

Knee Braces: Relieving Stress & Deferring Surgery - Ref 311

Steven Bruce 9:23

Good afternoon. Welcome to Monday's lunchtime learning. And once upon a time we used to do a series here of what we called product reviews. Essentially what we did what we hoped were impartial looks at various types of equipment. And I suppose today's show is a little bit like that. We're going to be looking at the ASA unloader brace. And the reason we're looking at this particular piece of cake is because it was recommended to me by an orthoped, who I've had a lot of time for. chap has been on the show on numerous occasions, Ian McDermott, and you might have seen him on some of our shows. Now these braces, they're not cheap, but they're neither is joint replacement surgery. What they do though, is they promise in some cases to help at least postpone that surgery, and I thought it'd be a good idea for us to learn a little bit more about them. My guest is John's Leeming. He's from Austin. He's trained as a podiatrist, but he's now an orthotist with a lot of experience in this field. So Charles, welcome to you. Yeah, I mean, I'm fascinated to see this because people refer don't they in general, I think clinical I've even some braces. But braces means a lot of things to a lot of different people. And sometimes they just mean a, you know, a to b grip or something like that just does nothing to provide anything other than a bit of compression and proprioceptive support, I imagine. Yeah. What are we going to be looking at here?

Giles Leeming 10:36

Well, something a bit more involved. Something a bit more designed very specifically for the patient group. And you're quite right, braces vary from simple sleeve to something, again, more evolved and that sort of thing. So it's, it's often a discussion point for us in terms of correct prescription, making sure you got the right thing, but also having something that's designed holistically to suit the patient group holistically. Yeah, what it's important, if we're talking in the field of OAE, for example, they may have OAE in their knee, but there will be other associated issues with that they may be more advanced in years, they may struggle with buckles and more complex things that we need to factor in from a design point of view and make sure that we've got something that really works for that person. Doesn't matter if we make the best biomechanical brace if the patient can't tolerate it or use it correctly. It doesn't really doesn't really fulfil that need. So

Steven Bruce 11:30

I suppose as well, first of all, I mean, attorney to offer the company. We're going to be looking at one particular type of brace and unload a brace today, but I presume most of there's lots of other stuff as well.

Giles Leeming 11:41

Yeah, so my background is actually in prosthetics. So we were started by an amputee, also Christiansen and he was unsatisfied with his leg and he developed a silicone roll on socket, the ice Ross or Icelandic rollos silicone socket to solve his needs with his leg. And from there we then we have things like the carbon fibre blades you see at the Paralympics, most of those are from masa. No idea. Yeah. And people like Johnny Peacock, and rich Whitehead, some of our athletes, for example. So

Steven Bruce 12:17

what goes through my mind though, and we've got an example of the brace that we're looking at today. And when we're looking at a particular brace, which is presumably designed for a particular condition, yeah. You'll tell us more about that. I guess we're all concerned about, you know, what's the evidence for this, because you can design a sexy brace with straps and buckles and all sorts of stuff. But people are going to be thinking, well, how much of it is, how much of it is necessary? What does the evidence tell us or how much of it is placebo or proprioception in much the same way as to be grip?

Giles Leeming 12:45

Yeah, and it's important that there's a good research backing for these it is, orthotics itself is a relatively small field. And it's important that we encourage research in this area. And we'll talk about a little bit later. But but for the unloader, for example, there is the broadest of any of the other braces, there is the broadest sort of backing of research in that area, the most research has been done in this.

Steven Bruce 13:13

So maybe I should let you know you have some pictures and stuff like that. So maybe I should let you tell us about you know, what it deals with and how it works, then before we get into how you use it. Yeah.

Giles Leeming 13:21

So effectively from a from a brace point of view, it's important to consider the modality itself, but it's it's a very sort of targeted methodology. You know, with more systemic things like pain relief, medication, and that sort of thing. You are, okay, you're aiming for pain relief from from the OAE. But it's a systemic thing. With this, it's affecting just just the knee. It's extremely targeted for that area, also from a Tality and morbidity concern, you know, it's very isolated in terms of that area. So they can be very useful in patients that perhaps have other other considerations. So things that may preclude them from having surgery, for example. So it's good with capabilities and that sort of thing. And also, it's really important that we consider it as a combined therapy. So a brace in isolation, you know, can be useful, but it's also really important that we consider it as, as a group with other conservative measures. So we have here, for example, injections, very much targeting the pain within the joint medication, and then an unloading knee brace. With those were really trying to target the discomfort with the aim that potentially we can sort of break the antiallergic side of things and they can get more from manual therapy, they can get more potential from diet and exercise if we're able to control the discomfort.

