intrinsic stability of the ankle.

Tim :

And that's where guys like me come in, because we really hammer Rehab, and I'm going to talk you through a few ideas, a few protocols quite soon, about how we can really work hard to regain that ankle stability. This will be quite foreign to some osteos because, as osteopaths we're quite good at manual, hands on treatment. We're great at mobilising stiff ankles.

Tim :

But actually, a lot of the times we need to stabilise an ankle, and it's a very different approach. So with ankle rehab, there are a number of stages of rehab that I go through. The first thing to mention about rehab is that there's not one particular golden rule, right? There's not one set protocol. There's not one set idea about rehabilitation. It's very much, when we make rehab programs, you want to make it person specific. We're not just rehabilitating Achilles tendinopathy. Yes, there are protocols and yes, I will talk you through some of those protocols because we follow the protocols, but we always make it personal. It's person specific because the protocols don't necessarily match the patient. It doesn't necessarily match their age. It doesn't necessarily match their sport.

Tim :

It doesn't necessarily match the things that they would do. So we want to dedicate our rehab towards the patient. So I may talk about Achilles Tendinopathy rehab, or Plantar Fasciitis rehab, but I'm in reality, I'm rehabbing Mrs. Jones, or Mrs. Smith, or Jordan the footballer. So we do make it specific, and the second thing is this. There's no rights or wrongs of rehab. You've got to look at what you're trying to achieve from the rehab. What's your functional goal? Is the ankle stiff? Do you want to mobilise it? Is the calf weak? Do you want to strengthen it? Is the ankle unstable? Do you want to stabilize it? Is the calf short? Do you want to lengthen it? Is the plantar fascia under too much load? Do you want to offload it? Is the ankle swollen? Do you want to reduce inflammation? So you think about what did your examination find? What did your assessment find? Now I'm not a big fan of assessments and ankle examinations actually, you know, I don't really spend a lot of time doing Orthopaedic tests on an ankle. I like to functionally look at the ankle, or, I'll look at gait, and I'll look at squatting, and see how much mobility there is at the ankle. So we do the assessment to find out what's missing from the ankle, or the gait.

Stephen :

What are those tests that you don't like doing? I mean, what specific orthopaedic tests did you have in mind that you either don't trust, or just don't use yourself?

Tim :

Well, there's a few tests, the Windlass test for plantar fasciitis, there's, the Anterior Drawer test, Franklin's Stability. There's a few, I very rarely use the Royal London Orthopaedic tests for Achilles Tendinopathy. I mean, it's a straightforward test. You lie the patient prone, you palpate the Achilles tendon, and then you just do it in either Plantarflexion or Dorsiflexion. And they're fine. They're okay. But, in reality, I'd love to stand here, or sit here, and say when I do these ankle examinations, but actually really, I usually leave that stuff to the real experts who are podiatrists, and they're the guys that can really measure angles and measure pronation. We used to have a gait scanner at our clinic, and I used to use it and get these amazing pictures of people's feet. And I've really got out of the habit now, and I look at a foot more functionally now, I look at how they walk. I might even look at how they run. I might look at their ability to raise a heel.

Stephen :

To a certain extent here, you're preaching to the converted, because lots of us say, yeah, this is what we like to do. We'd like to look at this function. But there'll be plenty of cynics who will say, well, no, but it's got to be evidence based because we've got to be able to justify what we're doing with the patient. And I know the limitations of evidence when it comes to this sort of thing. But what's your

answer to that in terms of how you're approaching your ankle? Because you're varying your treatment, you're varying your protocols. Is there a good body of evidence behind it? So yes, these do work albeit modified for different age groups and gender and so on.

Tim :

So evidence-based information. I think the thing about evidence based, it's based on research, but it's also based on clinical experience, and there's massive holes in evidence out there. You know, there's lots of issues with evidence-based research. Now yes, we are practitioners, and we do want to use evidence where it's valid, and where it's available, but a lot of times actually, evidence is either incomplete or there's many different mixed opinions about the same ideas. You know, different people have different views and have different evidences. Now with regards to ankle tests, I mean, I guess the easiest way would be to look at the specificity and reliability and generally speaking, it's not that great. I mean I'm being a bit broad here. A lot of people are finding with orthopaedic tests, is that reliability and specificity. For example, if you & me, Steven and Claire, all examine the same ankle using the same tests, what are the chances that we would all come out with the same answer, and there's going to be a variation, and that's the degree of reliability isn't it, with a test. So I guess we use our own clinical judgment, as well as the evidence available when we're looking at any body part.

