Spiral Stabilisation - Ref 269

with Karen & Anthony Padgett

2nd November 2022

TRANSCRIPT

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Steven Bruce
Good evening, glad you could join us. It feels like ages since I've sat in this seat, even though it's probably only a couple of weeks now. But I have to thank Claire and Brooke who've been covering for me on two of the lunchtime shows while I've been busy with jury service. I was hoping that that jury service would have been over by now, but sadly, due to the unavoidable court delays, it looks like we'll be finally getting through it tomorrow. And I know it's a worthwhile thing and all that but I'm into my third week of this and the novelty has definitely worn off and I only got back a couple of hours ago from today's session. Anyway, so what have we got for you this evening? Some good practical stuff I hope, things that you can use in clinic straightaway, backed up by some decent science and some robust research. I say that, I actually have no idea, but I've got two experts in the studio with me, who will enlighten us all over the course of the next 90 minutes about the concept of spiral stabilisation. They are the husband-and-wife team of Karen and Anthony Padgett. Karen, Anthony, good evening. Now I've given them your names, but of course Anthony, you've got something like 35 years' experience as a physiotherapist, haven't you?

Anthony Padgett
Yeah.

Steven Bruce
Specialist training in orthopaedic medicine.

Anthony Padgett
Yep.

Steven Bruce
You've worked with high level athletes. And now you are certainly the studio's expert in spiral stabilisation, probably one of the national experts I would have thought, so we'll get the background on that from you shortly. Karen, welcome to you as well.

Karen Padgett
Thank you.

Steven Bruce
You started out as Pilates instructor, I think, haven't you, but you've now got, what, 15 years' experience as a sports and rehab therapist and the two of you work as a synergistic team I believe in fixing people through spiral stabilisation.

Karen Padgett
Yes.

Steven Bruce
Excellent. So you're the experts.

Anthony Padgett
Well, I'm flattered to be called an expert.

Steven Bruce
We had a discussion about what the definition of expert is.

Anthony Padgett
X is an unknown quantity, and a spurt is a trip under pressure. So I'm not an expert that I'm very passionate about what I do and how we do it.

Steven Bruce
Feels like a bit like under pressure when you're in this environment. So, what was your passion before this? I don't know when you discovered spiral stabilisation but was it sports medicine?

Anthony Padgett
I certainly worked at sports medicine for a while. But if I'm honest, I got a little bit bored of it. It seemed like I was just getting those people trying to get another 2% better or so I quite liked the idea at a general physiotherapy practice with elderly and the young as well. So I kind of moved away from that a bit. We came across spiral stabilisation at a event that...

Karen Padgett
The back pain show.

Anthony Padgett
I gotta say I was at the point where I was probably 25, 28 years into practice thinking, what else is there? And I was looking for CBD. And in this corner was this Dr. Shmisac, he's a medical doctor from Czech Republic. And he caught my eye and I don't know why. But he's esoteric, chatting away to him. And we got chatting for a long time. And I started doing a couple of courses. And then Karen and I spent about a week in the Czech Republic in Prague. Just working at his rehab centre.

Steven Bruce
What sorts of a medical doctor was he?

Anthony Padgett
I think he's a general medical doctor, both his daughters are also medical doctors. And they now exclusively teach and train with spiral stabilisation, but it sparked my interest because I want patients to be independent of us, not dependent on us. And if I can get get them to a point where they're hopefully moving a bit better, then maybe they now need to be trained. And I can't be everything to everybody and I don't want to be. My skill set is not in sports training. And certainly, there are more and more people wanting to do things like strength and conditioning coaches and I realised that that's not my thing. So I want to get them to a point where they're moving better and hopefully in less pain and then can come in or any of us sports therapists to teach them more functional exercises which they can then extrapolate and use at home. And this worked as far as I was concerned.

Steven Bruce
Yeah, I think a lot of us are striving for that one way or another, aren't we? It's that idea of we want to get patients out but we also, a lot of us have recognised we can't be masters of everything.

Anthony Padgett
No.

Steven Bruce
No quite and I've always felt rather embarrassed by my lack of rehab expertise in the clinic and like you, because you're a manipulative, bugger, I was going to say manipulative sports, manipulative physiotherapist, I don't mind doing the joint mobilisation and manipulation and stuff like that. But when it comes to the exercises that come afterwards, I can be very generic, but I'm not nearly as specific as people like you, Karen, or I don't know if you know him, there's an osteopath called Matt Walden, who's very good at this sort of stuff as well, you know.

Anthony Padgett
I came from the training where it was a 10-repetition maximum. And that was how we started to train people. Well, that means nothing to me. So yeah, so when finding out from Dr. Shmisac some background behind this, there's some pretty good neurophysiology behind this, you know, it's lengthening the short muscles, it's strengthening the weak muscles, and by using reciprocal inhibition, then you will know that the agonist will switch off when you're working the agonist. So there is some science behind it.

Steven Bruce
In many ways, it sounds, and I have done very little research, in fact, I'm often told never to do too much research by my wife, because she says, If I do, I just forget to ask questions and then nobody else learns anything. But from what I've seen, there's a sense of familiarity about this in terms of, say, fascial trains, and so on, because of the spiral patterns and the crossover patterns and things like that. And maybe we'll see some of that later on. It'll be interesting to see what's different about it?

Anthony Padgett
Yes. It's all conceptual, really. I mean, it's we like to think these naturally occurring spinal links, but they're muscular links, but we don't actually know that they are. But the thing that I liked about him is he did sort of EMG studies and could see that the vertical chain that we use when we're static gets switched off when they start using a spiral chain. And his whole thinking is that if you use a spiral chain in activity, then you don't need a lot of weight behind that chain to get it working correctly. So it's not about pushing hard weights, it really is using long elastic cords, which on the face of it, you think, really? But you can make people work very, very hard with these, which hopefully we'll show a bit later on.

Steven Bruce
Yeah, I hope so. How long did it, I suppose a better question is, how long would it take someone to train to use spiral stabilisation if they wanted to be a master of the art

Anthony Padgett
A master the art is interesting.

Karen Padgett
I'm not sure that you ever get to be a master. Because I think as you start to work with different people with different conditions, you're learning with them anyway. But from my perspective, somebody who teaches on reformers, Pilates on reformers, and the way I teach spiral stabilisation, this elastic cords work that we'll show you, sits very, very well with the kind of correction and the postural correction and the improvement of someone's everyday function. So I mean, it works with people who are post-surgery and just need to be able to walk without pain through to, as Anthony said earlier, the, you know, professional athlete who wants to gain one or two or 3% more from their sport. And yeah, it's a constantly evolving thing. Whether or not you're somebody who has a fitness or personal training background, I think the basic level is, it's a much more basic understanding of how to get the body moving again. And it's something that we can start for people who are still in wheelchair, perhaps, but have progressed to standing, and then to bring in other props and stepping up and down on things.

Steven Bruce
So then in practical terms, if somebody's watching this evening, we're getting way ahead of ourselves here, if someone watching this evening wants to know how to do this, obviously we'll demonstrate some stuff this evening, which they can take away straightaway, but if they want to have a reasonable arsenal of techniques, I'm assuming that there are courses, how long are those courses?

Anthony Padgett
Those courses are two days, there's the introduction course, and I've got some slides from the introduction course. Actually, going back to your original question about being the master, from a manual therapist point of view, the actual techniques are not difficult. And anybody with a couple years training will start to realise that what they don't know, which is fine. And I think going on from that when you first train, you're sometimes unconsciously incompetent. You get better at things, hopefully. But hopefully, within 30 years, you'll become unconsciously competent. Now we need those people who've gone past that initial upset of two years, they've come out of college, whichever manual discipline they've come from. They're scientifically sound, they're medically safe. They've done all those things. So once they've got that sorted out, I think they can pick up the manual techniques very, very simply, the training, the basic 12 exercises that are taught, you can pick up in a couple of days, but it's always worth doing refreshers, I think.

Steven Bruce
Yeah. Now, you mentioned slides a moment ago. So if I can just have a quick word with the audience. We have got a number of slides to show this evening. They are from a huge deck of slides, which we potentially could have shown. We don't have permission to share those slides with you as handouts after the show. But we will give you some sort of resources that you can go to get the information you need. And the reason we can't do that it's a copyright issue and permissions issue, which there's nothing we can do about that. I did also say we were going to talk about all the evidence and research and so on behind this. How long is that going to take us?

Anthony Padgett
There's not a lot of RCTs behind this, to be honest. But I think we said earlier on, that's true across the manual therapy world.

Steven Bruce
I did say it's slightly tongue in cheek when I was doing my intro because I don't care if stuff doesn't have evidence behind it, provided we can talk about the theory, and it sounds credible. And we know that we're getting good clinical results, because that's what we want.

Anthony Padgett
Yes. So spiral stabilisation, it kind of looks at disc dynamics, and how to hopefully settle down herniated discs. He looks at scoliosis, he looks at failed surgery, and he looks at function. And the idea is if you can get these spiral stabilisation exercises work in such a way you get a decent traction element to your activity, then hopefully, it'll settle things down. And with that in mind, I can maybe show you that first slide, is that possible?

