

Postural Health With Clare Chapman

Cast List:

Steven Bruce

APM

Clare Chapman

CC

Jared (model)

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APM- Good evening, welcome once again to the Academy of Physical Medicine. Lovely to have you with us. Our aims this evening are pretty much standard. What I want to do is to send you away with additional knowledge to support your practice. I want you to have some take away techniques that you can put to good use with your own patients. And hopefully I'd like you to have a little bit of fun. Not sure if the drums have any connection with that in the background there, but a bit of fun and if you wait to the end of this program I'm sure you will get just that. So posture has been in the news quite a lot in recent months. In particular, back in March there was some coverage I saw in The Guardian, when an old friend of mine Eyal Lederman was quoted as saying, that posture has no connection with causing back pain. As I say, I know Eyal very well and I trust his judgment implicitly, but he chooses his words very carefully and he said that it has no proven connection with back pain, which doesn't mean there is no connection, of course, just that there's no research to back it up. There's a lot of discussion about that. People don't accept that point of view and we've had some discussions on our programs in the past. We've had Matt Walden talking about the role of posture and what you might call Pilates-style exercises, or core exercises, in dealing with back pain. We've had Joanna Elphinstone more recently talking about similar

material. So that's where we're gonna go this evening. What I want to do is I want to look at a different aspect of posture. It's really, really nice when one of our members can actually recommend someone to come and speak to us. I've got one of our members to thank for today's guest. This is a lady who has been a yoga instructor for over 20 years and she has developed into, or she's adopted what is known as the Gokhale method, confusingly spelt Gokhale. But that's because the deviser of the technique Esther Gokhale spells her name that way. We'll be coming on to a bit of the background to the Gokhale method later on. But it must be a good technique because it's backed up by people like Joan Baez and we all know that if a celebrity backs a technique then that means it must be good in today's culture. There is a lot going on here and my member, our member, who says that she's used this in her clinic, says that it's worked very well with her patients, so I'm very keen to hear what my guest this evening has to say. Her name is Clare Chapman. Clare, welcome to the studio. Great to have you with us. Let's have a little bit about your background. I said you were a yoga instructor. How did you get into Gokhale?

CC- So. It was a very rainy July summer holiday because I was also a part-time schoolteacher at that time. And I remembered that sometime previously one of my students, bless her, had given me Esther Gokhale's book, a copy of her book. And, to be honest with you, when I was given the book, can I show the book here. So this is not cheap product placement. This is really just to make the point that I looked at the book and I thought oh another quick-fix for back pain, having suffered for some 30 years myself. I thanked her for the book and I didn't actually look at it and then she asked for it back, as people do, so I thought well I'd better look. And to my amazement I found that it strongly correlated with what I'd learned to do in a different style of yoga over the last three or four years, this was back in 2012, and the more I read, the more interested I got. So it was the book that was the main thing and then there was this awful summer weather in Britain so I thought well, if this woman in California who's doing this very interesting little work, I'll get on a plane and go and work with her.

APM- Obviously I've looked into the Gokhale method as part of this briefing up for this evening's discussion and one of the things that struck me is there is a very American feel to the product. There's a very American feel to the website. There are nicely presented products that go with it. There's a nicely presented book, a lot of which has that American style to it. Then, of course, Esther Gokhale, is a Californian herself, I believe, isn't she?

CC- Well, she's interesting because she actually grew up in India and left India at the age of 16. Her mother is Dutch and her father was Indian. So she's an adopted American.

- APM- Right, but looking at what she's says, I'm guessing that a lot of it is directed as sort of a commercial market. But it must clearly work for a lot of people. One of the things I wanted to do, and I'm not sure we can do at the moment, is bring up the website, which she refers to a lot where Gokhale gets very high ratings in terms of patient-reported outcome measures. The website is called?
- CC- [Healthoutcomes.org](https://healthoutcomes.org).
- APM- [Healthoutcomes.org](https://healthoutcomes.org). It's a very useful website, isn't it? Because we talk a lot about proms in this country and on that website, which is an American website, they've got something like, is it 50,000 patient-reported outcomes--
- CC- That's right.
- APM- On different aspects of pain and the patients report what did work, what cured them, what nearly cured them, what had a beneficial affect, what had no effect, and what didn't work at all.
- CC- That's right.
- APM- You can judge that a little skeptically if you want to because as we were discussing earlier on, there's some parts of it which you could question, but it is a useful indicator as to what's working and Gokhale gets good reviews, doesn't it?
- CC- It does. I've actually got a few slides which are as current as last week. So this one is straight from the website, and you can see the postural modifications on the left score way higher than yoga and weight loss as a treatment for lower back pain.
- APM- So Gokhale cancels a postural modification does it as opposed to a physical therapy or a form of yoga?
- CC- What we're looking at there is a postural modification score that's actually being inflated by the Gokhale method in that the Gokhale method has the highest score of any of the postural modifications that they have on the site.
- APM- When you look at the site, it divides the interventions by type of which postural modification is one I believe. Is that right?
- CC- That's right.
- APM- Is that the thing which gets you the best results according to this site for back pain?
- CC- Yes, it is. Yes, for lower back pain.

- APM- Okay. So we establish some credibility for the Gokhale method, what's the overlap with yoga? Is there any?
- CC- There are many overlaps. One is that Esther Gokhale herself was a yoga model. So this is a bit of Gokhale biography, but it's well worth knowing her pedigree in terms of yoga and where this comes from. So her mother, who is Dutch as I said, was a great Indophile. She loved all things Indian and she was a personal friend of B.K.S. Iyengar. At one point he actually asked her to go to Bangalore and open a yoga center for him there.
- APM- I don't know who B.K.S. Iyengar is.
- CC- Have you not heard of Iyengar yoga?
- APM- I have now.
- CC- Okay. B.K.S. Iyengar was yeah, was, probably the most influential yoga teacher in India to bring yoga to the West, and his style of yoga is characterized by alignment, very strict alignment guidelines. Then there are other teachers, for example, Pattabhi Jois who is the father of Ashtanga yoga, which is a much more fast gymnastic sequential form of yoga. Then there is a third teacher from the same stable, if you like, who was the son of the teacher of both of them, called Desikachar, who taught the much more therapeutic yoga, which was the yoga that I studied because I went to yoga because I had back pain and I'd heard that therapeutic yoga was a very good modality for treating back pain.
- APM- Right, and is therapeutic yoga what you've taught for the last 20 years, isn't it?
- CC- It is, yeah. That's correct.
- APM- How does that differ then from any other form of yoga?
- CC- Well yoga is a very big umbrella and you can find practically anything you want underneath it. I no longer teach in that tradition I have to say because my back pain changed whilst I was involved with this and that particular school of yoga I was involved with for some 14 years, but it never went. I got to the point where I was running classes at the annual symposium, for example, on yoga for back pain and feeling rather frustrated, not to say slightly fraudulent, that it was about managing back pain and not about actually preventing it. So I then changed my yoga practice and I worked with someone who I believe actually taught you.
- APM- Indeed.