Stephen :

And I guess I'm not, myself, a complete cynic about this. I'm not saying your business, if there isn't evidence there, then we mustn't do it now. I think it's worth sometimes pointing out to people, well, if the evidence is equivocal and therefore we're doing what clinically we believe is best on what evidence we do have. And it's not like a drug where you can say this is guaranteed to work, is it?

Tim :

Yeah, absolutely. You know, there's, there's so many variations and so many opinions. You know, I could read a research paper that says, well an MRI to detect a fifth metatarsal stress fracture is one of the most, reliable, gold standard. Yeah. And that's fairly strong in the research. But someone else would come along and say, well you don't need to MRI to diagnose a stress fracture, and a fifth metatarsal, I mean, it's fairly obvious they're getting metatarsal pain. It's on the bone, it's on the fifth metatarsal that during a sport like running, they've recently increased progressions. They've changed their trainers, they're putting more load through the fifth metatarsal. Probably fairly likely that they've got a fifth metatarsal stress fracture or maybe there's some bone bruising or stress reaction, stress reactions quite a nice term, cause it could be a bit of bone bruising or stress fracture. So some people say, well you don't need the gold standard, which is the MRI. And so it's pretty much a clinical opinion.

Stephen :

Yeah. And of course many people would say, well, even if you have the MRI, what are you going to change in your rehab protocols?

Tim :

Exactly right, and we all know that MRIs can show false positives. So, I think probably a lot of people here, rarely MRI an ankle, I think they are useful, times when you might want to, especially significant ligament damage, and when you're considering surgery. But a lot of times actually we

don't tend to, we don't tend to MRI or image an ankle because we tend to look at it functioning and rehabilitate it.

Stephen :

How come you picked MRI as a gold standard for a fifth met fracture? Not an x-ray.

Tim :

If x-rays can show natural lines in the bones, which don't necessarily indicate stress fracture but are commonly misinterpreted as stress fracture.

Stephen :

Right?

Tim :

Whereas the MRI is generally regarded as being more specific for diagnosing stress fracture.

Stephen :

Right. And we have a lot of information about the stir sequences showing the inflammation and the bone bruising as well, which people can look back at. How's your sound doing Claire, you back with us?

Claire :

It sounds fine to me, but I don't know how it is to you guys.

Stephen :

That sounds good to me. You joined him when you feel like it.

Claire :

Okay.

Stephen :

So back to you then Tim.

Tim :

Yeah. There's lots of scan options available, x-ray, ultrasound scan, or MRI, and there's lots of reasons why you would and wouldn't image those areas. I think the least likely would probably be an X Ray, unless you suspect fracture, and if they do suspect fracture, generally speaking, these people are likely to have ended up in an acute environment, rather than in your osteopathic clinic.

Stephen :

So you're going to take us down the sort of protocols that you would apply then, to your range of patients.?

Tim :

Yeah, absolutely. So let's talk about some of the ideas. I've got some slides I can share as well, if that works. So let's see if this will share. Okay. Perfect. So let's look at a few ideas. And the first thing probably we want to look at is, how do we address the acute ankle? Now we all see acute ankles come into clinic, treated in so many different ways. You know, some people friction them, and some people mobilise them, and some people stretch them, and some people leave them and offload them. And again, like everything, there's lots of different theories on what you should do with your rehab, and how you should do early intervention rehab. If we look at some of the research, for example Acute: now everyone's familiar with RICE, and there's other RICE variations, you know, Rest up, Ice, Compression, Elevation, you know, such as PRICE: Protect, Rest, Ice, Compression, Elevation. And, then you've got POLICE, which is Protection, and Optimal Loading tends to come a little bit later, but the optimal loading, so that's nice, because really acutely, where you want to off load pressure on the ankle. Yep.