Steven Bruce
Yeah, please, whenever you're ready.

Anthony Padgett
So the concept here, so on the spiral dynamic chains, when you are moving and walking, and once again, I've been told I can't stand up here because you're just going to pitch my tummy, which is not the most attractive thing I can tell you. So when you're walking, moving, running the spiral setter muscles work. So for instance, so we're looking at the large pieces on the on the right. And as that starts to contract, the concept is that you've got this link across the midline to the next layer down, which then follows round to the front. So in the front, so in the middle one there, you can see that sort of thing, external obliques, and you've got the internal obliques on the other side. And as you continue around the spiral, you start working on glutes. And if you've got the spiral going one way, then you've also got the spiral going the other way. So now you've got this double helix working. So when you are activating both those helixes sorry, that helix, then the idea is, with a double helix, you're going to get a lengthening and narrowing if you like of the whole spine. Whereas in the vertical state, on the static state, you've got the vertical muscles working. And once again, I think there's all conceptual rather than proved. He then goes on to show, so this is an example. This guy has been using this for 25 years.

Steven Bruce
And when we say this guy, we're talking about?

Anthony Padgett
Dr. Shmisac. And he now lectures across the world. And if you do go on to his website, which we'll give some information for later on. You see, he's got in various languages, and he's now in Korea. And he's got, I can't remember which university it is, but he's got an anatomy lab as well. So a lot of his dissections and we'll see some later on have come from that. So it's a very involved exercise regime, you can get lots of people working in the same class. But these concepts here, so somebody like Karen will be teaching the class but hopefully some of these people have been having manual therapy to get them to a point where they can start exercising. So these are some of the dissections that have been done. The reason I showed this, and this is once again, all contention, it's all up to up for argument, which I'm perfectly happy for, I may not be able to answer them, maybe we should bring him over. But the concept is, he worked out, there's also, if you look at the annular fibres in the disc, you do also have these spiral

layers. So each lamella is a different spiral. So his concept is that if you work on the external spiral, maybe, just maybe, and he's saying maybe you'll get some change in the disc structure, as well. I think this is quite an interesting one, he did a study on, what was the guy in the middle? Usain Bolt, and he's saying that Usain Bolt was basically built for running. Okay. Thorpedo, the Australian swimmer, he was built for swimming, he's got big feet, he's got long legs, he's got big shoulders, he's got big hands. Now. Usain Bolt, when he runs his mid stride here and he's actually got a vertical spine. So here, what we think we're looking at is, large pieces working to the point where external obliques are working on the same side, internal obliques on the other side, glutes on the other side, and carries on all the way down to the sole of the foot. And if he's got enough length in his hip flexors, then he's going to get a great extension. So his stride length is bigger. And if you look, if you break down him getting out of the blocks, he's about the last person out of the blocks. And he's about three or four strides in before he's up to his full height. And when he runs, the distance between his ear and his shoulder, he lengthens it, whereas lots of sprinters are up here rather than lengthened. So the concept again is that if he's lengthened through his neck, his lower traps are working more efficiently. And now he's got a much more powerful stride.

Steven Bruce
So in terms of this, have there been any trials of any sort which have shown improvements in sprinting capability or other sporting capability following stabilisation like this?

Anthony Padgett
In the Czech Republic they teach this a lot in football teams, and they basically looked at stride length and hip flexor length as well. And certainly, when we saw him last in whatever year it was, he was going to try to set up, he's so busy, what he wants is PhD students and MSc students to set up these programmes. So they're coming out. I haven't spoken to him for a couple of years, I was in contact with his PA. That's how I got a hold of all these slides. He was, you must, you must use them, please, help yourself. He wasn’t Russian, but that's my best Czech accent.

Steven Bruce
So yeah, okay, so they looked at stride length and hip flexion in these people, those are surrogate outcomes, aren't they? Did they get any outcome measures which showed health benefits or reduced injury or anything like that?

Anthony Padgett
That I don't know. But we have got, I've got some slides that will show the improvement of a Cobb angle on the scoliosis, so that's significant. So the baseline is that reciprocal inhibition once again, hopefully, when I do some manual therapy, it'll show. But if you can get reciprocal inhibition then you're going to get ability to lengthen the tight muscles as well. So what he's showing here, this is something I kind of spoke to him about. So have you got any EMG studies to prove what you're looking for? And what I was hoping to see that when he activates his lower traps, then that fires first and then your external obliques, second, the internal obliques third. And he said no, but we'll study it. So this is what he did here. So on the left, you've got the vertical chains working, and whilst they're working, the spiral chains are not. But when you're putting the person to the active position, now you're having the spiral chains working, and the vertical chains not.

Steven Bruce
And this position is active, because he's extended his shoulder, therefore, there's force on that left hand.

Anthony Padgett
Exactly right. And by working lower traps, you're going to be able to open the pecs and reciprocal inhibition, you're gonna switch pecs off. So that was quite impressive. What I was hoping to see was sequential firing of the muscle, but that wasn't the case. But that was yeah, that was quite impressive, I think.

Steven Bruce
Do you think sequential firing is important or is that just what you expected?

Anthony Padgett
That's what I would like to see. But I don't think it's important, no. So what I alluded to earlier on, he's looking at hopefully offloading discs and improving disc herniation. So when spiral stabilisation muscles are not working, the idea is there's going to be some compression. And when you start working, you're going to get a little bit of traction. That's the concept behind it. Right. And what he's done here is to show that if you get the spinal muscles working, you get lengthening through the spine. Right so that's at rest.

Steven Bruce
You've got the example of this going on here. And we've got Karen, you've got a lovely upright spine and my postural advisor online says that you haven't.

Anthony Padgett
Yeah, the postural advisor, thanks, Mum. It's because I'm turning.

Steven Bruce
I know, it's so hard and these seats don't help.

Anthony Padgett
I can look over that screen.

Steven Bruce
Do you know, getting back to, this is something which I've always struggled with is people saying, well, if you do this, you can lengthen your spine. I'm thinking no, you bloody can't, you can tighten muscles, which are going to pull things together. But there is nothing above your head, which is going to separate your spine. So am I rising thing here? The theory is that if you've got spiral squeezing together rather like a tube of toothpaste, it's gonna go out of both ends.

Anthony Padgett
That's the idea. Yes.

Steven Bruce
Well, that's the first time anyone's ever explained any of that concept to me. I'm almost tempted to believe it.

Anthony Padgett
No, that's fine. I guess it too. And so I say to patients that, you know, if they have 60% of the time a decent posture, it doesn't really matter about the 40%. What I don't want is 6% poor posture. Whoever said that well, thanks, mum. I don't want 6% poor posture and 40% worse. Okay, but to walk around in a sort of artificially, almost balletic, which, as we all know, ballet dancers have as many problems with hyper lordosis as any and poor hip work. So I want 6% good and 40% is okay, because we got to get dressed, we got to change light bulbs, we've got to live life. But I think that's actually a pretty, pretty good picture. But just by getting a decent contraction, you're gonna get a bit of lengthening and once again superimposing and it's all conceptual, and it works. So let's carry on doing the exercises.

Steven Bruce
You haven't just said to this patient, hoik your shoulders up to the benefit of the picture.

Anthony Padgett
No.

Karen Padgett
When I teach this, I describe, the first picture, the very shortened waistline, and the rolls of skin shall we say, as the spiral chain at rest and like the effect on the spine. If you think of a spring, I teach on reformers, so I've got lots of springs to show, the spiral chain that rest is like that spring at rest. And when we activate the spiral chain of muscles in the way I'll demonstrate later, it has the effect of putting the spine under tension, which opens and decompresses the space between the vertebra, effectively lengthening the spine, but it also has that sort of narrowing in the middle effect.

Steven Bruce
And you were saying earlier on that you use spiral stabilisation in conjunction with the spinal decompression offered by the IDD machine as well. We've done a show on IDD, which you may well have seen. And presumably that works quite well if you're trying to further encourage that distraction of the disc.

Anthony Padgett
I'm going back to something you said earlier on that the idea of, you're artificially lengthening, you are going to spend a bit of time contracting back down again. So I get that, but I think if you are activating and you're running in a more lengthened position, and I think that's when you're getting some traction through it. But he and I did have a big discussion about it, look, come on. It's just a traction unit. Why is it helping, with the IDD for instance. And I've been doing it for five or six years and it works. We've got some lovely, lovely responses through IDD, but that's not a lot of surgeons on our side yet. They're starting to become but that's a different issue altogether.

Steven Bruce
So their suspicion is always that we only tell them about the good cases, we don't tell them about the bad ones and there are people who don't respond, usually if we miss assess them in the first place, because as has been pointed out, if you put the wrong patients through any form of therapy they won't to get better.