Steven Bruce 14:47

One of the concerns that people often have with any form of bracing is that by applying a brace, you are reducing the work done by the muscles therefore, you're encouraging sarcopenia in a certain

population or just muscle way Stage. And that goes counterintuitive. When we think of strength being a major factor in overcoming away, we're not just coming away overcoming the pain away.

Giles Leeming 15:07

So that that basically, is from historic research that was on a very different brace. So originally, you know, sort of in my early career, there was a study done that looked at ligament braces and their effect, very different style of brace and the ones you might see on skiers, and the effects on on quads and that sort of thing. But the reality is now when you've got something that's, that's much more targeted, if you're able to break the pain, which often results in more wastage, it's anecdotal. But with a lot of patients, you do normally see that they their muscle strength improves over time, it is an area that we'd like to do more research into. But if you're able in enabling someone to to better participate in activities of daily living in exercise, these sorts of things, it's reasonable to expect that they would they would sort of get associated changes with their musculature. Yeah,

Steven Bruce 16:02

it was interesting. You mentioned skiing, because actually, we had a comment come in before we even started from Carol who says she has an unloader brace of her own and she's thinks they're the bee's knees, because maybe it means she can carry on scheme. So yeah, that's good. I don't know if it's an awesome brace, I presume there are other versions or there are different

Giles Leeming 16:16

versions that exist. So that they they can work in very different ways. So certainly, historically, they tended to be more based on other braces rather than some of these designed from the ground up. And that's, that's one of the key thing is really I talked a little bit about the fact that you have to consider the patient holistically. And if we've got a very rigid, very hard brace that traditionally you would associate with with skiing, because the high level of ligament control required us potentially not suited for day to day life for that patient group. They want something that will fit into the clothing that they can adjust and will be will be absolutely comfortable for normal day to day living rather than extreme high activities and long durations.

Steven Bruce 17:00

Am I right? Am I right in thinking that with an unloader brace it's targeted at Unicompartmental by way?

Giles Leeming 17:07

Yes. So it's, it's specific for we can go on to the indications but it's specific for any Unicompartmental condition that would benefit from unloading. So that includes meniscal indications, they're also used in a variety different different varieties of them. biomechanically very similar, can be used post microfracture treatment, for example, more other cartilage based issues like oats procedures, may see an ACI procedures. And it's basically where you need to consider the load going through that compartment. The main thing really is Unicompartmental osteoarthritis, and certainly originally, we were thinking more about sort of lower levels, lower Kellgren Lawrence levels, but they actually found that for all levels of, of osteoarthritis, they can they can be useful in affecting

Steven Bruce 18:03

I think statistically, the the medial compartment of the knee is most commonly affected is I don't even know if there are any, ever any problems with the lateral compartment. Can you work both sides? Yeah, we

Giles Leeming 18:11

have lateral versions. They account for 20 to 30% of the waste we sell. So effectively, most of them are medial conditions. But you can get lateral versions. And that's not uncommon if someone has, you know, valgus knee position or that sort of thing. So it's a different version, but we have them.

Steven Bruce 18:31

A couple of comments. We before we move on, Cameron says she's just getting over an ACL reconstruction that's going well, Karen, and she uses a DonJoy playmaker brace, which completely tightened her MCL. Okay, it's a comment Ireland and any observations from Europe?

Giles Leeming 18:46

Yeah, so with those sorts of things, again, it's applying immediate lateral force to the knee, it's, it works in a very different way. So with those, it's what's called a push based mechanism. So you're using the hinge to physically push on the knee itself. Within unloader, you're you're actually using what's called a pull mechanism. It's a very simple, simple study by Rosinski. I can't remember what year it was. But they described the two methods. And basically, this relies on a pull mechanism. So if I can show you this here, rather than the hinge biomechanically sort of pushing and applying a rigid force to the knee, what we're actually doing is applying a counter force here and here with a large surface area, and then utilising the straps on the lateral side. So you'll see this later once we actually go and fit one. But effectively, you've got a very large surface area of providing that force. But it's also dynamic as well. So one of the benefits is, is you bend your knee as we're sat here now, you wouldn't necessarily want that unremitting force on your knee. But it just means that as you go into full extension and the articular surfaces that are affected by the osteoarthritis come in contact, you've got that force applied on You're need to reduce the load in that

Steven Bruce 20:01

area. It's not clear Well, from what Karen says whether completely tightening the MCL is what she wanted or whether that was that was beneficial. So be interesting to hear, Karen, if you want to come back to us on how well you're doing with that brace,

Giles Leeming 20:12

yeah, it's it's interesting. Some, some clinicians do use them effectively to stop that, you know that that valgus force opening that medial compartment, it's not one of our one of our indications, but effectively using it the opposite way around to to load the medial compartment to prevent the gapping associated with that ligament injury. Yeah.