Tim :

So we want to really, in an acute ankle sprain. Obviously you want to offload it. We don't want to put too much pressure from it. It's going to be inflamed. It's going to be sore, there's probably going to be ligament damage, and so we look to offload with the use of crutches, or rest, or compression, or ice to reduce inflammation. And that's very, very much accepted as early intervention. There's always questions about should you reduce inflammation or shouldn't you reduce inflammation. But my view of the ankle is yes, we should try to reduce some inflammation because with the ankle, cause it's such a distal joint, and it's very hard for the body to actually disperse that inflammation. And that's why ankle swelling can take, months, it's not that uncommon to see an, ankle is still swollen three months for an acute injury and sometimes longer.

Tim :

So I think we do want to try and reduce some of that static fluid that accumulates, in & around the ankle, and RICER is quite a new one, & MICE as well, which involves a bit more rehabilitation and movement. Say Rest, Ice, Compression, Elevation and Referral if you need to get it checked. And Movement or motion, Ice Compression and Elevation, so that you can choose which one of these kinds of protocols you want to do. There's, different ideas on research based on which ones are most useful. But generally speaking, my favourite is, let's offload the ankle. Let's reduce inflammation. And let's reduce pain. And, when we do that, then people start the recovery process. And that's usually within the first 24, 48, 72 hours, sometimes the first seven days.

Stephen :

Yeah. If someone sends in a question about the Cumberland score, do you know what that is? Cause I don't,

Tim :

No, I'm afraid I don't know what that is.

Stephen :

Sorry, I've never heard of it, but I was asked whether you'd use it for rehab. So whoever asked that, could you please send in some more information about the Cumberland score so that we can be a bit more informative.

Tim :

Yeah. Now one of our very, very hard things to rehabilitate and everybody I think, can relate to this, is rehabilitation of Achilles tendinopathy. I've actually suffered Achilles tendinopathy myself, as I have Plantar Fasciitis. I suffered plantar fasciitis as a child, and then in Rio, when we went out to the Olympics in Rio, I decided on my days off to go hiking, so that Rio has this is amazing topography. So I was free climbing Sugarloaf mountain, and Cristo Redentor, and a few others. And I thought, well this is just so boring, so I'll run back down cause I'm such a busy person. I like that. I don't want to walk back down, I'll run down. So I started running down these mountains, and then of course I started getting Achilles Tendinopathy, as my body was not used to it. Well, goodness me, it take ages to get rid of it, and in the end, actually really successfully used shockwave to get rid of it, but they are so stubborn, and you know, I've tried everything on Achilles from fractioning them to stretching them, to eccentric exercises, to Optimal Loading, to laser, to acupuncture. And you know, I just found so many things, they're just such tough things to treat.

Stephen :

So now you're sending everyone away thinking that the answer to Achilles tendinopathy is shockwave, but actually there are different Achilles tendinopathies, aren't there?

Tim :

Yeah. So, the two main Achilles tendinopathies are insertional or mid tendon. But shockwave I think can be useful, we have a couple of shockwave machines, at 2 of my places, but actually we'd never used to use that as standalone and it's not a solution on its own. I think that shockwave is best used with a rehab program. So we may do shockwave, but we will always ensure that the patients do exercise rehabilitation as part of the treatment, because it covers both bases, as well as we will give them advice. You know, this sort of advice we typically give with Achilles Tendinopathy and Plantar Fasciitis, things like slowing your walking pace. It's something so simple, but you know, it's called placement heel for a reason.

Tim :

And that's because typically people walking, fairly fast, in hard shoes, on hard ground, and also we see quite a prevalence of plantar fasciitis and Achilles problems with obesity. And just trying to encourage patients, active lifestyles, weight loss, exercise is good. You know, there's a real fear around exercising. People will come in and say, how do I exercise when my foot hurts, how do I go for a run? And you say, well, you don't run, go for a cycle. Go for a swim. So it's not just shockwave, it's not just friction, it's not just laser, acupuncture, it's not just stretching. It's a whole process that we do. So we would use these modalities with exercise rehabilitation as well. So we look at the exercise that they do and that's why it's never used as just a standalone.