Anthony Padgett
So, this is something I had an issue with Dr. Shmisac about saying that, so you can see, in 2012, this gentleman had a pretty sizable L4, 3, 4 disc and then, only a year later that disc is now settled. But actually, the disc below is no different, relatively speaking. So I was thinking, well, how many of us out there in the therapy world have seen these spontaneously reduce anyway?

Steven Bruce
It was said it was symptomatic or just MRI?

Anthony Padgett
No, symptomatic. So it's quite compelling viewing but I've also had patients who have had a reduction of discs that size because it's actually pretty wide disc if you look at the pictures. So we kind of agreed to disagree on that one but he's got plenty of papers, plenty of examples, sorry, showing discal improvement but I think the stuff that I was really impressed by was the Cobb angle changing, so here, in 2017, this lady had, I have got a previous episode I'm actually measuring the cobb angle, then a year later, well it's less than a year later, it's six months, so there's a significant change and that's maybe an adolescent spine so I think that's quite impressive.

Steven Bruce
Just in case anyone is in any doubt remind us what the Cobb angle is.

Anthony Padgett
The Cobb angle is, you measure from where the starting of the curve is and where the bottom of the curve is and there's some lines, which I haven't got here but irrespective the actual Cobb angle, by superimposing one on the other you can see there's been a straightening up on the spine.

Steven Bruce
Basically, it's a measure of the degree of scoliosis, literally the degrees of scoliosis.

Anthony Padgett
And we've got a lady Ruth, who came to us via word of mouth. She would be in her late 60s probably. And yes, it was up at the Royal National Orthopaedic called pronounced scoliosis, worked with Karen for a year maybe, we'd, unbeknownst to her, she was having a review by the Royal National Orthopaedic and the surgeon went, your scoliosis improved? What have you been doing? And explained it was through spiral stabilisation, so that's pretty conclusive in my mind. How much further we're going to get, but we are going to be having a year-on-year review because an independent person is going to be measuring it. So I was quite impressed by that. And I don't know what you think about this, but a mature

adult spine, are we going to get structural changes? Really? Just by exercise? I think you do. I don't know.

Steven Bruce
It's tempting to say that's what we're all seeking. I suppose it depends when those changes were first caused or established. Because of course, if they are structural in the sense that over the adolescent years, we've got bony changes by the time they harden, they're not going to do much.

Anthony Padgett
You wouldn't have thought so.

Steven Bruce
No, but if you've got an adult who has developed a scoliosis for whatever reason then presumably we can reduce that, we know we can reduce that. We whack it. I didn't say that.

Anthony Padgett
Just whack it. So this is a probably early 20s, late teens maybe. And I think what he's done here, just superimpose, there we are, so what I'm looking at here is, his sort of scapular's slightly away from his spine, he's got a slight twist going on, and if I go to the next level, so we're now starting to work the lower trapezius and you can see his whole spine tucks in, I must get the forward and backward thing work properly.

Steven Bruce
So what we're looking at here is, the first one is February 2018.

Anthony Padgett
And the second one is...

Steven Bruce
April, okay.

Anthony Padgett
And it's via the elastic cord work and at home and compliance, something else we talked about earlier on, because a lot of stuff he does is with the juniors and unless the whole family is on board about reeducating the child to do the work, it's not going to be easy.

Steven Bruce
And why were you treating this guy?

Anthony Padgett
We weren't treating her, this is off his slide. He was brought in because of scoliosis.

Steven Bruce
Was he having problems because of it?

Anthony Padgett
I don't know the background.

Steven Bruce
His head angle doesn't change a great deal I don't think, does it, I think it's worse.

Anthony Padgett
I think you're right.

Steven Bruce
Actually, that's a pejorative term to say something gets worse, it changes, not in the direction we might have expected.

Anthony Padgett
And this is the same chap. I will do the measurement later on but so on his left side, so we're dropping a plumb line from his ear, his left side, his hip flexor's tight and on his right side. And by doing the stretch techniques that we're showing later on, getting some improvement, what we're looking for is to get, with the athlete, he would want about a 10 centimetres improvement on that plumb line to improve the stride length.

Steven Bruce
It's interesting that so much of what we look at in terms of athletes and so on is improving the flexibility of hamstrings. And here we're turning around the other way, we're looking at the other side of the leg and looking at stretching. We've had anybody who's paid much attention to hip extension on the show, before it's always been, we'll stop hamstring injuries by improving the length of hamstrings.

Anthony Padgett
Okay. My two go to areas with protracted necks, etc., protracted shoulders is depth, length, and sub clavius and pec minor. And when it comes down to here, the hip flexors, how many people when they're flexing forward are hinging from the hip. And because they've got tight hip flexors or the hip flexor doesn't attach on to the L five, S one, it interdigitates the force through to one. So if they're tight, then it's actually shearing through L five. So if we can then improve the hip flexion then suddenly they start flexing, as opposed to hinging from the hip, they can now start to flex from the lumbar spine. And there are some patients who you are getting to bend forwards, you know there's a poor movement pattern of flexion. And you get a really decent hip flexor stretch, as long as all the other tests are fine and normal. And you can significantly change their flexion just by stretching pretty quickly in the first few minutes. So I'm very, very interested in hip flexors.

Steven Bruce
Karen, do you pursue the textbook ideal posture in your patients? Because I've always thought, well, everyone's different and trying to make everybody fit that little diagram that we all saw in our anatomical textbooks in training is a fool's errand.

Karen Padgett
Absolutely. I think you just look to improve; you look to get someone's range of movement better than they had, and you look to improve their everyday function. And there are some simple basic things. And to a large extent, it's also what you look like, isn't it, when you're dealing with the general public beyond getting them out of pain. So anything that starts to improve their posture, I'm going to determine if it's posture, is what I'm looking for, it then becomes self-motivating, if by doing these exercises, working in this way, adopting this method of stretching as their everyday homework, they can see that they can actually improve further still. Function, being in to a certain extent beyond pain relief, often the secondary thing, it sort of becomes a self-motivating form of exercise. And by default, I think people look to get...

Anthony Padgett
Encouraged to do more.

Karen Padgett
Encouraged to do more. But the ideal posture probably doesn't exist.

Steven Bruce
There's kind of two aspects to this, if you're prescribing stuff for people to do away from the clinic, whatever they choose to do, you've got to get that, give me the word, compliance. They've got to comply to do it, but also they've got to be motivated to keep on doing it. Because it's very easy to say, oh, I've done some postural exercises. But now I'm going to go back to my forehead at the desk.

Anthony Padgett
And I'm going to go and see my physio, chiropractor, osteopath. I'm going to go to see my...

Steven Bruce
As though one appointment or whatever is going to achieve everything that you want.

Anthony Padgett
And if we're seeing them for an hour, what are they doing for 23 hours of that day, they say, thank you very much and they're going, as you say, straight back to here again. Oh god, my back is so sore, again.

Steven Bruce
So what are the typical patients that you use this on, coming to you for?

Anthony Padgett
A typical patient journey if you like. Back pain, definitely, is there a typical age group? No, I treat, we haven't treated many 80-year-olds with this technique. But we certainly treat a lot of 60s and 70-year-olds. It's maybe repeated bouts of back pain over a period of 10 years, they've been to various therapists. They've heard about something. Could they try it? Yes. They like having a massage. Yes, they get relief from manual techniques. But why are they not getting better to the next level? Quite often they've got to look back. I mean, we've all done it when we're assessing patients, what are the things you are not doing that aren't helping? And what are the things that you are doing that aren't helping? You can't be sitting there in front of a computer for that length of time. If you are at home in COVID sitting on your bed with

your laptop, it's hardly surprising that you get a bit sore. And when you go for a pee, it might be your loo just in the same room or next door, in the next room. But you're not going down three or four layers of stairs to go to your office loo, so you're just not moving. So certainly, in lockdown, we saw more and more people with postural dysfunction and pain without a doubt. Yeah. Does that answer your question?

Steven Bruce
Yeah, no, it certainly does. I mean, there was quite a lot wrapped up in that.

Karen Padgett
I do use the technique with my older patients and I've some approaching 90. They largely sit. If I can get them to lie on a reformer, it's great. We sit or stand.

Anthony Padgett
Can I just interrupt there for a second, that's kind of the exercise age patients, so I'm not necessarily seeing those patients for manual therapy in any description, we've got Parkinsonian patient who responds very well to this kind of exercise.

Steven Bruce
Responds in what way?

Karen Padgett
Improves her function, improves her balance, improves her posture.

Anthony Padgett
And her wellbeing.

Karen Padgett
Mental wellbeing, I think, is the biggest improvement I've seen, she feels in better control, and better able and more confident to go out and drive herself somewhere, again, to go for a walk with her friends and not feel, I'm going to trip over at every step. So she has an incredibly strong core, very proud of that. And is, yeah, we work on her posture, which also helps you negate some of the shakiness when she goes through a particularly uncomfortable episode.