- CC- Osteopath, and now yoga teacher called John Stirk.
- APM- That's John Stirk.
- CC- Yes, absolutely. Within three or four weeks of changing my yoga practice the back pain incidence, which for me, were severe muscular spasms usually around the SI joint area just abated. They stopped.
- APM- So as a therapeutic, I'm going back slightly here, as a therapeutic yoga instructor, does that mean you have gone into greater depth than an average yoga instructor into anatomy, physiology, and so on? Or is it just that you're using your yoga purely for remedial health rather than flexibility and general exercise? Does it mean your training was more advanced?
- CC- Yes, it was a very long training in that it was part-time, but four-year yoga training and a two-year foundation prior to that and a one-year introductory year prior to that. So it was very thorough, but in this school it's there are taken to be several layers of the human organism that you're working with. So when you ask whether or not I did a much more advanced training, for example, in anatomy. No, not particularly. Because we were looking at energetic levels of working using Pranayama breath work. We were looking at chant, Indian chanting, Sanskrit chanting. We were looking at Ayurveda, which is the science of wellness. So it was a very broad course in that respect, and no, it didn't focus especially on anatomy although it was included.
- APM- The reason I ask the question is because a lot of practitioners, and most of our audience, are either osteopaths, chiropractors and some physiotherapists. A lot of us will refer our patients to Pilates instructor or to yoga instructors to help with what we're doing for them and I just wondered whether they should be looking for someone who teaches therapeutic yoga rather than just a yoga class down at the village hall. You're gonna tell us we should be looking for Gokhale instructors.
- CC- No, but I would say perhaps having during the course of the evening put certain ideas, principles across that are in the Gokhale method, they should be looking for something similar within their yoga. There is a lot of misunderstanding, I think, about what yoga can do and can't do and how best to do it.
- APM- And like so many things there is a huge variety in range of quality of instructors, I feel, because I suspect that you, like the rest of us, have people come to you who've had bad yoga instruction and then actually aggravated their problem or caused the problem in the past as well. I think a lot comes down to the quality of the instructor.
- CC- Yes, that's true.

- APM- Just as it comes down to the quality of the osteopath or chiropractor as well who's treating somebody.
- CC- Yes, it does, but you can very diligent students, very good students and very conscientious teachers, but if they're actually teaching something which is fundamentally wrong, or at least wrong for a particular student and it's given as a universal, then it will have all the hallmarks of a quality offering, but not actually be suitable for that individual.
- APM- Let's move on to the Gokhale method itself. Can you give us some background to the Gokhale method? What distinguishes it from any other intervention or advice?
- CC- So the Gokhale method in terms of being a postural intervention is both a kinesthetic intervention, but it's also strongly an educational one. I think this is probably one of its hallmarks.
- APM- Kinesthetics is the ability to understand, feel what your body is doing in movement as well as its proprioceptive capabilities, is that right?
- CC- Yes, that's correct. That's what I would mean by that. The educational aspect though is extremely important. We have a lot of gray matter up here and we feel that we might as well make good use of it. We want what we teach our students to be understood, to be logical, to be something they can remember and something they can reference in the future when the course is over, so that it continues to be helpful for them and they can continue to refine the movements that they've learned. So very often, in my experience, if a teaching modality is just kinesthetic then people feel wonderful at the time and in the immediate aftermath, but then once they're on their own, they don't have a roadmap anymore of what it is they need to do in order to produce those beneficial symptoms.
- APM- You talked about a course. How long is a course?
- CC- The course is six lessons. Now if it's taken one-to-one obviously it's scheduled for the mutual convenience of teacher and student, but the group courses and when I say group, that's a maximum of eight people. I have a small studio myself at home, so that's a maximum of four people. Those six lessons will appear in various formats. So typically I like to teach over two weekends. So three lessons each weekend, which might be something like two on Saturday afternoon and one on Sunday morning, for example. I ring the changes on it because people live different distances from me, they have different routines. We need to find things that fit. Sometimes I've run them for local people, sort of once a week. The longest duration has been for a one-to-one student who's an expat in Barcelona who kept coming over and visiting her family. She took 18 months. She said I'm a slow learner. I like to go back and consolidate and then move on, but it worked for her. So it's variable. Then

the most concentrated, or intensive, way of doing it is over one weekend, which is a huge amount of information and input, but it has its own momentum. So they all work.

APM- What's the philosophy behind this because we're talking generalities here at the moment, but what does it stem from? Is there something which has sparked Esther Gokhale's understanding of how she can address back pain?

CC- Yes, yes. So Esther Gokhale, she came at this the hard way as she often says. When she was nine months' pregnant she had severe onset of sciatic pain. She was told it would resolve with the birth of the child. It didn't. Twelve months later she had a laminectomy/discectomy at L5-S1 for severely herniated disk, and for a while the pain went, a couple of months. Then it returned. She was told that she needed a second operation that that was, in fact, often the case in cases such as hers and also, by the way, we recommend you don't have any more children. Now that was not her plan, so she decided that rather than go under the knife a second time, she would leave no stone unturned in looking for alternative means of dealing with this. She tried various modalities. Then she came across something called the Aplomb Institute in Paris. So the Aplomb Institute is what was, is perhaps, run by Noelle Perez, a woman whose thesis is that basically Westerners are getting so much musculoskeletal discomfort and so many problems because they have lost touch with how they should move. How they would have moved in bygone centuries. Esther spent some time with Noelle and her back gradually improved. In fact, she said I think after a few months she had virtually no pain at all, and she became a student there and that involved her, in turn, going to visit all these populations that Noelle was talking about. She was going to populations in rural Africa, India, South America where people were reporting remarkably low incidences of back pain, something like between 5-8% as against the 80-90% incidence of serious back pain as some point in one's life, and seeing what it was that they did. So that was the starting point.

APM- Just to clear that up. It sounds a big disparity, so I'm pretty sure that it's reasonable to say they had less back pain. The fact that people don't report back pain, doesn't always mean they don't have back pain. It's a bit like reported crime, isn't it?

CC- Yeah.

APM- Is she convinced that actually that reporting level accurately reflected the amount of back pain in society?

CC- She got the most accurate figures that she could. I mean her background, when she came to the United States, aged 16, she came as a scholar. She won an award through a program that Harvard was working and then she continued her education in the States in biochemistry at Harvard and

Princeton, so her background is a scientific one. She's very interested in being accurate. She's very interested in being logical. I cannot believe that she would misrepresent those figures, no.

APM- Well it's nice to know there are some credibilites to the figures because statistics are statistics as always.