Stephen :

Are you able to give any guidance? Because I guess the thing that's probably going through many people's minds is you've mentioned several things there, but there's going to be a graded, a staged approach to introducing them, and how do you judge which bit to introduce next?

Tim :

..and that step? Yes, absolutely. So there are some protocols out there. I mean, sort of the first, the most famous, if you like, protocol was called Alfredson's Protocol.



Stephen :

Justin can you kill the slide please. Yeah, go on. Sorry Tim.

Tim :

The first one was Alfredson's Protocol, back in 1998. So Alfredson, I think was Swedish, I think most of these researchers were Swedish. And there are a few rumours coming about, about how he developed these protocols. I think he suffered himself and I've actually tried to verify that and I can't. But essentially Alfredson's protocol was a very high repetition load of eccentric exercises on the Achilles tendon. Now actually it's amazing because when you read Alfredson's protocols, you end up doing 180 repetitions a day of eccentric heel drops if you like. So how you do that is, and I can show a video in a minute, or some point, essentially, you stand on a step, you lift both heels up, so heel raise, and then you take the pressure off one leg and onto the bad leg.

Tim :

Okay. And then you drop the heel down, so you're loading the symptomatic side, and you drop that down and then you go back onto both legs and lift back up. So you're eccentrically loading, as you drop down, you're lengthening the Achilles tendon. As you load the Achilles tendon eccentrically, as opposed to concentric, which would be the other way round, you'd heel raise and underload. Okay, and you do three sets of 15 repetitions with a straight leg, & with a bent leg, okay. That's Alfredson's protocol. So you do 90 reps with a straight leg, 90 reps with a bent leg, you do that for 12 weeks, and as the weeks go on, you increase load. So you might put up a weight, you know, you gradually increase loads. You might put a backpack on, you add a weight, and the weight gets heavier as you go on, and that's Alfredson's Protocol. 12 weeks.

Stephen :

Is that still in vogue?

Tim :

Yeah, very much so. I mean it's, well possibly not at this level of sets and reps, but anybody would agree that's a variable, because we couldn't get certain patients doing that level, right? But yes, it is, it's invoked because the principal is very, very strong, which is an eccentric based rehabilitative approach for ankle tendinopathy. So Alfredson started it, now what followed on from Alfredson, was Silbernagel in 2015, and I'd like to share my screen, just share my screen with you now. [Rehab My Pt] Uh, just check. Can you see? It's up? Yeah. Great. So, this is our Alfredson's Protocol here. So, single leg, with a straight leg, and bent knee, heel drop, progressing on to using load, like a backpack, to increase the load, to create the tissue changes, the physiological, cellular tissue changes, to adapt to having more load placed on it.

Tim :

Okay, and there's been lots of research on this. I mean, lots and lots and lots and lots of research on this. But the other interesting one was Silbernagle's Protocol, so Silbernagle, I think another Swedish, well not think, he is another Swedish researcher. And so Silburnagel came along and actually looked at all this, and came along to his own protocols, and he had a four phased approach, and it's amazing that you look at this Protocol, it's so well followed, but yet it's not particularly clear on exactly what the exercises are. So, we act as interpreters, and actually, in Rehab My Patient, we have a four phased, Silburnagel Protocol template available so you can actually go through the full

protocols. So essentially, it's eccentric, concentric exercises, a little bit of pliometric exercises, with some rebounds and stuff like that. So Silburnagel, I studied this between 2005 and 2015, and Silburnagel, these are some images from his protocols, which I don't particularly like. So I have my own ones of course, and they looked at varying Silburnagel versus Alfredson, not a massive difference between the two and terms of the results and so, I will end that show and let you continue.

Stephen :

Okay. So if we were using Rehab My Patient as we do in my clinic, I mean, the suggestion is that the latter of those protocols, Silburnagel's is the one that you'd recommend over Alfredson's and on it's own.