Anthony Padgett
I think that's what I'm fascinated by, this technique as well, because I'm thinking very clinically, and can I help them get better and actually, Karen and I work together. And she did more the reformer work because she's now bringing this into it as well. So you're getting patients who are just coming to Karen for getting fitter. And by introducing this and Heather's an example of this.

Steven Bruce
I think Karen said in one of our preshow telephone calls, she said you're useless for exercises, you do the manipulation stuff.

Anthony Padgett
Yes. And it took me a little while to actually man up about it say, look, it's okay. I just don't teach exercise very well.

Steven Bruce
She didn't say you're useless. I'm exaggerating for comic effect.

Anthony Padgett
You'll be sleeping outside, that tent is still there. Yeah, absolutely. Play to your strengths.

Steven Bruce
So another, you just brought another topic to mind. Because today, I saw an article in The Guardian relating to some research in the British Journal of Sports Medicine, about one legged standing and the correlation between people's inability to balance and I'm thinking that the outcome was later ill health. But it also, it talked about Parkinsonian patients. So has what you do got a role to play in falls prevention, for example?

Anthony Padgett
Yes.

Karen Padgett
Very definitely.

Anthony Padgett
One simple answer.

Karen Padgett
Again, we can demonstrate in a moment, but the recruitment of the spiral muscle chain according to doctor Shmisac's information, and from what I've seen anecdotally, very definitely, the Parkinsonian lady's a case in point, as is the scoliosis lady, she has metalwork in her spine, as well as other issues. And when she initially, before we got involved in a more detailed programme, incorporating the elastic cords, her balance was shocking, her words, not mine. And so definitely there is a role to play.

Anthony Padgett
I think I'm right in saying that in the geriatric world, for physiotherapy assessment, if you can get them to stand up without using their hands five times, and they can get toe to heel walking forwards and backwards. And they can maintain their balance for a certain period of time. The prediction of them falling over, up to five years later is reduced. So anything that improves their balance. I've got an interesting picture I might show.

Steven Bruce
Yeah, please. Justin will bring the slides up again.

Anthony Padgett
If you could, please. What Karen just said about the metalwork, so this, this poor person was having. So I mean, that's a very scary picture.

Steven Bruce
Right? So the right hand side, yes, there's a lot of metalwork in there.

Anthony Padgett
So this is nine days off the first operation, four months after the first operation. So the scoliosis is basically, despite the metalwork it's come back, and that was with another operation. And then this is the same person looking forward. So fused from L5/S1 right up to C7/T1. And surprise, surprise, you take away all that range of movement, you're going to load the transitional areas. So even with these, so the other group of patients he works with is failed surgery if you like.

Steven Bruce
Do you know the background to this, I mean, obviously, there was a severe scoliosis there, which presumably was bringing with it some other symptoms that the patient was complaining about not just for cosmetic reasons. But now it's producing completely new and fresh ones.

Anthony Padgett
So he started off in, whatever year, 2013, T 6, T7 maybe, metalwork and then extended up, and extended up, and extended up, terrifying. But even with people at that level of dysfunction, if you like, iatrogenic dysfunction, getting strengthening and lengthening can be enough to make them more comfortable, are they going to be pain free, that would be lovely, but are they more functional and living their best life, whatever what they choose to be. And the final bit, he goes on to is training. So we're destabilising the base, these are very thick foam, that goes on from your balance thing earlier on. So by getting the person to stand up on one leg, you get a much better recruitment as well as a spiral stabilisation as well. And by putting resistance in, we talked about the so-called set position. And he trains you know, top level skiers, footballers.

Steven Bruce
I know you're going to demonstrate this later on. But if someone is at home following a basic regime of spiral stabilisation, how much time have they got to devote to it?

Anthony Padgett
15, 20 minutes a day. And my little tip to patients when they're walking down the road that I want them to be looking over a garden fence without being obvious. You're not going oh, you're getting your lengthening. So you get you do get that physical lengthening of your crown of your head. So I want you to be walking in a therapeutic manner, not just a functional manner. I'm going down to the post office, no. I'm walking to deliver a letter and want that lengthening, and you'll find that when you get that therapeutic walking, you do get access to these spiral muscles.

Steven Bruce
Somebody anonymous has sent in a question. I have a suspicion who this might be. They're relating it to me, could this sort of work do anything for arthritic knees in this particular case or other arthritic joints, I guess?

Anthony Padgett
Depending on the reason for it, I mean, if your pelvis is in such a position or your hip flexors are in such a position that you're loading your knees in a particular way, yes. But if you've got a valgus or various knee with wear and tear and your medial lateral compartments, then probably not. Can we get you stronger? Yes. Has it been shown that any arthritic joint with better muscles around it improved? Yes. Is this another way of doing it? Yes. Is it specific? No. But can we get you stronger? Yes.

Steven Bruce
Yes. Well, you obviously assessed my knee well earlier on because a few years ago, you could fit a pig between my knees in the passageway, you know, but now you can only fit half a pig because they fixed the other knee by sticking a false knee in it and I got one straight leg and one bent one. So that's the answer to that question about whether it would help me but obviously, for other people. Victoria asked some time back whether you said this was just a two-day course, I'm not sure if she's saying, how can you do all this in two days?

Anthony Padgett
No. Good point. Well, well made. So the two-day course is just the introduction of the concept behind it. And then you have a pure scoliosis course which is two or three days and then there's a decent rehabilitation for these top-level athletes. So there's another two or three days, there are something in the order of eight, lots of two day courses of which...

Steven Bruce
Do you two run these?

Anthony Padgett
Four or five days, sorry. One we did in the Czech Republic was a four-day course. And we've done probably five of them, but he also does a four-day course of MRI studies and there's doctors involved in there as well. So if you want to end up teaching it formally then it's a five or six courses.

Steven Bruce
Do you teach this yourselves?

Anthony Padgett
I teach this to patients, but I don't teach it, there is a spiral stabilisation lady, educator. She's more of a sports trainer educator. She's not a clinician, but she's very, very good but teaches this.

Steven Bruce
So very quickly before we go over and do some practical stuff. You talked about teaching, this being taught to doctors and so on. What's the buy in that you have got from doctors near you? Whether GPs or orthopods or...?

Anthony Padgett
None.

Steven Bruce
None at all?

Anthony Padgett
None at all. It's just purely word of mouth.

Steven Bruce
But you've mentioned people being impressed at Royal National Orthopaedic Hospital by the results.

Anthony Padgett
Yes, we've had, we haven't had direct contact with him, no. But he was interested via his patient who came back with improved structural changes. I think this is a slow burn, because even though it's been around for 25 years or so in Czech Republic, it's taken on board fully in Germany, it's now across in Korea. It's taught across many, many countries. And I don't know why it's taken time to get to England. I'm not the kind of person, I'm not the forthright person, gonna go out there, I'm not your... can't think of the word.

Steven Bruce
Evangelist.

Anthony Padgett
Yeah, almost, not quite that. It's gone. But I'm not that person who's going to stand up in front of people to say, right, this is what you need to do. Given the opportunity here, I thought it needs to be discussed, because I think it's the kind of thing, it would cross many disciplines, because it gives people that facility to look after themselves in a better way.

Steven Bruce
Yeah, I'm hoping that people are going to be very intrigued by this, because it's, some people might be thinking, because it's just the same exercises we ordinarily do given a different name. But if we see there is some differences in this, I'm hoping people will be intrigued enough to say, well, could this be useful in my own practice? And you know, is it better than the exercises I've been recommending for the last 10, 15 years or whatever they might have been doing?

Anthony Padgett
The same old, same old.

Karen Padgett
My perspective as somebody who teaches exercise, the simplicity of the system, the exercise with the elastic cords, is what sells it for me. It's such an easy homework prescription.

Steven Bruce
What would you have been doing? What would your alternative have been before this,

Karen Padgett
it might have been exercises on the floor, Pilates based or gym based, maybe. What's to my mind, the benefit of using the elastic cords, or just even pretending you have them, is that it's a constant movement thing. So rather than performing an exercise, one of my pet descriptions is, we can do this standing on guard at Buckingham Palace. But then we have to let go of it to walk or talk or put the kettle on. This is a lot more functional as a method and certainly very easily adapted and adopted at home, so that it can become an everyday way of moving. And so the more you practice it like anything, the better you get at it.

Steven Bruce
Shall we show people what you're talking about?

Anthony Padgett
If you don't mind.

Steven Bruce
Okay, let's go across to the demo area and see what we can do.

Anthony Padgett
I'll put this little clicky thing down. It was called a clicky thing, wasn't it?

Steven Bruce
it is. After you.