CC- But also there's such a discrepancy there that even if something has got lost in translation, it's still significant.

APM- Yeah. Okay, so she's done all this visiting. She's looked around. She's looked at the statistics. She's been to the Aplomb Institute. So it's what you're practicing and what she practiced actually the Aplomb method, rather than the Gokhale method?

CC- Well I think the Gokhale method is, the method part is the major difference. Because I think Esther found Noelle's teaching inspirational, but also frustrating in that it was a little bit more anarchic than Esther's style, and she didn't feel that it was easily reproducible. What Esther was interested in was finding something that could be taught by, initially by herself, but then laterally by a number of people that could be of reproducible benefit. So that's where the method comes in and the six lessons and making sure that things are explained to people and using multiple channels in order to communicate the message.

APM- We're obviously not going to cover six lessons in the 90 minutes that we've got available this evening. So what's the overall structure of those lessons? What does a patient or a subject or a student go through in that time, in outline.

CC- Yeah, student. So the first thing that we do in the lessons is to focus on length. Finding length in the spine. Taking the pressure off nerves, disks, and as they're able to, relaxing muscles. So length comes first. Trying to get the student more comfortable, both for the lessons themselves and in their life outside. The next stage is strength. So getting the deeper muscles of the body, particularly the intrinsic muscles of the spine and the deeper muscles of the torso to work.

APM- So what we might call the core muscles.

CC- Yes, what you might call the core muscles.

APM- I'm as skeptical about the concept of the core as you seem to be there as well. But, of course, typically that is what people would refer to is the core. Transversus, multifidus and and so on.

- CC- We use the term in the course because we want our terminology to be easily understood and memorable for people. But yes, obliques, TAs, multifidus, rotators. And we explain those muscle groups to people. The next stage once we've looked at the strengthening, and incidentally we strength using exercises that are designed to replica some of what Esther has seen in Africa and India, for example, and which are designed to be very safe for the back, given that people may be coming in with pathologies and things that even they're not aware of. Then we set about what you could call the shaping. That is actually changing people's posture.
- APM- Right. So we've got length, strength and shaping.
- CC- Yes.
- APM- Right. It kind of begs the question that I've put to the other speakers we've had in here who've talked about this sort of thing is that, how do you know what the right posture is? What determines how a back should look in any individual? How do you work that out?
- CC- Well, our our idea of what good posture is is based on what Noelle and Esther saw when they visited the populations that didn't have back pain. So it's an anthropological approach. The fascinating thing is, regardless of age, so we're talking about infants to old people, regardless of age, regardless of geography, regardless of ethnic group, occupation what Esther found was a far greater homogeny amongst these populations than we have in our own. So there's a lot of individual variance in posture in the industrialized world. If you look at the non-industrialized peoples what you tend to see is much more uniform. Esther characterizes it as a J-spine. I have a slide which might be helpful.
- APM- Yeah, let's do that. I think a slide should be quite useful in showing what you mean.
- CC- Let's go through. There are a number of slides that show this, but let's start with the tribesmen. So this is Indonesia and the figure on the left, in particular, nicely characterizes what I'm talking about. So obviously I'm not describing the shape of the spine itself. The vertebral column. I'm looking at, what we call the spinal groove. What you can see from the outside. It is remarkably straight. Where there is an angle, a bend, is not the lumbar area, but down at L5-S1. Therefore it's called a J-spine. If I can find the mouse. There you go. You can sort of see the long J.
- APM- Runs straight down the spine and then--
- CC- Like a hockey stick. So that's the shape that we see time and time again.
- APM- He's got no back pain, so that's how we should all look?

- CC- He's got no back?
- APM- He's got no back pain, so that's how we should all look. Is that the theory?
- CC- Yeah, so we all start off pretty much that way. There's an infant sitting. There are other characteristics which are very similar. So particularly important for infants given the relative size and weight of the head.
- APM- It's interesting to see with infants though, isn't it. That child is almost certainly not a walker yet and the lumbar lordosis won't develop until he starts walking.
- CC- Hmm-mm.
- APM- That's reasonably well established, I thought, in anatomical literature.
- CC- Yes.
- APM- So saying that his spine is straight is not necessarily what we should be aiming for, is it?
- CC- Well let's see what happens with other adults. But it's a useful thing for our students to see that this is the way that we all start off. Because some people actually believe they've been hunch backed all their life.
- APM- Right.
- CC- Or, for example, I seriously had a Pilates teacher tell me that she was born with bunions. Okay, we start by looking at what is and what we see here is again that straight spine and what we call an anteverted pelvis, a tilt to the pelvis, sitting on the sitting bones, externally rotated legs and the behind somewhat behind. Then if the child is handled well and has the opportunity to sit in or on good furniture, so not what we see on the left. What we see on the left is what you get when you prop a child up before they're capable of sitting up themselves, or you put them into a curved beanbag or car seat like that one there and you leave them there, and at an age when the neural pathways are being set as to what constitutes sitting. This is arguably going to be setting up very poor habits.
- APM- Do people do that with a child too young to hold its own head up?
- CC- They do.
- APM- Right.

- CC- I've seen people put their children in beanbags in whatever position or leave them in car seats, put them in front of what is it, not Teletubbies and things like that to amuse them. So, unfortunately, yes that does happen. To be fair I think the child furniture industry has reformed its act somewhat and they're producing much better shaped things now. But certainly they have been very rounded. But assuming that children are not subject to that sort of treatment at such a young age they will continue like the boy here on the bus to keep the back relatively straight, to keep the shoulders wide, and to use the sit bones as a perch and to put their behind behind them. So that continues with children. Here's another example of the J-spine. On the left we have a woman in Africa and on the right there's a Brazilian swimmer. Again, you see really quite a straight line and the angle is right down at L5-S1. This is very much what you would tend to see in athletes, for example.
- APM- I have to say it's not an observation which I can say is backed up by any research or any other statistically valid analysis, but I used to work in the Caribbean and one of the characteristics in Afro-Caribbean women seemed to be, women particularly, would be a very, very almost L-shaped spine, rather than J-shaped spine. I've always thought that was probably a bad thing. You're saying that they were probably getting it right.
- CC- I would say they're getting it right. I had the good fortune to be in Barbados in October--
- APM- That's where I was working, yes.
- CC- Oh, okay. I was still seeing it. Not in Africa, but in the Caribbean. Shoulders very much back and quite often more of a lumbosacral angle than you would see in Caucasian populations. There are always differences within ethnic groups and geographic groups, but I think that's something that holds true. I'm just thinking about it, I've not seen this written anywhere, but it seems to correlate to my mind with the shape of the skull. So the African skull is deeper, tends to be deeper and then the pelvis and sacrum seem to have that same sort of pattern. Then if you go to the other end of the spectrum you'd be probably looking at East Asians where the skull is flatter on front to back and we see less lumbosacral angle there.
- APM- And no greater increase in back pain because the shape of the spine, or shape of the lumbosacral angle is proportional to the size of the head, the skull.
- CC- Yes, yes, yes, I think so. Some people will say that in East Asian cultures, Chinese particularly, that they have actually a very flat angle there. There's some interesting cultural debates around that to do with years of differential body language through the imperial dynasties and then also through communism. I think there's something in that because I've taught in an international school. I taught in an international school for many years and at

the end of term we had this little ceremony where we would shake hands with every girl in the school, luckily there were never any more than 400 of them. But a good number of them were Chinese, or of Chinese extraction from Hong Kong, and the more traditional girls would shake your hand and give a bow. That sign of respect was very much a sort of tucking of the pelvis and lowering of the head. So I think cultural body communication has a lot to do with it as well.