Tim :

Yes. Because the protocol is a little bit wider. So there's a few more exercises. I guess it's slightly more progressive. So you increase the challenge, the exercises become slightly more challenging as you go along the process. They do indicate particular weeks you should do it, but actually the points where you bring the different phases in, are dependent on certain results, like the amount of pain and weakness in the ankle, and the Achilles, you can actually phase it in a bit easier than Alfredson. And I will just share my screen with you, so you can see this. [Rehab My Pt] So this is our own interpretation here. Achilles Tendinopathy, weeks one to three. So we've created our own templates, and my approach is essentially let's start to mobilise the Achilles tendon. So there's this thought, that what happens with the Achilles tendon is, there's a sheath around the tendon, and sometimes there's inflammation between the tendon and the sheath. Now, some people say there's not an inflammation process, but it's actually a degenerative process. I'm in two minds about that myself, but what tends to happen is, the sliding of the Achilles tendon in the sheath tends to get, if you like, a little bit sort of sticky.

Tim :

And then this creates this disease, "Adhesions". So what we want to do, I think, is we want to really mobilize the ankle. So plantarflexion / dorsiflexion exercises, you know, they're so simple but they're so easy to do and I love simple. So when you mobilize the ankle using tip-toe raises, toe pushes, lifting your heels from a chair, and we start doing some strengthening as well. So gentle strengthening, some concentric strengthening. And why do we start with concentric strength here? Well this is my approach. Because we start concentric strengthening because it's so much easier for the patient to do. You know, eccentric is more complicated. Patients do get it wrong. So let's focus on something easy. Let's just strengthen the calf & the Achilles, concentrically to start with, until they get that, and then we move on to an eccentric move.

Tim :

Also I like to use things like ice, in a short phase, you know, for me it works very, very well. I think it's really great if, if they've got chronic inflammation, I think it can really help. I'm sure there'll be questions coming out saying that the ice does not work in this, no evidence, and that's fine. That's just, and again, it's an opinion isn't it? And if we shoot on to Silburnagel's Protocols. So Silburnagle actually does similar things. Say, mobilization of the ankle, followed by some concentric strengthening on two legs, and then one leg, and some sitting heel raises. And that's his phase one. So very much aligned with us, with what we do, which is start the load up slowly. And then moving

on to phase two, we would start to load it more, say with the calf raises from a step, for example, which is harder, because you start lower. So you come up from a de-elevated position, to an elevated position, and then you can bring in your eccentric exercises as well. Then obviously you can imagine phase 3 becomes harder. You can put weights on, very much like Alfredson's protocols. So you add the weights, and you start to bring in plyometrics. So plyometrics might be, and again, you know, Silburnagle doesn't exactly say which plyometric exercises to do, which makes it very, very difficult. But we can kind of get an idea, and say, a box jump is a very accepted plyometric exercise. And it's that shock of loading the Achilles tendon that we want to get to stimulate the healing, and the tissue changes, to strengthen the tissues.

Stephen :

So, Tim, can I ask, I know you've got a lot of them on here, on Achilles problems, but, there's a lot of questions I think coming in about Inversion sprains as well, which are a common injury, which are there again, there are different opinions about how we have those. And, and I suspect that Claire has been monitoring some of these questions as well while we've been talking. So perhaps I can hand over to her to, to bring some of those viewers questions into the mix.

Claire :

Yeah, there's been a few of those come in. I did some study with the Alfredson technique quite a few years ago and that second one, the Silburnagle one is so much more appealing. The Alfredson one, I just couldn't see patients complying. It's so drawn out. So those exercises and those phases that you've displayed making it much more easy to follow, and for the patients, the variety also I think is much better. So that's a really lovely approach. Lucy Godfrey's asked a question, what was your approach to Peroneal tendinopathies associated with a lateral ankle sprain. And she's talking about, do you do isometric loading to prevent the lateral ligament strain or different,

Tim :

okay, first of all I use a principled approach with my rehabilitation. So first thing I want to do, is to work out what exactly is your injury here? It's probably the first injury, which is probably the ankle sprain, which has damaged ligaments and then, probably, the Peroneus Longus tendon is overloaded because of a lack of ankle stability. First of all, we need to reduce pain, reduce inflammation. Then let's make sure we've got good range of movement in the ankle but not hyper, not unstable. So we've got to be careful. So it's a very, very short phase, with ankle rehabilitation is improving range, and mobilising, because very quickly it can become hypermobile and then we have to work on getting that ankle stability. Okay. If we get the ankle stability, you're going to not load the peroneus tendon. You will load it, of course, but we share the load to the calf, the Tibialis Posterior, the Tibialis Anterior, and the intrinsic foot muscles. So we improve stability, then strengthen, and then return to play. Isometric exercises are absolutely fine as part of that.