Anthony Padgett
Standing up, you notice. Right, I'm not going to go through any spinal assessment. I'm hoping and expecting people of the kind of calibre of your audience look at spinal assessments already. So there's a couple of key things. I'm particularly interested in hip flexors. So Karen, can I get you to pop up there for me. So I'm going to artificially get Karen to give me some really tight hip flexors. Okay. So the things I'm looking for here is if I drop a plumb line from the back of her head, and I want it to be actually in contact with the bottom. So what I'm going to do is make it in contact with the bottom and you'll see hopefully from that camera, it's not vertical. Okay. So now I'm going to get her to get vertical. And what I'm looking at is lordotic space between her back and the pole. So I'll get you to gently do a pelvic tilt for me, Karen. Good. It's a loaded question, because I know what you're going to say, but hopefully you'll see from the camera that the stretch is at the front of the hip. So you're lengthening through here as opposed to, all too often people try and do their hip flexors by, can you lordose for me, they think they're doing hip flexors and all they're doing is sharing through L5/S1. And look at the space here.

Steven Bruce
You see that, I can't do the exercise anymore because of my knees, when sportsmen are doing that quad stretch by lifting up the foot, you can see there's a horrible bend in their back.

Anthony Padgett
Doing a great job, no you're not. I'm looking for the supple guy or girl at the back who, actually in standing you can do the same thing. So Karen's doing it with a bent knee but I can do it in standing. So pelvic tilt here. You're getting contraction at your abdominals, which by reciprocal inhibition you get reduction in your erector spinae, you get a very strong contraction in your glute, and as a result you're getting release in your hip flexors. Release for me. So we then talk about for these top level athletes, look forward for me, I'm going to do a plumb line, I'm not going to look, but I'll do a plumb line from your ear. Let's get your hand across for me. This one here. That's it. Get out of the way, honestly.

Steven Bruce
I knew we shouldn't have got a husband-and-wife team in.

Anthony Padgett
You didn't make the bed this morning. Okay. So if I drop a plumb line from her ear, you'll see I think on the front here that it's only just in front of a knee. Right? Now, in an athlete, I want to be able to do, right, cheat for me, do a lumbar lordosis. Now if I do a plumb line in front of it her ear, once again I'm not looking. That's what, 10-15 centimetres in front of the knee? But she's achieved it by cheating. So if she thinks she's that good, in neutral, now do a pelvic tilt. She can't do it.

Steven Bruce
So you're not presumably trying to remove the lordosis altogether, you're just trying to get that to what you can see to be neutral.

Anthony Padgett
Yes. Well, actually, to do a decent hip flexor, I want it flat. So talking through what he wants. So you're doing this activity of lower traps, I want your spine to be straight when you're activated. You can relax, sorry. If in standing you happen to be lordotic or sway back or flat back, then that's you. But when you're being activated, the idea is for you to be straight. So particularly interested in hip flexors. If you pop yourself onto your back.

Steven Bruce
While you're doing that, Collie has sent in an observation saying this sounds very similar to the spiral patterns activated in Tai Chi practice.

Anthony Padgett
Yes, absolutely and also in PNF patterning as well, exactly the same. So, purely because the cameras there and we can see, when people are doing this walking. So I'm saying, we're going down to the pub, I want to look over that fence. So I physically will lengthen. And if anybody out there is listening, hopefully a few people are, just stand up now, take one leg behind you. And all I want you to do is do a pelvic tilt. And think about lengthening to look over that fence and just feel what's happening with your posterior leg

and your glute, what's happening in your abdominals on the front there. And if you can now think about taking your right shoulder blade down and back, sorry your front leg's shoulder blade down and back, then you're activating your lower traps. And now what you're doing is trying to lengthen between here. So when people are running, they're not doing this. They are doing that. Lengthening. So the other kind of thing I'm looking at, hopefully this will show, I'm going to artificially give Karen a very tight pectoral muscle. So bring it into...

Steven Bruce
Just watch that microphone.

Anthony Padgett
So this is your standard rugby player, front row forward, artificially taking shoulder blade forward, giving her tight pecs and just see where her shoulder can go. Just relax. That's where she's going. So you're not getting much rotation. If I keep this hand still, and just take that back. No, let me do it. Let me do it. Take that back to where I would say is neutral. And then we can let this go, we'll suddenly get all this rotation.

Steven Bruce
Even in your front row forward?

Anthony Padgett
Even in the front forward. They may not get that far. But in my world, I want to be able to, probably with a slightly smaller pillow, I'd like to be able to get that lower than the ear. Obviously, with no previous dislocations. And if they're that tight, and they can't drop, and that's me just letting gravity take over, if they can't get there, she's starting to cheat. So if I take it back, and then we can get the range. I mean, Karen's got very mobile shoulders.

Steven Bruce
Good, so you can do that. How is that helping this person, your front row forward here?

Anthony Padgett
So but of course the other side of that is that there's strong evidence that in clinic having done those stretches, you will see a difference, but within two hours it will have disappeared.

Anthony Padgett
So showing them that by opening up the chest, sorry, I keep pressing that, by showing that it can be achieved, then we give them stuff to work on. And that would also be there. So we've now worked out that she got some pretty tight hip flexors and there's so many ways of stretching it. So a manual therapy point of view, I'll show you the things that I do. But actually once we've taught the patient how to do it themselves by reciprocal inhibition, working the glutes, you will get release, you will get some stretch, five to 10 second bursts. All depends on which MSC PhD student, whether the stretches are 15 seconds, 30 seconds or hour and a half. I don't know. But we do want to get a degree of stretch.

Anthony Padgett
Absolutely. So, I mean, what does it take, three to six months for collagen to plastically adapt?

Steven Bruce
And that's with lots and lots of encouragement.

Anthony Padgett
Absolutely. And if they're coming in with, they're sheared through L5/S1, there's no major discs, they're in pain, they're facets have been loaded, and you do a few stretches on them to offload it enough so it starts to heal, they're not going to do the stretches, because they're out of pain. They're out of pain. And they're going to come back in so many months' time. So if you can impress upon them that the responsibility's theirs. We can't cure you if you're not prepared to do things yourself. And I think that's what it comes to, breeding independence of us, not dependence on us. Can I get you to lie on that side, please?

Karen Padgett
Yes.

Anthony Padgett
Yes, sir. Could you bend that knee up for me, please? Right. Hopefully, this camera will pick this up. So if you can hold on to that hand for me. So let's superimpose a really tight hip flexor. So she can extend her lumbar spine. So in this position, by using reciprocal inhibition, I'm going to be doing a stretch and I'm replicating Karen's kneeling position. So if I hold on to here, when I want you to do is, as you breathe in, as you breathe out, do a posterior pelvic tilt. And I can introduce more stretching. Do you mind me sharing your tummy?

Karen Padgett
No.

Anthony Padgett
Okay, so what I'm looking for, is, as Karen does, relax, breathe in, as you breathe out engage with the pelvis. So you can see really strong, and I can also feel her glutes working. So we're getting a decent stretch through here. We got to really be careful not to drop it, take it too high, otherwise, you'll end up, if it's too high, then it's your ITT is maybe causing it. If you're into neutral, do a pelvic tilt for me again. Good. So I'd be very comfortable doing that on a patient as a manual therapy technique

Steven Bruce
I love the fact that you're breathing out, while she does the exercise.

Anthony Padgett
I just practice what I preach. So that's the kind of thing, I'd say, look, now you've done the kneeling, effectively kneeling, but me doing it with you. That's what you need to be doing at home. So in the kneeling position, do the pelvic tilt, get that lengthening sensation, get your lower traps working at the same time and make it engage, so that the whole process is working. So now I'm going to get you to lie on your side

facing me. Watch out for that. Don't squish it. So the kind of things that I want to try and do is get a little bit of lengthening through the spine. So what I'm trying to do is isolate maybe whatever, L4/5 possibly. What I want to do is get a decent lengthening. So what I want to do is, I'm pulling here, I'm not going into extension or flexion, right, I'm just pulling into here and you can get a pretty good stretch. You can superimpose a side flexion if you aren't careful. So try and do dead central and take your time. And all I'm doing is maybe getting a bit of stretch, enough for her to then exercise. This is not the treatment, then off you go, you're done. I'm just warming you up, lengthening, stretching you, to then exercise. Go and see Karen in 10 minutes and get yourself working hard.

Steven Bruce
Okay, so you're not there to do this when your patient's at home getting ready to do their 15 minutes. So how important is this part?

Anthony Padgett
If they're in pain, I'm hoping that stuff they're doing at home is because they're out of pain, but if they're still in pain, that's probably where we fit into this. So for instance, he has a residential, where they go there for a whole week in the clinic in Prague, and you have massage in the morning, you have manual therapy, and after that you break for lunch, back to massage, back to manual therapy. You're in the gym twice, three times a day. You go to bed early, and it's almost, I don't know how to describe it, but it's full on. And you've got a whole week of that.

Karen Padgett
Sort of a healthy prison camp.

Anthony Padgett
It's delightful. He's very infectious. And so that's the kind of things I'll be looking for. I will be stretching the hip flexors, getting them to do the stretching, me doing some lengthening and then we go straight on to the exercises, which are you happy to do that?

Steven Bruce
Yeah, absolutely. I thought I'd just read something that's come in, it's not a question. It's from Hambo, who says congratulations on an excellent illustration demo of the lordosis with hip flexors. And he says, this is exactly how I try to train my patients with regard to the psoas release or inhibition. That's an interesting one because, I've only heard of this happening once, but the standard psoas release that we were taught is a nice big dig into the abdomen with the fingers.