APM- So how does this work then? There are some pictures in your catalog here, I know, of what I presume are African women working in fields and so on and they've got a very nicely hinged pelvis.

CC- Yes.

APM- Well, who teaches them to do that? Because I don't imagine they have health and safety at work classes the way we do over here and yet we don't appear to do that.

CC- I'm going to find you another picture. To attempt to answer that question. So this is the sort of thing that you're referring to.

APM- I mean look at that, no safety boots, no helmet, no nothing. Yet you told me that's a perfectly hinged pelvis, would you? For the work that they're doing.

CC- For the work that they're doing, yes. I have many slides and I have others showing African women making pots and the interesting thing is whereas you or I would think okay, I'll find myself a nice table and a chair, they choose to make pots on the floor. So they're bending down to do something that we would think would best be done on a table and not only are they bending down, but they're bending with a baby on their back and the baby is virtually upside down while they're working.

APM- Stops its head from bending sideways if they do that.

CC- Yes, yes, it would do. There's nice traction there. These women Esther interviewed and they're doing this work. They're gathering water chestnuts. They're in Burkina Faso. They're working for six hours a day doing this when they're doing it and they don't have any back pain.

APM- Right.

CC- So what we're looking at is the ultimate, if you like, in functional movement I think. Similarly if we're talking about people carrying weights on their head. There we go.

- APM- Yeah I looked at that picture before we started this. I think if I had a bloody great weight on my head I would have to stand like that anyway to stop it from falling off, wouldn't I?
- CC- Yes.
- APM- So I was thinking is that posture directly due to the object on the head and the balance that's necessary rather than because it's an efficient way to carry your back?
- CC- I think we all have a response to a weight on the spine and we all have a weight on the spine, which is the head. If you look at this historically you can find many pictures, even photographs as well as drawings, of people throughout Europe and in Britain I found pictures of porters in Convent Garden Market, Billingsgate Market, London Docks, farm workers who regularly head loaded in order to carry things. So it seems that this is almost a global way of carrying things. I think basically what you're doing is using an innate response to lengthen the spine in response to the weight of the head and the effect of gravity. You're seeing that response happen and the fact that the weight is heavier is just because they're putting it to good use effectively. What Esther has observed is from time to time the women who were carrying things will take the load, take it off the spine, stretch, adjust, and then re-engage the muscles and then replace the load. I don't know if it's McGill, but it's certainly been proven through electromyographic studies that if the rotators are working bilaterally they will have this lengthening affect on the spine. So in a sense I don't think it's that they're doing anything exceptional, it's just that perhaps they're doing more of it and more to the point, in our culture, because our posture generally has become so impoverished, we've lost that response.
- APM- So by going through some course of training, such as the Gokhale method, you're saying you can teach a Western person to stand for eight hours in that hip flexed position picking water chestnuts without back pain.
- CC- No, no, no. Thank you for making that clear, Steven.
- APM- Well no, that's an important example. What can we achieve in the Western population given how we are now?
- CC- Absolutely, so what we want to do is to get the biomechanics of bending sorted out for people. When I said, when you asked me about the sequence of the Gokhale lessons, they need to have found length in their spine, they need to have found some strength on how to, if I dare use the word, stabilize the spine before they bend from the hip. Otherwise they're going to get into trouble. So very often people will come to talks that I run and they'll say, my back always goes when I bend and they've come and they want to learn how to bend. They want the magic bullet so that they can continue with their

gardening or whatever it is. And I have to explain to them that is not something that I'm going to teach them off the shelf because it wouldn't be safe for them to do at that time. So safety is key. They need to have certain things in place before we teach them to bend. Bending is actually lesson five of the six lessons and what we would do is say to people okay, do a little bend first of all and come back up because the coming up is as important as the going down, and that's often where people go wrong. So go down, bend, do a little more, do a little more, and when the hamstring length compromises your bend, or before it compromises your bend, you need to bend your knees and you go down as far as you can, then you come up. Over time what happens if people are consistently bending in that way as opposed to bending around the pelvis, then the hamstrings will lengthen. So it's an interesting point with hamstring length, it's something we tend to be, most people are pretty obsessed with in our culture because they're problematic. They go to classes, they stretch them, and then a week later they're back doing the same stretches in the same starting point. I would say that the reason that the hamstrings nine times out of 10 are never sort of increasing their baseline length or flexibility is that people aren't bending well. They're sitting in a way and standing in a way that's actually shortening the hamstrings and rather than bending as we saw those women bend, which lengthens them, or in the case of those women they've never lost the length in the first place. They're simply maintaining it.

APM- And that kind of supports, very much supports, a lot of research that has been done into the business of stretching muscles and that is the effect doesn't last unless you do a lot of it.

CC- Yes.

APM- So the fact that they're doing this all day, every day, is going to be effective over a long term. I imagine if they sat down at a desk for a few days they'd probably lose quite a little length in their own hamstrings.

CC- Yes.

APM- Not so much as a Westerner because our muscles are conditioned that way, aren't they? So what can we do then? What can we take away into our own clinics to do that will help to lengthen people's spines or help them with their bending? Help support them. I should have mentioned at the outset actually your partner is a chiropractor. Am I correct?

CC- Yes, that's right.

APM- I imagine your partner also uses Gokhale as part of what she does or refers to you.

CC- She does, she does indeed.