Steven Bruce 20:34

Robin says that his brace is a CTI OTS from also that makes sense to you, does it? Yes. He got it after lots of research and ultimately decided after being impressed. He won't remember this because it was years ago by the time by the time and help that Giles offered me on the phone. So you're responsible for Robins brace still going strong after years of wakeboarding? I'm not quite sure that's probably Robin, who is the cyclist I spoke to you about earlier on who like you as a mountain bike understands.

Giles Leeming 21:01

Yeah, so that's, again, a very different race. That was when I was talking about a ligament brace. Yeah, we're wanting to promote structural integrity of the knee and preventing, you know,

effectively tibial translation, which is a relatively sort of small movement from biomechanical points of view. So those need to be designed to be very rigid and very controlling. Whereas with something like this, we want something that's focused on providing that medial lateral force being very, very lightweight. And it's not necessarily about rigid control of the knee. So the CTI is a great example of ligament brace, but those are more traditionally where away braces came from. And in that lies the difference with with something like this. Okay.

Steven Bruce 21:48

So you talked about indications earlier on, and I imagine that some of them might be fairly self evident. But what are the indications that an unloaded brace could be useful,

Giles Leeming 21:58

is effectively anything that were Unicompartmental unloading is beneficial. So the primary one is mild to moderate OAE. We then have degenerative meniscal indications which from a manual therapy point of view can be quite tricky to manage. We then have the other ones that have gone through. So things like microfracture post, May caaci, and various cartilage based based issues

Steven Bruce 22:26

any contraindications amongst the population?

Giles Leeming 22:29

Not necessarily. I mean, what we would, the things that we need to think about standard orthotic considerations, so things like patients with neurological deficits, so sensory, neuropathic, sorry. So if they if they have a reduction in sensation, or if, for example, they have significant fluctuating edoema. It's not necessarily a contraindication. But it's important that those are addressed, and that you have sort of a heightened level of support for that patient. Just because they need to be aware that perhaps they need to wear it in sooner, they may need to adjust it, as the day goes on, they may need to monitor the skin. So it's important to take those on a case by case basis. So these worn against the skin or over clothing. So you can do both biomechanically, it would work exactly the same over clothing. The difficulty is, with having over clothing, you know, you can see as I'm sat here, there are creases in my trousers, those sorts of things. Also, the potential for slippage, and so we designed lots of things into the brace to make sure it stays put. We don't want it sliding down. So we use silicone liners the same as the silicone used in the prosthetic sockets I was talking about earlier. But if you put them over clothing, you have the potential for them to slide down a little bit more. So people do wear them over over leggings and that sort of thing. But

Steven Bruce 23:50

I struggled to fit them under those jeans. For me,

Giles Leeming 23:53

yes, potentially. But there are other clothing choices that you would wear, for example. So it does it does depend on the individual clothing, but we try to make them as lightweight and low profile as possible.

Steven Bruce 24:07

Okay, Karen has come back and said, Yes, sir brace helped with the MCL. But now I will need a brace. She says for skiing post ACL surgery nine months ago. So very interested in what we're going to be talking about today. Yeah, yeah. Functionally, I presume someone would wear this obviously for

normal day to day activities walking around. If they're cycling or in the gym or anything else like that. I presume this can still be worn over there and would perhaps be beneficial, although

Giles Leeming 24:35

it's really individual in terms of saying when people should wear it. We have patients that get up in the morning they immediately put their brace on and then when they go to bed, they take it off. More commonly IT people wear it when they need it or when they're doing activities that would normally aggravate their knees. So you know perhaps when you're in and around the house and you're you're used to your surroundings and that sort of thing. You wouldn't necessarily need it all the time, but we have the real gamut of patients and always specific. It's so individual in terms of when people have problems. I always say it should fit in with your lifestyle, and you should use it when you feel you need it. That said, the more you wear it, the more potential benefit you'll get.

Steven Bruce 25:16

Yeah, well, actually very timely question here because Rupa will comment there because Rupert's just said he had a patient who use an unloader brace on his knee for some time, but it caused complications regarding venous return. And he's due to see a vascular surgeon soon. Do you have any comments about how much one he should wear the brace? And obviously, you've just you've just touched on that. But in this particular instance, if there is a problem with muscular return,

Giles Leeming 25:37

yeah, I mean, it's it's important to consider just because in with any brace of any type, there's going to be in effect, a circular effect that, you know, tightening of the compression keeps it keeps it in place. So if there are significant vascular concerns, it's important that those are addressed beforehand, as much as possible. Whether that may be I had a question this morning, believe it or not, that was just with regards to someone with poor venous return. And it might be appropriate to consider compression hosiery or that sort of thing and try and address that, before we then consider that but for 90% of the population, you know, that's not that's not a problem at all.