Anthony Padgett
Yeah, that's a beating, isn't it?

Steven Bruce
I've known one really nasty adverse reaction to that. What would be your take on psoas? Exactly what we're doing now?

Anthony Padgett
Slightly, slightly different. Can I get you to, if I go take Karen to the edge of the bed?

Steven Bruce
Yeah, we can wiggle cameras around.

Karen Padgett
Down here? Am I sitting?

Anthony Padgett
Yeah, you're gonna sit. And it's a modified Thomas, isn't it? So, if you take your bottom right to the edge of the bed, hold on to one knee, and then slowly drop back. Excuse me, you wouldn't do this to a patient, but it's my good lady wife, so I can. So in this position unfortunately the cameras probably not picking it up, but if the ITT is tight, then she's going to be dropping out laterally. If the hip flexor's tight, she might not be able to drop into neutral. And if quad is tight, then her leg's going to be in extension. Alright, so in that position, I'm looking at those three things. And actually, she's not tight at all.

Karen Padgett
I'll just stretch that, ok?

Anthony Padgett
Oh, look, your ITT happens to be very tight. So if I bring that in, and she then goes into more flexion, then maybe it's the deep short hip flexors rather than the quads. So I would be releasing her psoas and iliacus by doing a reciprocal inhibition again. So I'm going to get to get you to breathe in, you're going to engage your abdominal, clench your butt, and then all I'm doing is trying to very gently stretch back out. But do not let that spine extend. Breathe in. And as you breathe out, engage. So that is doing all three.

Steven Bruce
This is going to be almost impossible for the audience to see, because of course you're on the wrong side of the camera. But we get the idea on that one. But you want to do some stuff on the floor don't you?

Anthony Padgett
Yeah, shall we move this bed out the way?

Steven Bruce
Right, so we've got the elastic bands out now.

Karen Padgett
This is all they are, just some elastic cords that might go around the wrists or they might go round the feet.

Anthony Padgett
So we've talked about the so called set position. Want to be able to look at your lower trap, really, can I get you to turn round?

Steven Bruce
Could you move over to here just a bit, perhaps? If we can get Ellie to work from camera one, she might be able to...

Anthony Padgett
In fact, that's fine. Just let that right arm drop down. So what I want you to be able to do is, you've got a vest on, okay, do you mind taking the top one off. Karen's very kindly agreed to take that top one off.

Steven Bruce
Just transfer it, the perils of high tech.

Anthony Padgett
This is something you can be trying at home, everybody, learning to isolate your lower traps and then investigate what happens to your opposite abdominals. So if you just hold on with your left hand, just drop your right hand. So what we're looking at, very nicely, Karen is artificially sticking her scapular out. So what I want to try to do is access lower traps. So to start with, I would position the patient themselves, say, right gently down the back, as if you're trying to gently squeeze a tennis ball between your shoulder blades. Good. And once they've learned to actually isolate, and you can see with Karen, she's isolating nicely, then she's got to be able to, I say to patients, there's a tray of drinks in front of them, that tray is getting bigger. So she's going to rotate the hand out. So now what we're doing is accessing, rotate back in, try to take the shoulder down and back. Start again. Down the back. That's nice and hold. Relax. So by accessing lower traps, we should find that she's....

Karen Padgett
It really quite strong.

Steven Bruce
Well I was just about to ask, when you're doing this with a real patient, clearly the tension is greater the further from the anchor point you stand, so how do you judge how hard to make the exercise?

Anthony Padgett
Absolutely. So release that. At the other end of the band, which you cannot see, we basically wrapped it around a pole. And hopefully you can confirm this but there's a little black elastic band.

Steven Bruce
Yes.

Anthony Padgett
That's a quarter of the pressure.

Steven Bruce
Okay, what's a quarter of the pressure? Let's get a camera on it anyway.

Anthony Padgett
This might be interesting, please.

Steven Bruce
Yeah. So people can see the rest of studio as well.

Anthony Padgett
What we can do is, if this was attached to the pole, and she's pulling against this resistance.

Steven Bruce
When that goes tight we've got a quarter pressure?

Anthony Padgett
So you're just pulling against that. And then if you go to this level, it's kind of a one on pressure, you can then wrap this, if that's anchored, it's double. If that's anchored, it's quadruple. And it's really very, very much stronger. And actually, with the top level athletes, what we would be doing is, they'd be doing two in one hand, doing the stabilising position. That's tough.

Karen Padgett
That would pull me over, so I'm not going to do that.

Anthony Padgett
So, unfortunately, I put Karen under great pressure, because it's much shorter, quite right. But it's the only way we had to do it.

Steven Bruce
Completely ruined the illusion of our studio now, but it's been useful in demonstrating how these bits of elastic work.

Anthony Padgett
But I can do a nice butterfly, if that help?

Steven Bruce
You did your little exercise with one leg in the air, so we're going to progress to that, are we?

Anthony Padgett
So once they've learned how to engage their lower traps, then we try to say to them, right, I'd like you to do it on both sides. You can take one foot forward just for the time being to take pressure off. So tuck your elbows into your sides. And what I want you to do is that tray of drinks in front of you is getting bigger and bigger and bigger. And what I don't want to see is her opening her chest too hard, we really are getting the lower traps to be working hard, rather than anything else. And come back in again. Good. So this is where Karen would normally do the teaching, but I wasn't prepared to wear a vest for her to teach me how to do it. But the so-called set position, once they've learned how to isolate the traps, actually Karen, you carry on.

Steven Bruce
You've got a very flamboyant sort of movement going on here. Is that important?

Anthony Padgett
It's very important, yes.

Karen Padgett
It's the principal of stretching over-tight muscles to restore a more neutral joint position, so you can strengthen the weaker ones. So we had the posterior plumb line earlier for the so called posture we're aiming for. If we brought the plumb line round to the front, if I just stand on both feet, the plumb line, if you think of it attaching to my sternum at the top and my pubic bone at the bottom, this upper body thing, I call it creating a sort of question mark shape. So here I'm creating a stretch across the upper back down the length of the spine through my lumbar spine, got my glutes active and I'm stretching the hip flexors, all in one.

Anthony Padgett
And it may not look like the hip flexor's are being stretched. But if you look, if you isolate just Karen's midriff and her pelvis, the plumb line through her leg is still behind her at the angle of a hip. So she is stretching her hip flexor. She's not in flexion, she is in neutral and a little bit of extension.

Karen Padgett
And then we activate the glutes, extend the hips, raise back the spine, and we add the resistance into, this is called the active position. And the intention of lengthening the crown of the head to the ceiling, while simultaneously push the floor away, is how I would describe it. And hopefully you can see, there's an awful lot of work going on. So you'll see that this essential, very basic range of movement is what we repeat throughout.

Anthony Padgett
Irrespective of where the elastic band is going to be coming from, because it could be from behind, to one side.

Karen Padgett
So for example, take a quarter turn to the right. We'll take that roll down. Again, the question mark shape.

Steven Bruce
Now you've got a rotation going on.

Karen Padgett
With a little bit of rotation. We bring the arm up and over, tuck the elbow in and restore that.

Anthony Padgett
Stay there for a second if you don't mind. So lower traps have been activated, abdominals have been activated, glutes have been activated. The head, the top back of the head has been lengthened to the ceiling. She mustn't be flexing. She's trying to get that lengthened. So that sensation, this active position,

it's tough. So if your mid run, mid dance, mid movement, you've got that lengthening sensation and that opens the ability to maybe have a longer stride length.

Steven Bruce
Claire's asked whether you need these specific bungee cords or whether any old theraband will do?

Anthony Padgett
I think theraband does work. The benefit of this is that when you're doing much larger movements later on, so there's a sort of course, if you go through a full routine of the so called wellness routine, it's about a 10 minute workout. And you're changing, north, south, east and west, you're doing it standing and you're doing it kneeling. So you need that mobility. I think the theraband wouldn't work for that. But the early stuff, yes. So all the time, Karen is activating abdominals, glutes, and getting that lengthening sensation throughout.

Steven Bruce
And what effect, on which muscles, are we going to see, after this routine that we're seeing here?

Anthony Padgett
I would expect lower traps to be a much more woken up and activated, and I'd certainly expect your abdominals to be much more activated.

Steven Bruce
And this will contribute to the lengthening of the hip flexors?

Anthony Padgett
Yes, absolutely. Because it's functional. And irrespective of whether it's the discal release, whether it's the scoliosis correction, obviously, if she's a left sided scoliosis, there'll be greater emphasis on a certain type of rotation, rather than always influencing the tighter muscles, and whether it's post-surgical problems, the routines are very, very similar. So is the manual therapy. So now this is getting much harder. So Karen's starting to work with one leg.

Steven Bruce
It's making me quite tired actually, watching.