- APM- Why hasn't she given up being a chiropractor then if Gokhale's the answer?
- CC- Well before she was a chiropractor, she was a midwife, so it makes sense for her. Her work is very focused on working with pregnant women, working with pelvic girdle pain and so on, and she's very passionate and devoted to that and she has a huge amount of experience, and special expertise to bring to that. So I wouldn't ask her to stop doing that.
- APM- But the two disciplines work well together?
- CC- They do and she does use the Gokhale method or a lot of postural education with her women and to be fair that predates actually her knowledge of the Gokhale method. When she was in New Zealand as a midwife she encountered Jean Sutton. I don't know if you're similar with her work.
- APM- I'm not, no.
- CC- She's a New Zealand midwife and her publication was back in 1995, so I don't know how old she is or if she's still practicing, but she was actually the author of a slim volume called Optimal Fetal Positioning. This is something that's talked about all the time now and it originates from the title of her book. In that book it's very interesting that one of the things that she is teaching women is to come off their sacrum when they're sitting and to come on to the sit bones, the sitting bones, and she's also lamenting the state of modern furniture and how it encourages people to sit badly. So I find it very interesting that somebody who's working with, or advocating a more natural childbirth and a more natural posture in order to facilitate that is talking about the same things that we're talking about.
- APM- It may be a little early to go onto this, but one of the questions that's come in says, "Hi Clare, this is fantastic. Thank you very much. Can I ask how you would change an office environment to meet your recommendations on posture?"
- CC- Well, with the Gokhale method office chair. No, seriously, Esther Gokhale has made one, but unfortunately it's not on sale in Europe because at the moment we can't offer the after-sales service and all the other things that need to go with a fairly high-end product.
- APM- So what distinguishes it from any other chair?
- CC- It has some sticky knobs on the backrest here, so that people can obtain traction and thereby some lengthening and some relief on the lower part of the back.
- APM- Rather like the stretchy cushion you're about to show us.

CC- Rather like the Stretchsit cushion indeed.

APM- Stretchsit cushion, yes.

CC- And it also has an angled front so that people can use it rather like a wedge to antevert the pelvis if they want to come away from back rest and sit without a back rest support.

APM- Okay. Can we have a look at your Stretchsit cushion?

CC- Absolutely. So this is the cushion, which is in effect built into the chair.

APM- And don't worry we're going to be demonstrating this cushion in a very few minutes' time.

CC- Okay, so it's a very small cushion because it's going to attach to the back. It's not something that you're going to sit on. So it just needs to make contact and it doesn't, like most cushions designed for poor backs, it doesn't go in the lumbar area.

APM- If you turn it sideways it's flat. It's not got that bow to the lumbar cushion. What about these little bulgy things in here?

CC- Okay so the bulgy things, they're not electronic or anything fancy. Somebody asked me if they heat up or if they vibrate and massaged your muscles. They don't. They're just a little bit sticky, so they enable you to hitch onto the cushion and get some traction.

APM- Okay. On the Gokhale website it says that they strengthen your back as well.

CC- Are you sure it says strengthen?

APM- Yes. Yes, it says it stretches and strengthens your back.

CC- I will ask you to show me because I think that needs to be changed and when you quoted that to me--

APM- Which is why I double-checked.

CC- It doesn't say that.

APM- It's not your website, this is the Gokhale's website, which is Esther Gokhale's website. And I asked you that question because it sounded a strange thing for knobbly bits in a cushion to be able to do.

CC- Yes indeed. Yes, it doesn't. It lengthens and provides traction.

APM- Okay, would you like to demonstrate how that works?

CC- I would love to with my beautiful assistant.

APM- Let's get Jared on set. Jared if you'd like to come and join us, and we'll demonstrate how this cushion can do it's stuff. Yeah Jared I think you know where you're gonna go.

CC- He does.

J- Is that good?

CC- Yes.

APM- So we've got a strap on this thing which is attaching your Stretchsit cushion to the back of the chair.

CC- Okay, so this is what I mean about not wanting the cushion in the lumbar area, so it couldn't be used for example on all chairs, because in many of these sort of folding chairs, the back rest only comes up to here, and that would be right into his lumbar, we wanted a little bit higher, so that's perfect.

APM- Roughly where do you want the top of this in anatomical terms? The top of the cushion, it could go further down the back rest if it were a high chair couldn't it?

CC- Yeah I think any of the lower thoracic vertebra would be fine for the top, it also depends on the individual's back, and it depends on the chair, so what we do in the course is we spend quite some time trying out different chairs, people trying things at home, when people try this at home, sometimes though by a Stretchsit, most people do, you can get a reasonable equivalent with a nice scratchy towel you have such a thing in your home, that will grip the fabric of your clothing, so you don't have to buy one of these, these are perfect because of the straps, they work very very well in cars, for example you just put them around the head restraint, and away you go,

APM- And that's it you just lean against it?

CC- You just lean against it, and if you're in a car, that jostling against it is actually going to be doing an additional job, so aside from the traction, what having a Stretchsit will do, is fill in some of the, concavity that's often put into car seats, so for the thoracic spine, it's put into car seats because ergonomically that's considered correct, because most people go along with the idea, or certainly designers go along with the idea that there should be a significant

thoracic curve and a significant lumbar curve, we don't, as we have already established, what we found, what we found with the cushion, is we want enough depth to remove that curve, it also means that the head will end up being further clear of the head restraint, and many head restraints are pushing the head forward, so if you're looking to prevent forward head carriage, then again this is going to give you that extra inch that the head can rest back, so the shaping of the seat itself is very important. This one is just a slight curve this way, so it's doing a bit of a job there for us. So if I show you what we would teach people to do, we would ask them to sit in the chair. Jared How tall are you?

J- Six-foot.

CC- Yeah so I actually have a chair that I've customized that's taller than this, this is not optimal for him, but it will do for today, and also we'd ask people to when they sit not to sit with their backside into the space here, because if there doing that, then they're going to be putting their spine to quite a deep lumbar curve, so he's good as he is, and then what that ask him to do is just hinge away from the hip, away from the backrest, a little way, that's lovely, and then I'm going to ask him to do something that is quite counterintuitive, given that we're talking about posture, I'm actually going to ask him to slump. Great okay, so sometimes people can achieve this position just by letting go and slumping, we want this position because it's going to create a little bit more length in this area of the spine, so if somebody's got a deep lumbar lordosis that's going to open it up a little bit, if people are so rigid that it can easily curl over in that way, we might use verbal instructions or metaphors like think of doing a mini crunch, or think of rotating your rib cage forward, and it may be that they need to learn to recruit the obliques to pull the rib cage down if this is a very unfamiliar movement for them, but usually analogies like you're a marionette and someone has cut the strings, or slump, something of that order will do the job, so he's doing very nicely, that's opened up the back, then we want to open up the spine a little bit more, so I'm going to ask him to hold the bars of the chair, that's it, keep your elbows bent, and then I'm going to ask you to separate your top half from your bottom half by pushing down on your arms without coming up, so you're not going to arch upwards, that's nice, push up as much as you can, that's nice, now staying bent over, that's it, now bring the whole assembly back, relax against the backrest, and rest there. Okay, so we're going to go through that again, that was very nice, hinge away, and slump, so were opening up the Lumbar, hold the bars of the chair, now staying with your head forward, and lift your top half away from the bottom half, that's better, so he's making some length there, and then bring all that length back, fantastic.

APM- He's enjoying this, he's doing dips.