Steven Bruce 26:17

In practical terms, what do you expect to achieve with one of these? I talked about deferring surgery beforehand. Obviously, you've talked about pain relief. But how long would you expect that to last? Well, how long might you put off surgery for two people go without surgery altogether? Because they've got one of these? Yeah, so

Giles Leeming 26:36

it does depend on the individual. There was a study done, just clicking through to that one, but looking at existing patients that were on the waiting list for surgery, and they actually found that this was done in Bridgend by Paul Lee, now, Professor portly, and he was looking at 63 patients. And they effectively did EQ five D data. So it allows them to do a quality analysis. And they found that it was cost effective in these patients after a period of four months, and they're actually able to do delay surgery, and felt it was both an effective and cost effective way of delaying surgery in these patients. The mean wearing time for that was was 26 months, so they do wear them for significant periods of time.

Steven Bruce 27:25

In just a second, we're gonna get on to actually fitting the brace. But Dare I ask what is the cost of one of these things? And what's the route to getting one for a clinician who's got a patient they think might benefit?

Giles Leeming 27:36

Yeah, so there's various different routes, our biggest customer is the NHS. So these are available through the NHS. And that's the bulk of our work, I would say. The other thing that's interesting with it is certainly private health care. And these sorts of things, there's an orthotist, often, or other adult, allied health professions, private health insurance companies won't necessarily cover anything other than the clinical time. But this is actually the only Oh, a brace that's fully funded by access, they will completely cover the use and prescription of the brace. So it's unusual in that answer in that way.

Steven Bruce 28:16

So if I, if let's say I've got a patient who I think would benefit from this, my best option would be to say the right to his GP and say this person has got what seems like Unicompartamental away, maybe I've got imagery to prove that I think you would benefit from this person, or they're nice guidelines which relate to this that we can

Giles Leeming 28:35

refer to see, yeah, there is NICE guidelines with in regard to bracing in general, I'll skip back through some of the slides. But effectively with those nice support the use of bracing in a way where there is associated joint instability, where there's abnormal biomechanical loading. And that really is the important part just because historically the mainstay of treatment for patients who their way is weight loss, potentially, if appropriate. Patient advice and painkillers. And the difficulty with that is you're very much treating the symptom, you're not necessarily treating the cause of the biomechanical problem. So through using something like this, if we consider that in in loading terms, there was a study that found that the this were able to get about 15% load reduction in that compartment. It doesn't sound like a lot, but if you equate that to 15% load reduction from a body mass point, that's significant and that that's a big commitment from the patient. So

Steven Bruce 29:40

with the GP be able to recommend or refer when or when so patient won't be able to they have to go to a consultant to get that

Giles Leeming 29:46

varies and certainly historically, the route through to getting braces like this was always sort of through the orthopaedic surgeon. They would then be sent through to either an MSK service or or potentially orthotics is much more broad now. So there are, for example, first contact practitioners associated with GP surgeries, for example. And they can actually refer on to these types of services. And it's quite varied in terms of who who fits and who uses these braces. So orthotists physiotherapists, there's some plaster techs in some in some hospitals that actually are fitting them. OTs, for example. So it really does vary in terms of where you can access these,

Steven Bruce 30:34

what's the waiting time at the moment for a patient to get from from making it known to a GP, that they think that one of these might be good to getting to the point where they're prescribed on?

Giles Leeming 30:42

Depends where you are. So yeah, it can change. I mean, obviously, if you're doing it privately, it's significantly quicker, but a lot of trusts are using unloader braces. And the thing is, with studies like the one done by Professor Lee, it's basically showing it as a cost effective way of doing it. And a lot of surgeons are perhaps limited in what surgery they can do at the moment. So they need something that will actually can manage these patients while they're waiting. And for a lot of people, it does turn into the definitive treatment for the for the time being.