Claire :

Right. And then just moving away from the strains, there's another interesting one from Jackie Leftwick, she has a patient that had an ankle replacement four months ago, & will be having another one, when the NHS can do elective surgery again, any particular tips for rehab, as the replacement doesn't function in the same way and has far less range of movement.

Tim :

So, slight hands up here. I've never rehabilitated an ankle replacement. I've never actually even seen one, but again, it comes down to your principles, and I think what we'd expect after a replacement is probably a large degree of ankle immobility and ankle stiffness. So I would very much look at calming the area down and improving range of movement, and then building the stability & strength, loading the strength to the muscles around the ankle, to support the prosthesis. Okay, I'm not familiar with the actual rehab and these are the cases when these happen, if they were to come in, this is when you can do some brilliant PR, get on the phone, speak to the surgeon and go, right, I've got Mrs. Jones in, and she's just had an ankle replacement and you're the guy that did it. Just tell me how long is she meant to be off weightbearing for, or how long has she to be in a boot for? Yeah, and what are the protocols, and I'll do exactly what you tell me. That's what I do. I get the surgeons to say, okay, let's do four weeks or six weeks or whatever. Or two weeks non weight bearing and then let's do X, Y, Z. And so you can score huge brownie points with that.

Claire :

Yeah, that's great. We've got another question, going back to the Alfredson, from Krisha, asking you, do you make any amendments when you're treating children? So is there a different slant with pediatrics?

Tim :

So I don't follow the reps and sets, the 15 reps times three, twice a day, for straight leg and single leg, which is Alfredson's Protocol. I don't follow that, and specifically, I vary that depending on what my patient can do. Now with a younger person, absolutely. I mean fortunately we don't see many children with Achilles tendinopathy, they tend to be Plantar Fasciitis, which is rehabbed slightly differently. But yes, we do vary it, actually I'd give a lower load, lower sets and lower reps, and I wouldn't just do eccentric exercises. I would make it quite fun. You know, I might get them to push a foot, against a ball, into a wall. And let me just show you the exercises. So I think let's make it fun for kids, so let me just share my screen and show you. Anything with balls is good, and bands are great as well, Ferrobands. [Foot exercises on screen] let's look at the ball page here. You know, this is a lovely exercise where you can just start to strengthen the foot by pushing a ball against the wall and they get it. Because you can use a football, you can use a netball, and that's really good. So there it is, let's make it fun for the kids, and let's not just focus on eccentric exercises.

Claire :

Yeah. Mixing it up is good. Going back to the very beginning of this, talking about, ankle strains and women, do you tend to see more ankle strains in women?

Tim :

Yes, I do. Certainly, especially eversion sprains of course, you see, females tend to have more joint laxity or, less joint stability than the males. And that's usually hormonal and can be genetic. But they tend to be more mobile. That's fairly accepted. And so unfortunately, ankle sprains are more common. In the case of a netball team, I mean, we used to spend a lot of time rehabilitating, and especially functional rehabilitation as well. That's another very interesting aspect of ankle rehabilitation that we really look at, it doesn't necessarily matter whether they're female or male. It's about what do you want to achieve? What do they want to do? They don't want to go running. Do they want to get out on a netball court? Do they want to just get out of bed in the morning, pain-free. You know, when I had my Achilles pain, my goodness, you know, I had no pain during the

day. It was really weird. But every morning I got out of bed and hobbled down the stairs, and then the pain would go after half an hour, an hour, be fine for rest of the day. Same thing every morning. That lasted for four months or something, five months. So let's work out what do we need to achieve? Male, female, netball player, non-netball player. Functionally, let's look at that.