- CC- That was very nice, so nine times, while not nine times out of 10, but I would say quite often when I asked people to come back, their response for coming back is to actually contract the lumbar area, so that something that is a bad habit, and it's a very common postural habit that people alternate between slumping and arching, so they're learning to override that, and then if I feel here, I can feel a little pinch of skin, and that's indicative of having found some mild traction from using the cushion.
- APM- So every time he leaned forward to fiddle with his mouth, or pick up his cup of tea or whatever, he's going to do the same thing when he sits back in the chair?
- CC- If someone is driving or sitting in the cinema for two or three hours, or on the train or a plane, they're not going to have that problem, so Stretchsit is really for more prolonged periods of sitting, and I've had numerous emails from people actually saying that the cushion has made a huge amount of difference to how comfortable commuting is for them for example, or I went on holiday and I left my Stretchsit in a hire car, and now I need to buy another one, that's quite a common one, but with practice, I mean this was quite a performance, because it's the first time he's done it, with practice it can actually become quite a quick movement to make, and then at you're hitched up, and once you know the feeling, you can replicate it quite easily, maybe if you find yourself somewhere you can fold a cardigan and do it, get a bit of a stretch on a park bench.
- APM- And ideally, the question originally was about a modified office environment, this is going to be something that's going to be in the chair permanently, so your park bench example as a temporary intervention, but ideally when you sit down you want to keep on doing this, or after a while when you're properly trained you can do it without thinking and you don't need the Stretchsit cushion any more or the cardigan.
- CC- Well as you've seen with my car I still like to have the Stretchsit cushion in the car, because it moderates the shape of the seat, and if I've got a long drive like today and it is nice to have that little bit of traction in the lower spine.
- APM- How does it feel to you Jared?
- J- You can feel it along the back of your spine, and you can feel it lift you up as long as you keep connection on those bumps.
- APM- And it's comfortable?
- J- It's comfortable yes.

- CC- I did have one woman who lived in rural Cornwall, who wanted to send it back, because she said her roads was so bumpy that she couldn't stay attached to it, anyway we resolved that one.
- APM- Okay while Jared is here, you had a very fetching little hat but I saw you trying out on him earlier on, what was that all about? Does he need to stand up for this or?
- CC- No I don't think he does, actually it might help if he changes his sitting position.
- APM- Okay well I'll leave you to guide him in that.
- CC- Okay so Jared could you come away from the chair please come away from the backrest, so when you ask somebody to sit on the edge of the chair, typically, particularly with this sort of chair, you can see the seat pan actually angles back somewhat, if they are prone to tuck the pelvis, then that will exacerbate it, so what you're getting there is relative to the top of the numbers here, you're getting a tuck, you can see the angle of his pelvis is going under, and corresponding with that, his head was coming forward, so before we do anything else, I would say to him is, move further to the edge of the chair, and sometimes the chair is high enough, and putting his thighs on a slope, that will give the pelvis an opportunity to tip forward, as he's tall that's not gonna work, so what we can do, I'm just going to get a towel here, what we can do is give him a wedge. So Jared could you just stand up a moment, so I've got a towel here, and I've rolled it up, and I've got about two thirds of the back and one third at the front, to slightly angle it, and we're gonna see if this works, I'm gonna put it towards the front, and I'd like you to sit down at the top, that's great, and kind of slide yourself forward, down, keep sliding, keep sliding, okay, and see if you can half ascent and come back to the top, see if the towel could help you hold your sit bones back a little bit, and keep the knees wide.
- APM- I imagine it doesn't help that he's got such long legs?
- CC- It doesn't, but the pelvis isn't used to articulating at L5 S1, and come back again, sometimes if I show people then they understand what it is, we are asking to do, so he staying in a top position there, I'm gonna show you a slide, and this might be enough Jared to help you. So the boy on the left is my nephew Dan a few years ago, and he reported back pain, when he was playing his drums, now a child of that age should not be having back pain, so what I did is I took a towel, and put it under his bottom, and because he's young and still quite flexible, I didn't give him any instructions, he immediately sat more upright, with the pelvis anti-verted, that gave the message to his spine that it was to lengthen. Okay, another way of looking at it--

- APM- So that's what we are trying to achieve with Jared here, is trying to go up with his pelvis.
- CC- Another way of looking at it is that that's how he is currently, the one in the middle, and we want him to sit up straight, but we want him to sit in a relaxed way that is not using the erectus spinate to hold him there, so what we want is the figure on the left which is showing the pelvis anti-verted and out behind, let's give it one more try, does that make sense Jared? So it means keeping this here and moving the torso, so again his response at the moment is to stiffen here, can you drop the rib cage? So if he drops the front ribs this is now relaxed, and we're getting towards where we want to be, now having got him there, I haven't forgotten.
- APM- I'm just thinking as you go on that this is something people could use very simply at work or anywhere else, they could easily roll up a towel like that and try to achieve this position.
- CC- Absolutely, and the reason we are using a towel, is because Esther hasn't been able to design and sell a wedge that does the perfect job.
- APM- Very un-American of her.
- CC- Well you see I think there's some integrity there, she's tried, but what she finds is that a, we're all different weights, we're different sizes, we need different things, we're putting it on different furniture, plus as people work with the method and what they're finding, the angle that they can achieve changes, so there's not much point in buying one product that you're not going to use for very long. Okay so this is the head cushion, Joe if you'd like to put that on.
- APM- Now it needs to be the other way round Jared, we need the ribbons, that's it, excellent, that's going to be much nicer on camera. Very French.
- CC- Yes, so the idea of lengthening the spine, taking the head off like a helium balloon, I saw Joanna using that the other day, it's not unique to the Gokhale method, other than we've devised it from what we've seen in the field, but the idea of putting a weight, really helps many people to get that sense of lift through the spine, they need the weight there to elicit that response.
- APM- How heavy is that?
- CC- I think it's either eight or 10 American ounces, maybe eight American ounces, 10 British ounces, something like that.
- APM- Right, okay, so there's a reasonably small weight in that, what's that making Jared do? Would you expect him to walk or would you just expect him to sit with that on his head?