Steven Bruce 31:18

Let's so rather than spend too much time sitting here, let's go across and fit one of these to Jack, our regular model on the show. So you can sort of how, how difficult or easy it is to do that. And we can see the thing in action. Right, so the sad thing about this is that Jack doesn't have any problem, which is good for you, Jack. But we're gonna fit the knee brace to him anyway. So

Giles Leeming 31:42

okay, so in this case, we were already sized up Jack's, I already knew his measurements before we started, would you measure? So what we would do is we'd take a circumferential measures, how can I get you to stand up if that's okay, so just sort of looking down here, all we're doing is taking a depth there 15 centimetres, we're taking a circumference from the bottom of the patella, mid patella, yeah. And this thing gives us a size. So in this case, is about 36, which would put him in the region of a medium brace. From a sizing point of view. We've just changed this recently. So the extra small to medium is one size, and then there's a large to double XL. The other thing that's very important to know is which is the effective compartment. So in this case, okay, Jack doesn't have medial compartment away, but it's a right leg on the medial side. So we would have we have that that brace but effectively 80% 70 to 80% tend to be tend to be medial. If it's lateral, you just order a lateral version. And the brace is effectively identical. It's just that the shaping is very different on the lateral sides. Okay, so yeah, so we've sized him up accordingly, we would then order the brace, we've recently changed all our packaging and that sort of things. It's all much more green and recyclable. And effectively, this is the way the brace, the brace arrives. And one of the things that we use, I talked about them being designed holistically, but we're trying to avoid D rings and things like that with a hammer to thread straps, that sort of thing. So in terms of application, it just has a simple colour coded system. So we have blue here, and blue here, they click that in, and then fold that over exactly the same at the top. So what I often would say to patients is kind of ignore the fitting side of things that I'm doing initially, because effectively it's two clips for them, and then they're then good to go. So have a seat again, if that's okay, so I'm just going to straighten your leg if you just slide forward a little bit, because what we need to do is actually get this in position here. So important thing is, is making sure that we've got this position correctly, everyone always wants to fit all braces a little bit low. So this logo here, we're lining up with the top of the patella. The hinge here we want at the midline, here, like that. And what we're actually doing is we're bringing this strap around fastening blue on blue. And again, this stage is really what the clinician is doing, you don't really need to the patient won't do any of these stages. And then tightening the strap and you can trim all these if you need to. So that goes up and over the calf. And then we then fastening the top section. So again, yellow on yellow. Now this is quite loose at the moment. Bear with me. And we're just going to fasten this thigh strap here. Now we have this ability to tighten this at the front to

Steven Bruce 34:42

this wonderful little bow device. Yeah, I forgot my cycling shoes.

Giles Leeming 34:46

Those are really good for micro adjustments. And what they're there for is for the patient to adjust themselves. So say for example, your knee was particularly comfortable doing specific activity, you can actually increase have decreased these dependent on your pain relief needs. So can I get to stand up, and what I'm actually going to do is just set up these diagonal straps. So these are called dynamic force straps. And the dynamic bit comes in as a result of the fact that when you actually flex your knee, you don't actually necessarily need that same level of unloading, it's going to touch tighter on there, don't necessarily need that same level of unloading. So you see, when Jack actually bends his knee, these will actually go loose to some extent. And that's in line with where the area affected by the osteoarthritis is because it's normally the last sort of 10 to 15 degrees to full extension. So all I'm doing here, obviously, normally, I would, I would trim these after I've initially fitted this, but we've got it in position, have a seat again. And then I would just tighten these up. Now the ideal position just to have it in the central section used to be five. And I always try and stop myself doing that. But we're tightening these up. And then if you just straighten your leg for me, you should be able to feel a little bit of force there. And we can just check the strap tension. So describing strap tension is quite tricky. The other thing that we would consider is the patient's skin condition. So in this case, really good skin condition. And we wouldn't have any concerns with having these nice and tight.

Steven Bruce 36:24

So when you said the central section, this should be five, what you're referring to

Giles Leeming 36:28

just this, this here, so it was now now have this sort of circular window, that's the midpoint. So I'm just setting this up. So just bend your knee a little bit, because at the moment, I'm using these the smart dosing dials, just to set it up. But when the patient leaves, we will always adjust it so that their correct level of tightness is at the midline. So they can go tighter if they need to. They can slack it off if they need to. And really reducing the tension is more to do with the volume changes, if there's any swelling or whatever, they've got the capacity to adjust that. So yeah, straightening again,

Steven Bruce 37:03

they're also actually asked whether you do replacement straps, because she said they tend to stretch.

Giles Leeming 37:07

And they can do a little bit over time, the thing to bear in mind is when they're in a box, there's no there's no stress on them. So we would always recommend a review, within within sort of four to six weeks, just to just to readjust it, it also means you can solve some of the little problems that come along. So So yeah, straps are completely replaceable with the manufacturers. So we can get hold of basically all the parts of it. The only things we can't sort of replace on them is if something integral to the hinge or the frame is broken, but all the straps can be replaced all the pads can be replaced the buckles, most parts can actually be replaced if you need to.