Anthony Padgett
This is tough. How's knee? Bit of vicarious improvement? So now what we're gonna do is get Karen to kneel down, please, darling. I don't say darling to every patient. Well, not all of them. So now, could you do the other leg?

Steven Bruce
I think from a camera's point of view, it's helpful if we're at the same level.

Anthony Padgett
Yes, absolutely. So if you remember what Karen was doing on the bed, she was doing that pelvic tilt to improve the the hip flexors. So on the right leg now, so do a pelvic tilt for me. So we know she's going to be stretching the hip flexors.

Karen Padgett
I can take this to a hamstring stretch as well.

Anthony Padgett
But she's still stretching the hip flexors, bizarrely. And then present yourself in the set position. So in that set position, those glutes are working hard, those abdominals are working hard. And she's getting that lengthening through and she's now really stretching her hip flexor while still working the glutes. And back down again. But this is advanced stuff. Not many people can get to this level. And then we would incorporate, so could you transition onto the other leg but do it smoothly, please, because you're on camera. And edit that one out.

Steven Bruce
Cheeky bugger.

Anthony Padgett
So you're going to just do two in that position and then transition to the other leg. And this is where coordination comes into it. So she's going one, strong. So the cues here would be contract, contract, lengthen. Come on, lengthen, lengthen. That's right, up through your head. And by reciprocal inhibition, you're getting pec switching off, here. Show one more, I won't make you hold it this time. Again, the other side, good contract. And then as you come back, transition to the other leg, please. This is tough, and then switch. Go on. Good. And go. Well done.

Karen Padgett
I don't normally work against quite such strong resistance. Please forgive me.

Steven Bruce
Nor under this sort of pressure with six cameras on you and two people watching.

Anthony Padgett
Okay, I think you deserve a rest, darling. This is tough. So off camera, these elastic bands are. sorry, this cord is very, very tight. In the early stages, so people are in too much pain to do anything like that, we'll do it in sitting. And they've still got to learn that.

Steven Bruce
And you said you could do it from wheelchairs?

Anthony Padgett
Absolutely. Yes. But the the first thing they've got to learn is how does the load trap work, and recognise as the traps work in sitting, you do get some activation here as well. And then we start layering that.

Steven Bruce
I'm not sure quite sure I follow this question which has come in, because Keith has asked, what's the advantage of the bands over a dumbbell?

Anthony Padgett
Yes, the dumbbell is going to change its loading, if you like, through range, whereas this is going to increase through range. And I think this gives you freer movement. So for instance, if I had a dumbbell in my hand and I was doing external rotation, my anti gravity muscles are stopping the weight from falling.

Steven Bruce
But there's no resistance on your external rotation at all.

Anthony Padgett
No but there's forces. I mean, the very fact you are externally rotating means you will load it, but if the weight is your hand, what is that weight wanting to do? Fall to the ground. So good question.

Karen Padgett
The other thing with the elastics is traditionally the little routine starts facing where it's attached. You do an assortment of exercises, a quarter turn to the right so you work against this way round. Let's say we did the facing the attachment exercises, I'm now stretching against resistance.

Anthony Padgett
But still the set position every time.

Karen Padgett
So we're bringing in resistance and assistance throughout, constantly. Constantly changing and keeping it moving. I'm out of breath from doing that on the floor.

Steven Bruce
Well, tell you what, shall we go and sit down? You've done all the demoing? While we're here, what would you offer to people as a takeaway? What from this could they do in clinic now with patients, which might be helpful?

Anthony Padgett
Yes. Okay, get a rubber band, and attach it to a door, stand in front and do this yourself. I don't do anything on a patient till I've experienced myself, so you can actually explain exactly what you're feeling. In one my leg feels a bit funny. So test yourself. Rubberband around the doorknob and get into the habit of holding it very lightly. Don't grab it, hold very lightly. So you don't you get less flow in your brain bit. Can't remember all that, but holding tightly might actually block the movement. So it's very light. You're trying to externally rotate and get that tray of drinks working. So go away thinking of that. So with an elastic band in your hand coming down to stretch first and trying to think looking over that fence and externally rotate. Don't hunch.

Steven Bruce
Any of that lumbar neutral going on?

Anthony Padgett
Yes, all that. Trying to get a bit of pelvic rotation going on. But first of all, localise your lower traps, localise your lower traps, then introduce your glutes, then your abdominals. Then try to do both together. If it's too much, just do one. Isolate first. And then once that becomes, I think if you do it 1000 times it becomes second nature. I think that's in martial arts, once it's done, it's set as a new muscle pattern, correct muscle pattern. So that's what I would do: elastic band, tray of drinks, and then start introducing different leg movements. So you're getting other spirals working. A bit wordy, but I think I answered your question.

Steven Bruce
Indeed. Would you like to put your top back on and we'll go and sit down over there, and you can have a little bit of a rest. Thank you, Karen.

Anthony Padgett
Have some water. Sorry, I put you through it there. It worked, didn't it? I think we both get lost in it, because we enjoy it and are passionate about it.

Steven Bruce
Watching Karen doing that does make me think, crikey, this is a complicated movement. It's not a simple use a theraband and do some internal external rotation stuff, there's much more going on, which I can understand that now seeing the pictures of the spirals and so on, we're trying to engage a whole lot more than just external/internal rotators.

Anthony Padgett
And there's certainly a picture which I do have, but I'm not allowed to show it. But there's a guy who does the natural bodybuilding, he doesn't use any weights at all. He's purely done this, he looks magnificent, and strong and very balanced. And because it's a chain, if you get all parts of that chain working, this chain is really strong. An elastic band could actually supersede weights. But there's something to be argued about.

Steven Bruce
That's an interesting one. I mean, bodybuilding isn't necessarily the same as strength building, although I can't believe that it doesn't come without a considerable amount of increased strength. I can see how this, I would imagine from sort of conventional teaching about building muscle strength, it would take a long time to build strength through this.

Anthony Padgett
Yes, I think it would. But are you building on a much better and much more than natural lengthened muscle? I mean, listen, if people want to do weights, listen, fantastic. If that's what gets them through their day and their life and they want to do it, then I think we all would support that.

Steven Bruce
Well, actually, yeah, I mean, if people are going to the gym, that's a damn good sign, isn't it? I suspect there's some research somewhere that said people who go to the gym live longer than people who don't and of course, that'll be a very flawed bit of research and observational study, but it's always a good thing that people are getting exercise. Majory says, for patients with hyper flexibility would this routine alter?

Anthony Padgett
it would alter because their neutral would be different. I think you'd have to make sure that they weren't, so hyper mobile patients, unless it's all nine points, I don't remember the name of the scale, but I think you need to be a bit careful with your cardiac valves etc. But I think you could still work with hyper mobile patients, but you just need to be a little bit more aware of when they're doing for instance, a hip flexor, stretch a decent one, they're not loading their lumbar spine. If they extend too much because they can, that's their default. The answer is yes, but I think you do need to be a little bit more cautious.

Steven Bruce
There's a bit of me saying if they're hyper mobile, why are we doing a stretch on anything?

Anthony Padgett
Yes. But there'll still be muscles that need to be strengthened. If they're stretch has got to be within their limit, but you're still strengthening the agonist maybe that's, I don't know the answer.

Steven Bruce
Yeah, maybe a better question is: in hyper mobile quest patients have you used this and has it been beneficial?

Anthony Padgett
I haven't, I haven't seen them.

Karen Padgett
I have some hyper mobile patients that I use a combination of reformer-based Pilates and some of this spiral technique, but I can do that with a reformer. So I'm not having to move them up and down and around the room. Because the bottom line is, we still need to improve gluteal strength, we still need to improve the posture around the shoulders, and the principles of this method of exercise is if we have a degree of contraction in those shoulder depressors, degree of contraction in the gluteal muscles, you won't need to think about the core. And in terms of this magical core stability thing everybody's always on about, when you send a patient to work on their back pain or what have you, the recruitment of the spiral muscle chain in that order will fire up the obliques, creating that stability in the middle. And by default, we are strengthening those muscles in the chain. So whether or not they need the hip extension, being hyper mobile, almost isn't, certainly for somebody out I'd be working with for the exercise side of things, isn't the focus. It's it's firing up the glutes in this way.

Steven Bruce
I suppose another question arising from that is, what are the contraindications to doing this? Have you made patients, could one make patients worse?

Anthony Padgett
I think because if they get the technique wrong, yes. I think it's its compliance. Its understanding of body position. I wouldn't say there's any contraindications. If they've got a spondylolisthesis that's unstable, they probably aren't seeing you anyway. Because they're still in pain or something. But I think it's more patient understanding how to do it would be a contraindication, whether they've got the mental capacity to do it and if they've taken it on board, and they do it incorrectly at home, then then was it your teaching was incorrect? Or was it their understanding was incorrect?

Steven Bruce
Did you do any of this via video link during COVID? I mean, presumably you can teach this over video link or supervise it through video link?

Anthony Padgett
We did. We had to do a sort of refresher course with the lady based in England. And that was actually very efficient.