- CC- Sometimes we would use visualization, a sort of autosuggestion in addition to the weight and say imagine that you're one of those African men whatever carrying this on your head, and having to wait there enables them to find that movement up and back with the head, so I'm just going to stand, is that okay? So if I ask him to slouch again, maybe yeah, let your chin drift forward, let your head drift forward. Okay then let's go back upward, come up through the head and the neck. I have a feeling he's using a little bit that there.
- APM- As opposed to what? What would you like him to be using?
- CC- The spine rather than the para-spinals lengthening the spine, he did do it to some extent, so it's helpful for people to find the trajectory that we are looking for, which is up and back, we also encourage people to find that trajectory by allowing the head to come forward more on occasion, but I wouldn't be doing that with the weight on his head.
- APM- I'm guessing you could do this with any beanbag of a similar weight, doesn't have to be one with funky ribbons on it and a Gokhale logo.
- CC- No I've had some very inventive students, particularly in the winter weeks, put bags of something on their heads, and a nice tight woolly hat, and they found that it suffices quite well, but this is somewhat elegant, that's a very nice position.
- APM- Do you need Jared for any more, shall we give them a little bit of time off, and get him back towards the end of our show this evening.
- CC- Thank you so much this was very nice.
- APM- If you don't mind taking that with you as well thank you. One of the questions that come in a little earlier is whether you've got any tips for manual laborers, we see it loads in our practice, and particularly manual laborers who lift stuff at work is a question I've been asked, if you're not going to get them through a whole Gokhale course, what would you be saying to them, because the convention is that we give them the health and safety at work talk, which escaped the back straight and bend the knees, and left in that way, it seemed to me to suggest that you want them to hinge from the hips.
- CC- In most circumstances I would, and if it's a really heavy weight, I would be saying make it a hinge that is supported by the arms on the thighs, so you get something of a hybrid between a squat and a hinge, but if they're doing that at work, we are talking about somebody's livelihood and their well-being, I think the investment in a course would be well worth it, rather than trying to take a technique in isolation off-the-shelf.

- APM- I imagine you're not completely disagreeing with conventional wisdom that says you should keep a straight back and bend the legs when you're lifting, if you've got a heavy crate to lift, that forward bending issue is going to be quite difficult.
- CC- No I would take issue with that, I mean not necessarily from the get go, from when you start learning the technique, but no I would hip hinge, rather than put the load into the knees.
- APM- Interestingly I found at the gym myself, one of the most effective exercises is a dead lift, which should be done by hip hinging not by squatting, that's a different exercise, and of course has to be started with a light weight, because if you're not used to it, then it can be quite a risky thing to do, I find that was very very effective in getting rid of my own back pain.
- CC- That's a good parallel, one of the reasons that I think people get into so much trouble with their knees in lifting, is A, hip is a much better joint to move from, but also if the pelvis is tucked, and you are in this position, then you've got a lot of extra weight going down into the knees, it's very, very different, and there's a sort of a forward thrust there, it's very different from being in this position, where the joint of the knee seems to retain its integrity, as opposed to being pushed forward there.
- APM- Okay, what sort of things does your partner offer to her clients then, patients who come through in terms of advice, because obviously I--
- CC- Postural advice.
- APM- Yeah I do want to give people some stuff that they can take away and use while they decide that they need to learn more and come on a Gokhale method course.
- CC- I think number one to get the weight of the tailbone, so not sitting on the sacrum, using the sitting bones.
- APM- Isn't that very uncomfortable for most people? Because there are bony prominences, if you sit on them--
- CC- But then I think most people when they get back on a bike for the first time in ages feel uncomfortable, in the saddle area, on the sit bones and so on, but with a bit of practice you don't notice it, and I think it's the same with our furniture, we've become so accustomed to soft furniture where we don't feel the sitting bones at all, that we then feel it uncomfortable to feel our own sit bones, so I think that something that's well worth, thinking about revising and start finding some furniture where you can feel your sitting bones.

- APM- That's a thread that runs through a lot of the things that we have heard about on this program before, and also through gait analysis, which we've done, I think we've covered on the program, and not sure if we've covered this aspect of it, for example Nike I believe had to back off from their original air cushioned trainers, because you need the proprioceptive feedback in order to get the body to behave properly, and Matt Walden was saying in one of his lectures, one of his discussions with me some months back, he was saying that the whole point of training the core stabilizers if you like, building up those muscles, is not necessarily to make them stronger, it's to make them more aware of the tiny movements that are going on, and give better proprioceptive feedback to the brain, you were talking earlier on about issues with gait that the the Gokhale method addresses, do you want to take that further?
- CC- Yes in fact I would like to take that further, and I just like to pick up on something about pelvic position, and furniture, because one of the things that I believe passionately, is that the situation we now find ourselves in is a cultural one, it's now a global cultural problem with posture, and it's on a par really, I was reading something about the obese-genic culture we now live in, in other words you can't go anywhere without being sold fast food in many areas of the country, you can't get fresh food and so on, so you live in a place where you don't have the options to make sensible choices, and I think in terms of our furniture and our understanding about posture, we actually live in what ever it would be, the equivalent of a postural-genic environment, every piece of furniture that we go to is either going to tuck the pelvis and round the back and disturb that proprioception, or in an effort to help us sit up you're going to get a knee in the lumbar, and that's quite an extreme chair that you see on that side, but again it's this alternating between a top position and an upright position, sorry I had forgotten what you asked.
- APM- It was just about gait, I don't know if you have a good time to do gait, because we do want to come on to your PostureSensei don't you?
- CC- So yes gait, the thing about gait is that if the pelvis is tucked in the first place, that's going to give you a very different gait pattern, so if the psoas is short, if the hamstrings are tight, if it's fashionable to tuck the pelvis. I have a slide here, it's well worth finding, here we go, there we go 1920 fashion plate, so this sort of tucking of the pelvis is something that really happened after the First World War, it didn't really exist very much in the nineteenth century, and its continued in fashion, it continues now, it's a very old-fashioned fashion if you like, you can see on that manikin that the pelvis is very tucked.
- APM- It's the sort of ideal of language posture isn't it, tuck the pelvis as you put it and have your cigarette holder in the other hand.
- CC- Yes and it was a reaction to what was seen as a very Passe and stiff Edwardian and Victorian posture, or society I think rather than posture prior

to that, so let's go back to the walking, whereas what you see here, is walking with the pelvis, not in what would be called neutral, but actually anti-verted with the behind behind, to some degree, so can I stand to demonstrate?

APM- Yes please, the camera team will love this.

CC- Let's start sitting, if I sit on my tail, and I sit in the C shape, then it's likely that I'm going to stand in this shape, so here I am standing with a tucked pelvis, and from our point of view, even what you might call a neutral pelvis is mildly tucked, so you then have a choice again, if you're going to stand rounded, or if you're going to pull yourself up, and contract your lumbar muscles in order to feel upright, so if you're here and you're going to walk, you're going to be recruiting primarily the psoas, the hip flexors in order to walk, and that to my mind goes a long with our very sort of frontal culture, tunnel vision, going forward, and pulling ourselves in that way, if the pelvis is anti-verted and relaxed, able to find its place, almost as if it were hanging from the spine, then the glutes are much more available, so the behind goes behind, the glutes can work, and the power for the propulsion, will come from a combination of mainly foot, through to glute, and that's what you see in the pictures on that slide, it has various characteristics, the back heel stays down much longer, the back leg gets straight, the foot maintains its shape almost entirely, as opposed to bending limply like this very quickly, so there's real propulsion from behind, and then rather than lifting with the psoas, and grabbing forward, the forward motion is just a swing through, it's a follow-through from the momentum that comes from behind.