Steven Bruce 37:46

So once you fitted this, there's not much for the patient to think about how much training is it required to fit them? Would you expect let's say if one of our audience, osteopath O'Connor practice that I'm gonna be able to do this? Yeah. Is this a sort of an hour's training in the morning? Or is it a lengthy course?

Giles Leeming 38:01

No. So we we would often sort of come and support you for the first couple if that's something you wanted. We do have lots of resources, whether it's on YouTube, we even have elearning courses and that sort of thing. So

Steven Bruce 38:14

seriously, you were saying to me before, essentially, you've got the same cameras, we've gotten using very similar systems to SPO for Oscars, own Education Academy. Yeah. You know, I haven't been there. But I'd recommend people take a look at it, because you've got lots of stuff there, which would be useful as a CPD product for people wouldn't know.

Giles Leeming 38:30

And that was from our point of view, that was a reaction to the fact that that fitting them if I just have shown it on a PowerPoint or whatever it it doesn't necessarily get across the technical aspects. Obviously, here you have the ability to show different camera views and that sort of thing. And it was something that we developed as well. So effectively, if I can get you to stand up for me, it's important to check the hinge position, but just check the tension here either side I'm gonna go a touch tighter on this one.

Steven Bruce 39:02

So with the hinge, we're looking at the the logo, there's probably on the joint dinos.

Giles Leeming 39:06

So basically, you do find that it will just kind of settle in into position. So you know, we've got we need to make sure that we've got it correct there, the front of the hinge should be roughly at the midline. But you'll feel at ease you can see here as you go straight up Jack, you can probably feel a bit of pressure on this side and effectively is a three point pressure system that it's applying, you know a lot of patients with medial compartment issues effectively the load line is moving medially in sort of a barrister position. So what this is, in effect doing is applying a valgus force to a various leg to reduce the load in that medial compartment. So these two straps pushing that way. These two large surface area shells are effectively pushing laterally. So it means you've got this this dynamic or so if we were to if you sit down again, Jack, you can see that as we flex, it reduces some of the tension on there, you can probably feel that comfortable. Yeah, very comfortable. Yeah. And we also use things like, for example that I mentioned before, but silicone on the bottom section to make sure it anchors and stays in position,

Steven Bruce 40:19

what am I just behind your knee because it looks sort of strapped behind the knee

Giles Leeming 40:24

that stand up and then spin around. So just need to make a little tiny adjustment there. But we've got a big papa tail pad here, just so that it means that you've got plenty of padding in there. And you can move that around if you need to. But as I mentioned, it's dynamic. So it's not unremitting in terms of that force. But generally, people find them pretty comfortable.

Steven Bruce 40:48

To enjoy to walk up and down. Do you see any difference in Jack? Because he

Giles Leeming 40:53
isn't symptomatic.

Steven Bruce 40:55
Just have a little walk towards the camera over that way. And when you're walking Jack, does that feel perfectly normal? Perfectly fine. Yeah,

Jack 41:03
it does feel normal takes a little while, you can feel that there's something there. But after a while it felt Oh, no, won't feel like it's there that makes you

Giles Leeming 41:12
keep walking, if that's okay. So effectively what we what if you notice, certainly when he's walking backwards, you can see that there's a change in the tension of those. But that's just to do with the fact that the area affected by the osteoarthritis really is in that last sort of sort of 10 to 15 degrees. So

Steven Bruce 41:32
it is actually I mean, there is there substance to it, but it's a lot less bulky than some knee braces and less bulky than I was expecting.

Giles Leeming 41:39
Yeah, and you know, this weighs just over 300 grammes. It's not particularly heavy, it will fit and fit underneath clothing. And the thing is, people think brace they think, perhaps a bit Forrest Gump patient or that sort of that type of thing. And the reality is very different. Now we're using a lot of technology, things like plastics and carbon, fibre and silicone and these types of things.

Steven Bruce 42:03
So how does it feel behind the knee where you've got

Jack 42:06
various fields, food icons, very supportive, and it does actually feel very comfortable as well when it's wrong.

Giles Leeming 42:11
And the other thing to show you perhaps is, is adjusting these I mean, you're not symptomatic. So it's tricky. But if I go just a few clicks up, which again, would normally best practice do this with the leg inflection, but it actually makes your feel it's probably quite a bit stronger now. But it means that that patients can actually control their own pain level. So if they are doing some of these particularly uncomfortable for them, normally, whether it's descending a slope, upstairs, these types of things, through their clothing, they can just tighten those up and increase the amount of force the brace is applying

Steven Bruce 42:47
to we've now buggered up his lateral compartment.