Karen Padgett
It worked very well.

Anthony Padgett
Her camera angle's such that we could do it, but we had had experience. We haven't taught anybody with spiral stabilisation who hadn't had experience already. You couldn't start from scratch. Because until they can actually get that tactile response, if you like of, what do you mean, my shoulder blade in my back pocket? What do you mean all like this? No, I want you to be able to be subtle about it and lengthened and tall and balletic.

Steven Bruce
Yeah, and you did very balletic.

Karen Padgett
Thank you.

Steven Bruce
Kerry says presumably these exercises need to be done just right or will not activate the correct muscles and could be problematic. Do you get patients to do this themselves? And Kerry, I'm sorry, I've preempted, perhaps, part of that question.

Anthony Padgett
I would only get to do it themselves once they've been taught thoroughly. So once we've taught them, we would then watch doing it and there's a mirror for them to to engage. And we will keep them going. Hopefully, if they've come to me with pain, they're out of pain, they're seeing Karen now and they're exercising, we will send them away with things as long as they're doing it correctly. And then we will check them up in a month's time to do the next level, because there are lots and lots of variations on this. Increase resistance through the band, changing position, one legged, etc.

Karen Padgett
If the patient is willing, I have them come in weekly, because without a shadow of a doubt, teaching them day one, seeing them on day 31, the bad habits have crept in and so we're not adhering to the protocol.

Steven Bruce
How long would you see them for? Would it be a 15 minute appointment to run through their 15 minute routine?

Karen Padgett
No, I see them for about an hour. Some of that will be explanation, some of that will be me physically putting them into position. That initial funny looking stretch, as you described it, you need to feel it.

Steven Bruce
Did I call it that?

Anthony Padgett
You did. Yeah I was quite offended by that.

Karen Padgett
I call it the question mark shape. When you're in that reach forward position, you can feel the abdominal muscles are working, the gluteal muscles are working, there's a lovely stretch through to the lumbar spine. You can feel the stretch in the upper back and shoulders, and you get that elongation of the neck just in the sort of preparation to go into what is defined as the active position where I was holding the tray.

Anthony Padgett
But I could be there for an hour and a half, two hours. If I'm doing manual therapy on them as well, they might need a bit of a break, and then they get to work out.

Steven Bruce
But I was thinking there's been, there was at one point, quite a drive to doing tele appointments, whatever you call them.

Steven Bruce
Zoom appointments.

Steven Bruce
Yeah, Zoom appointments and so on. And of course, people will say, well, it's so much more efficient if you can do these things with a Zoom camera on a computer and supervise a patient in their home. But I wonder there's probably a therapeutic benefit in coming into the clinic, isn't there, the patient feels that they've, psychologically they feel that they've been properly treated and handled and supervised?

Anthony Padgett
Yes. And it kind of goes against slightly what I started off saying, that I don't want them to be dependent on us. And actually, invariably, because Karen teaches it very well, they want to keep coming back because they're starting to feel better and stronger, but they're not seeing it as therapy as such. They're now seeing it as, well, I'm not going to the gym, I'm going to save my money going to the gym.

Steven Bruce
Do you do any of these in those massive classes that you showed a photograph of? It's always one to one? Could you have a class and say I've got five patients coming in and we'll do this all together?

Karen Padgett
A maximum of five. I have five reformers and space to attach five sets of ropes, elastic cords that is, and still have room for everybody to work effectively. But I wouldn't teach any more than that. For me to go round and see and correct when necessary, you know.

Anthony Padgett
I get it when people are doing sort of mat Pilates in groups of 20, and it must be very frustrating for the people teaching them because they must be saying, well, I can get lots of people in and hopefully they're getting paid for that. But could they be more efficient by seeing to two lots of 10? Or four lots of five or something? That makes 20, yes it does.

Steven Bruce
Difficult when youv'e got to balance the aim of actually making a living and keeping the cost down for the patients as well, haven't you?

Anthony Padgett
Yes. But also it is an occasion.

Steven Bruce
But of course, in Pilates, there is a slight difference, in that people come to a Pilates class and they expect to all be doing the same thing. If you've got five patients and one's got a shoulder problem and one's got a hip problem, would you still have a class of five people, would they be doing the same exercise?

Karen Padgett
I would, but because the classes are so tiny I can adjust for the individuals in it. And that's the beauty of the elastic cords, I could attach it on to the very slender...

Anthony Padgett
On the black bit.

Karen Padgett
This bit of knicker elastic at the end of it, making it very light resistance comparing it to the way it was attached for me today. Incredibly strong. Equally, I can have everybody essentially doing the same exercise, someone could be sitting on a chair or in their wheelchair, someone could be standing,

someone can be stepping up and down on a cushion or a box or something even higher. The words from me are the same, the effect for the patient, the person performing the exercise, is the same.

Steven Bruce
Part of the reason I asked the question is, and you and I were talking about this earlier, Anthony, is that there is a widely held perception, which has been possibly earned by a section of the physiotherapy community, that physios just hand out exercises to patients. And that's not what physios should be trained to do and it's not what proper physios do. But when people come in, if they're all getting the same exercise, do people then think, well, this can't be designed for me. It's not bespoke and I want bespoke.

Anthony Padgett
No, you're right. But that's why if you've got a group of five...

Steven Bruce
You can make micro adjustments.

Anthony Padgett
Yes, absolutely. If they've got some kind of impingement syndrome, then I''m not going to get them to be doing huge lateral rotation while they're inflamed, if they've got nasty bursitis, stop it! But we can localise their lower traps, for instance.

Steven Bruce
Well, Victoria has complimented you on the demo. She says they're great demos. Thank you very much. So well done on the ballet and on the supervision. Let's hope we got the camera angles right. It's always a challenge on these things. Because obviously, we try to work out what we're going to do in the demos, but it will vary depending on the questions and how it actually happens on there.

Anthony Padgett
I think you described it as winging it, didn't you?

Steven Bruce
I would never have said winging it. We've got 476 viewers, and still we haven't had anyone brave enough to come in on the video link, which means we've worn these bloody earpieces for no good reason whatsoever. I'm going to have to offer a prize, I think, for the first person who's prepared to go live on the video and ask us questions that way. But it's too late now, because we're almost finished. Marjory, just to clarify what she said about hyper flexible patients, she says that they can often present with a functional scoliosis. And that may be that that was the purpose of her question.

Anthony Padgett
Yes. And if it is a functional scoliosis, and you can correct scoliosis, you're gonna have tight muscles on one side and longer on the other. So if you can balance that out. I think that was the thing that impressed me most about this particular technique, was how the scoliosis seemed to correct, even the structural ones which to me...

Steven Bruce
Yeah, and this is the final one, Claire has said that their personal trainer, wherever she works, the one she sends patients to, uses these resistance cords, and she thinks they're ace. But we're now out of time. I mean it does fly by, but I'm so grateful for you coming in and I'm just hoping that people have got some really useful stuff out of that. But thank you very much.

Anthony Padgett
Pleasure.

Karen Padgett
Thank you.

Steven Bruce
Well, there we go. That's your lot for this evening, I'm afraid. As I say, hopefully, that's added something to your armoury of techniques for the clinic. Let me know what you thought, you can send me an email or leave us a review, that would be nice, or give us a call, we'd love to hear your feedback on what we've done tonight and what we do the rest of the time. I am a bit behind with the certificates, I apologise for that. I will try to get this evening's and the two others which are still waiting done by the weekend. But please bear with me on that, I've been busy with the jury, as I said, and it's kept me out of touch for a little while. Looking ahead very, very quickly. We've got another case-based discussion for you next Wednesday lunchtime, that's on the ninth. I'm not sure if we've actually got a case for that one already lined up, but if you've got something interesting or puzzling that you'd like to share, again, let us know. It's a fantastic way for all of us to learn, of course. On Tuesday the 15th, we have another evening broadcast, and I'll be talking to Rohini Bajekal. Now she's the third in the Bajekal family to be on the show. You might remember that we've had her parents, Rajiv and Neetu on the show before, both of them consultants. Well, Rohini will be coming in to talk about thyroid issues. And if she's anything like her parents, it's going to be a cracking evening and I'm sure it will be. Two days after that, Thursday the 17, I've got a lunchtime show with Chris Chippendale. And this will be a really good one for your portfolio because we're going to be talking about specifically communication issues. And don't forget, we've got an in person first aid course here in the studio on Saturday, sorry, Sunday, the 20th. There are still a few places left. I think we've got nine places left on that now, so they have been going quite quickly. And I think I can say without fear of contradiction that these first aid courses are absolutely the best for any clinician anywhere. And not only will we keep you awake, which is a real first in most first aid training, we'll also make sure you go away confident in your ability to deal with some specifically clinical stuff. That's enough from me. You can look at the APM app or you can look at our website, of course, for more information. Don't forget you can always ask us to cover topics which are of particular interest to you. Thanks for taking part this evening. Enjoy the rest of the week. Good night.