Stephen :

We're kind of out of time at the moment, and, I'd just like to do a little bit more on inversion sprains if I can, because you talked a bit about the instability that arises from chronic damage to the ligaments, & so on, how do you restore that stability? I mean, is, the wobble board still in fashion?

Tim :

Absolutely. I'd say that's the best way. First of all, we have to understand, is this is realistic? Are we going to begin to restore full stability? Possibly not. But can we get a lot of stability back? Yes we can, so yes, the wobble board is in fashion and I love wobble boards. I love BOSUs and I'm just going to talk you through here... So here's the BOSU here. Okay. There's lots of exercises you can do on a BOSU, from just standing on a BOSU, such as this exercise. Or you can do single leg squats or double leg squats. You can do lunges on BOSUs. You can stand on one leg and catch balls on BOSUs. There's lots of different exercises on BOSUs. So BOSUs and wobble boards are fantastic. And why are they fantastic? Because it's not necessarily the wobble board, it's the principle, and the principle is, your're conditioning your ankle in an unstable environment.

Tim :

So when you rehabilitate an ankle for an ankle sprain, for example, you want to first of all, start with stability in a stable environment and build in more and more instability, to challenge your ankle. So it might be you stand up next to a wall and stand on one leg. Okay. Stand on one leg next to a wall, holding on for two minutes. Yeah, progress it to make it more challenging. Stand without holding onto the wall with your eyes open. Progress it. Stand on one leg without holding onto the wall with your eyes shut, that we all know, that's tough, right? That's my level 3. Progress it even more. So let's do, eyes shut, standing on a towel. Okay, so you're less stable. So you're now having to recruit, you're having to use the intrinsic muscles to maintain stability more. Let's make it more challenging. Let's stand on a wobble board. So you're really wobbly. It's less stable. Well, let's stand on a BOSU. You see how you can progressively make your environment less stable. So you have to challenge the body to become more stable.

Stephen :

And your patients who, let's say your patients who have chronic ankle sprains, and therefore have less stability there, would you say to them, okay, we've done all this rehab, you've increased your strength, we've increased your proprioception, but you're still going to need to protect that ankle when you run, do football, rugby, whatever it is. Would you advise that they're putting Luca tape on them or they're using the modern stretchy muscle tape? K Tape. Thank you. Yeah,

Tim :

A hundred percent, yeah, absolutely I do advise it, because there's a protective element, that now, yeah, some people, will look at us and go, no, no, no, no. You must strengthen it. Don't use that stuff, because it can lead to further weakness. Yes, I get that. But if, if the ankle is inherently unstable, you've tried as much as you can to stabilise it. And at that point you know, an ankle

support, or tape, Hyperfix is great. Or even K-tape is good. Yeah. It does provide some ankle stability, and that does protect further re-injury, which is why virtually all the professional netball players wear ankle supports. Okay. Absolutely. Yeah.

Stephen :

So when you say ankle supports, are you talking about those neoprene things that really are entirely proprioceptive?

Tim :

Yeah, you see it all comes down to the principle of mobility versus stability. Yeah. If you get more mobility, you often sacrifice stability. That's a problem. If you're too stable, if you completely lock it up, you lose mobility. So you want that balance in between don't you, and that's what we've got to achieve with the ankle. We want the ankle to be mobile, because it's full of bones, it's designed as a mobile area, and we want the stability, so we don't go over on the ankle again. So chronic ankle sprain. Yes. I would recommend if they go out and play netball, or football, or rugby, they can use ankle strapping, taping support, Hyperfix, ankle Neoprene supports. Yes. No problem at all. Wouldn't have problem with it. Yes.

Stephen :

Yeah. Tim is brilliant, as always. We've run out of time before we've run out of questions, and I'm sorry that we're going to have to cut it short there, even though we have already run over time. Thanks for coming in again, and I'm sure that what you said will be really useful to lots and lots of people, and I've no doubt that we'll be seeing more of you in the not so distant future.

Tim :

Thanks for having me.