Giles Leeming 42:51

I always say that the load has to go through the knee somewhere. And what it's about is reducing the load in the area that's worst affected. A surgeon if they're going to be replacing the knee, most of them were replaced the whole joint. So you know, it's important to keep that person active and allow them to do their activities as normal daily living.

Steven Bruce 43:13

Jack, thank you. Let's get back over to our seat for a second or two more questions come in. So

first one is I'm taking these in order. I'm on my chart here on relevance to what we were just discussing. Robin says what brace would you suggest for a medial meniscus tear Noway.

Giles Leeming 43:33

So I mentioned before, probably the slide on the indications if it's in here somewhere. So there we go. And so it can be used for degenerative meniscal injury. So there is another version that's that's designed for cartilage based issues. So something called the rebound cartilage and the difference with that one is actually applies the unloading into into higher degrees of flexion. So yeah, the indications are the same, but it has a slightly different feature to

Steven Bruce 44:06

this was unloader. One who in how many, how many on Lubrizol

Giles Leeming 44:08

there. So we have the Ilona 1x, which is this one that we showed you today we have the unloader one smart dosing so the older version of this we also have a couple of braces that use very similar biomechanics. So things like the rebound cartilage is designed for for cartilage or more trauma acquired injuries. We then have other ones that are for sort of lower levels of unloading on different patient groups. So things like some rather than oh a braces can be used for things that is one called the OAS, which is sleeve based lower levels of unloading but perhaps more suited for patients that are just beginning on that journey into into osteoarthritis.

Steven Bruce 44:55

Okay. Susie asks about inflammatory arthritis because everything we've mentioned so far has been a way of course, and unilab Unicompartamental. At that. She says that, from your comments about edoema. It sounds as though inflammatory arthritis might be more complicated.

Giles Leeming 45:10

It can be, I mean, with inflammatory conditions, it's affecting the whole joint. But what's important to consider is, if you think that there is a biomechanical component to it, and if the pain is very much located in one of the compartments, the good thing with this type of conservative conservative intervention, is you're actually not going to lose anything by by trying. So you know, with these patients, it may be something you can consider fitting, but it's important, you know, with an inflammatory condition, it is affecting the whole compartment. But it could be that the pain is located on one side. A good example with this would be not necessarily from the inflammatory point of view, but these can be used as a prescription tool for things like high tibial osteotomy. So a lot of surgeons will actually fit those to see if biomechanical and loading that compartment is effective, right before they then go into the the cost and the complexities of a high tibial osteotomy. For example, can you tell me what the cost of users so the cost to clinicians is about in the region of 430

pounds plus route? Obviously, there's a different price for for members of the public. The fitting, though, so. So yeah.

Steven Bruce 46:29

And getting back to how a patient might get one of these. I mean, if if a private patient with an osteopath or a chiropractor came in, and it was decided this would be good. They can come straight, you get them through you. Yep. They can add whatever markup they want to that price for the patients, or do you say no, it's got to be this so that we don't end up with differentiation across the market with the

Giles Leeming 46:51

sort of should briefly showed a map earlier, just showing some of the some of the clinics that we have linked with links with in terms of if someone phones up and says I would like an unloader, then that would be the group that we would send them to. So there are prices associated with that. So we kind of, you know, think 650 pounds fitted. So we kind of recommend it, but you're quite right. Bacon, it's something that can be set by the individual clinician.

Steven Bruce 47:20

Kim says she's got a client who plays hockey, can you wear these while you're playing sport in particular hockey?

Giles Leeming 47:26

Yeah, I'm using activity you know, is there are lots of people that wear them for all sorts of different activities. One of the thing that's important to consider, we get asked about swimming, for example, all the time, but really, it's not of use in that even though the brace is completely waterproof, you can even put it in the washing machine. But it's about considering. You know, it's less of an issue with these, but the CTI was mentioned earlier, couldn't fully cope with things like football and that sort of thing. But you may, if you clashed knees with someone, the other person will come off considerably worse. So we don't recommend that the unloader specifically is using anything significantly contact. But if you were to put some sports, they put sleeves over the top of them to cover them. And then for an activity level point of view, it's not a problem.

Steven Bruce 48:18

Okay. Two questions one about osteotomy. One about knee replacement. If the patient's still experiencing pain after that surgery, will these potentially help?

Giles Leeming 48:29

You mean after an arthroplasty? Yes. And the I would say probably the main situation where there used and this is this is getting quite niche and quite unusual would be where there's the consultant feels that there is a loading related issue to that pain and loading related component to it. Some people do, but I would say that's quite unusual.