APM- I've had one question which is a very good question from a lady called Nina, Nina says we've talked a lot a lot about back pain, what about specific advice for neck pain, what could you offer us on that? Other than putting a beanbag on your head.

CC- Other than putting a beanbag on your head.

APM- Which might not be a bad idea.

CC- It might not be the place to start though, so one of the things that proves very effective for people in pain, is to work what's happening in their bodies when they're lying down, now one of the wonderful things about lying down, as many people have recognized, including in particular, Feldenkrais for example is that when you lie down your switching off your habitual postural patterns and muscles, and that will give the muscles a chance to lengthen, and the bones to be in a different position, so one of the things that we teach early on in the course in the first lesson, is a stretch lying on the back, supporting, I can't demonstrated here, but it is, save for anybody who has the book or would like to get the book, it's explained, in detail, in the book.

APM- And it's called stretch lying.

- CC- Stretch lying on the back, and this is great for practitioners, because the book is relatively inexpensive, and you can say to people, this will help you, get the book try this at home, so we're getting gentle traction in the back, and we are finishing by getting some gentle traction in the neck, the difference, one of the key differences in the way that we ask people to do it though, is to put the pillow not here in the cervical curve, which tends to result in the head being pushed forward, if you like it's like spending the entire night with a head restraint behind you doing this, But the pillow just below shoulder height, and then just to lengthen the back of the neck, make sure that the head and neck are well supported, obviously the neck isn't going to relax The head isn't well supported, but to put yourself into that position, and allow the neck to restore potentially for many hours, and there is an equivalent for people who sleep on their side.
- APM- I hope that can somewhere go to explain how you would address things for Nina's benefit, and for lots of others, but we've got to move on quickly, because you've got some fantastic technology that we are going to display right now, I have provided our own technology will allow us to do this, and this is the PostureSensei, which sounds very Japanese.
- CC- While it's funny you should say that because they've just changed its name, because I think it's too Japanese to be--
- APM- What's in a name.
- CC- To be student friendly, so the new name is the Gokhale Method Spine tracker.
- APM- Right, okay, which is what?
- CC- Okay so it's five Bluetooth sensors.
- APM- Now I should point out that the reason we're pausing here, it's because the sensors are going to be relayed through an app on a phone via Bluetooth, and Claire has to set this all up so you can see it on your screens, and we demonstrate this on Ryan who is about to come back on set, so here we have the five sensors, Jared sorry, I'm getting carried away. These are the sensors on which I placed a piece of paper earlier on, so we are hoping that they still stick.
- CC- Okay Jared do you want to--
- APM- Jared. Apologies for calling you by your surname.
- CC- I'm going to sit and put these on your back, if you could stand there for me, that's great, so there are five Bluetooth sensors, and they've got medical

grade hypoallergenic sticky bits on the back, so we use fresh set for each student, thank you, and the first one needs to go just above the inter-vertical crease, that's great thank you, on the sacrum, and, that's there, and then the second I'm just gonna press firmly, to make sure they're up the midline, make sure they stay.

APM- And it doesn't matter that there over any particular lumbar vertebra, because presumably the length will differ on different backs, what's important is the distance between the sensors is it?

CC- Yes that's correct.

APM- Which is set by the thing that they come in.

CC- Yes and we're doing a lot of research with these to look at the data given work on people of different heights and so on, but that generally works for everybody, thank you well done. So hopefully what people can now see on their screen is, you're just standing on the cable, what people can see on their screen is the shape of Jared's back there, and if you would like to hold that, you can see it too.

APM- So Jared is now watching this on the mobile phone.

CC- He's watching it on the phone.

APM- We are seeing a mobile phone on the screens. What use is that to us then or to Jared?

CC- When we were first trialing this which was July last year, I was quite cynical about it, I'm a hands-on body worker, not a technician, but having seen people use it I've changed my mind, very often people find it difficult to envisage what it is they're doing with their bodies, particularly what they're doing behind them and in their spine, this is very often a dead area, or something unlike an arm or a leg that you can see, but they have no idea what's going on there, so what this enables them to do is to literally see in real time the effect that their movement has on the shape of the spine. So Jared if you were to move a little bit more for us, so for example, bend your knees a little bit, do a tiny little squat. Okay, and come up from the squat, and as you come up from the squat, lean forward a bit more. Okay so that's changing to more of a J spine, he's getting a little bit more verticality in the upper lumbar, which is very much what we want, and it's leaving his behind more out behind him, so taking that little squat, and changing the angle, getting the weight into the heels, is one of the ways in which we teach people to modify their spinal shape when standing. And then they can just have a really good time with it, you can find out what happens if you stand to attention like a soldier in a very exaggerated way. Yeah okay, so you can see everything getting a little bit straight there, or you can slouch, and see what

happens, there he is losing the curve altogether, this by the way is tested to mocap standards, motion capture standards, so the data that we're getting is accurate, the angles are accurate to within 0.8, so it's very accurate, and if I were to swipe upwards here, then you get this brown square around there, that's put it into teacher mode, and in teacher mode, I can set an ideal or a personal best if you like, do your little squat again and lean forward a bit now, now come up from the squat, so gently stop short of locking the knees, that's great and we might say okay we like that, so we'll take that and we'll say that's standing, and that's now recorded, so he now has that brown line as a baseline, that he can come back to, this is difficult because he hasn't done the rest of the course that would help him to--

- APM- But is it a useful indication, patients like feedback, and trying to achieve a goal on a device like this is very helpful in educating people isn't it?
- CC- It's fantastic feedback, and it's so valuable, because it is integrated with the education and with the course, it also means that people can track their progress, so when people take their course they have an account, and there will be a whole history there of them using this if they want to use it, I mean some people love that tracking stuff.
- APM- Is he going to wear this all day long these sticky things?
- CC- No he isn't, we use them, we are trialing a new course which is using them extensively, so using them during most of the course actually, as I say this is early days, but Esther has been teaching that course, also I used it in the last lesson, the revision lesson, lesson six of the course, and I use it mostly with refreshers, so people coming back when they want a refresher and they get to use this, and they can investigate various aspects of their posture in more detail using this. The other thing, it's not a consumer item, the other thing we are doing with it is using it to get hard data about the correlation between the shape of the spine, pelvic position and so on, and people with and without back pain.
- APM- Which actually goes to allay some of my skepticism about this, because despite the American style of Esther's website and the product placement and so on, it would appear that she is trying to get some good quality research data that can be used to justify what she's doing, and we all know just how hard that is in physical therapy, don't we?
- CC- Yes, I mean we have two full-time consultants who work on it initially through the University of Bonn, and are now investigating along with other universities what can be, what data can be got from this.