Steven Bruce 48:55

Right. Okay. Excuse me. There's a couple of questions here, which we we have discussed a little bit in the past, but maybe, maybe we need to elaborate a little. Gabrielle says Can they be used for other reasons than simply delaying surgery?

Giles Leeming 49:10

Yeah, I mean, there's lots of different situations where you would where you would use these people are using them to maintain their activity levels, you know, if you are wanting to be active, but actually the pain of activity is causing you problems and it's not allowing you to walk the dog cycle or whatever these types of things, people using them for that and increasingly seeing quite a younger population that are wanting to keep up with these activities. And surgery is, you know, very effective and, you know, a great way to go but it's about considering all of the conservative measures before you then go to the much more definitive surgery, thighs side of things.

Steven Bruce 49:56

And still some concern about irritation. In one sort or another, Robin says, Do you ever have any issues with the straps irritating the common perineal nerve? And Bridget says, would that be a fitment issue? Are there any issues with skin abrasion or rubbing. And

Giles Leeming 50:11

so there are a few things in that. So it's really important that we spend a bit of time with the patient to describe building up the time you wear it slowly. So it's kind of like a new pair of walking boots or whatever, you don't immediately put them on, or hopefully you don't immediately put them on and then go for a big long hike, we provide advice about building up the time you wear it, and also building up the activity level for how long you wear it. So that is a real part of of getting both usually used to it biomechanically, but also your skin getting used to the sensation and the effect of the straps on there. We also have other things as well as alternative liners, we have different paddings, different materials, these sorts of things. We even have things like there's a dexterity kit, if someone has poor hand function, they may struggle with the bolus, for example. So there is a there is a version that makes it much easier. So

Steven Bruce 51:07

in terms of me as a clinician, prescribing one of these to one of my patients, if some of these things happen, do I just call you up and you say, Ah, I might have just the thing to fix that and you come and help me out or

Giles Leeming 51:19

nomination. So we do have salespeople across the country who are very experienced with these things. So but also will help out basically, it's in our interest for you to get the best you and the patient outcome out of there. So, you know, by all means, contact us. You know, he was Robin earlier mentioned that I'd spoken to him in the past. So yeah, we you know, we're happy to support support in that way. And obviously, we're quite unusual from a bracing point of view in that we have clinician support for these types of things. So certainly, my role and my role historically, has been to support clinicians such as such as yourself.

Steven Bruce 51:59

Speaking of Robin, he says, This feels like a silly question. But there's the measurement the same for all knee braces.

Giles Leeming 52:04

No. So it depends on what it is. We would love to standardise it. But the reality is that a bracelet can unloader there's quite a large fitting window. So the sizing isn't as pivotal as it would be in the CTI, just because that one relies on a bony measure across the knee. So it would be great if we had one

measurement that meant you could have this for all of them. Unfortunately, it's a case of a case of remembering. So

Steven Bruce 52:35

Kim's come back in about her hockey player and says that the hockey player has got a medial compartment problem and looking at high tibial osteotomy. Personally, it sounds from what you said is there an ideal case because this might show that the tibia, the osteotomy might work. But it also might help them during their sport in the meantime,

Giles Leeming 52:53

exactly. It's a little bit about prehab. First of all, we're proving the concept. So with a high tibial osteotomy, they will add or remove a wedge from the tibia in order to realign the leg effectively and change the load line. And the brace is doing a similar thing, effectively applying a valgus force to a various leg or opposite if you have a valgus leg. But it's about seeing what affects changing the load line where the load is being born through the leg. So hopefully you can see and predict how well that's going to work before you go for that.

Steven Bruce 53:30

Just a few seconds. And we've got a couple of other questions. Any good for a 90 plus patient 90 year old plus patient who's got medial away, but won't be won't get surgery because I read sounds great.

Giles Leeming 53:40

Yeah, I mean, it's important to consider various interesting. So skin condition, these types of things, whether they have the dexterity or perhaps the cognition. So some of these. I mentioned very briefly the OES, but a sleeve based design that is very, very, very simple to put on. So that might be something to consider. But we have patients who are very elderly that are wearing these and get on very well with them.

Steven Bruce 54:08

Josh, one more time. I've got I've got four or five questions that have just come in. I don't have time to ask them on air, but I will get answers from Giles before we leave today. And I'll send them out with my follow up email which I will also include a handout of Giles's slides, or contact details but also and so on in case you're interested in using these things. Yeah, but as far as I can see, this is a great alternative strings, your clinical work or additional strings, your clinical bow.