Academy of PHYSICAL MEDICINE

# Transcript

# 386R- Working with Babies & Children with Mike Marinus



Steven Bruce 0:20

Good evening and welcome to this week's second broadcast. This is a very warm and welcome return to Mike Marinus this evening. Mike's been a he's been a chiropractor for nearly 20 years. He specialized in pediatrics. We started out in South Africa and then went to the Anglo European college in the exotic Bournemouth. Welcome back, Mike.

Mike Marinus 1:10

Such a pleasure to be here. Thank you very much for having me

Steven Bruce 1:13

again. I looked back on our last broadcast, I suddenly realized it's almost exactly two years since you were in the studio.

Mike Marinus 1:18

I can't believe it. I can't believe it's time. It really has, yeah, it really time flies when you're enjoying yourself, it does, indeed, but it's wonderful to be back. Yeah. Well, thank you. I

Steven Bruce 1:27

mean, lots and lots of people will have seen that last broadcast, but again, there will be lots you didn't. So perhaps, can you give us a bit more on your your own background as a Cairo, as a pediatric specialist,

Mike Marinus 1:37

of course. So started out in South Africa, in Johannesburg, my father's a chiropractor, and my father one of the first chiropractors in South Africa to see babies. And then, of course, I came to qualifying, and I said to him, I won't see them. I'm not interested in seeing babies. And he said, That's fine, whatever. And I started locuming For him, and then he's a karate instructor as well. So he traveled over to the states for two weeks, and he said, Look, I can't stop them coming. They're coming. Here's what I want you to do with them. And that was my introduction to pediatrics, 20 years ago. And after that, two weeks, something happened. I wasn't quite sure what it was, but there was a connection, there was an understanding. And all of a sudden, there was another facet to practice, which was wonderful. And I started to think, this is something I really want to explore, besides the fact that I was fighting this thing, if I don't want to do it. And then I got into it, started working with a couple of midwives around, started working with lactation consultants, and I got more and more invested and involved. And eventually, like often happens, that's the kind of patient I started to attract, because that's what was happening. And after a while in South Africa, I think my practice was about 90% under six months old. And then I thought, now I need to really up my game. So I came to study at Bournemouth, did my masters in pediatrics there. And then I got the call to come to Southampton and to come and work at Steve Williams's practice, which is where I've been, and then obviously working with Tony Hughes as well, which has been fantastic.

Steven Bruce 3:00

And these are names which won't be known well to, particularly to the osteopaths in the audience, but they're clearly well known in your

Mike Marinus 3:06

field, yes. So these are really, these are giants of these are the people that I've looked up to, you know? So when I got the offer to come and work, it was a no brainer, because I thought to myself, you know, I'm always a believer, and I can't be the smartest one in the room, not, not difficult, but I can't be the smartest one in the room. And if I'm going to evolve, I need to be side by side with these people on a daily basis to be able to sort of build myself. You and I have a

Steven Bruce 3:30

certain amount in common there, because I think every time I'm one of these shows, I think I'm definitely not the smartest man, but obviously one of the, one of the problems I have getting getting you in this evening. You're a chiropractor. And every time I think I do this, I think, oh, gosh, the Osteopath is all going to be angry and offended. I've got a chiropractor. When it's an osteopath, I think the same. Will the chiropractors be upset that I'm talking to an osteo doesn't agree with their philosophy. How does your treatment of Pediatrics? Do you think relate to correspond with that that, you know, asked you Patsy,

Mike Marinus 4:02

you know, when it comes to getting information, when it comes to putting things into practice, I'm quite sort of degree agnostic. Is a nice kind of term I like to use, if it works, it works, and if I get it from, I'm almost not too sure where everything comes from at the moment, because, you know, being to a lot of different seminars, being with a lot of different people. I'm a big believer in that there are things that work and things that don't work, and if we distill those things down to what works, especially in manual therapy, that's what works. So I'm quite happy with, you know, wherever it comes from, it as long as it works for the patient. I'm 100% on board. Have

Steven Bruce 4:37

you done any studying yourself or lecturing at osteopathic institutes? And I don't want to bang the gong about opidos. About osteoporosis.

Mike Marinus 4:44

I've done, I've done a bit of online stuff. I've got quite a few friends that are osteopaths. I've spent quite a bit of time with so understanding the osteopathic approach has been quite a revelation for me, as well as we're going to talk about a little bit later, a lot of indirect technique that I use with kids is really osteo. Fee based. So, yeah, you know, in terms of that, I try to keep my my, I suppose my view quite open to anything that comes in. But yes, I've spent quite a bit of time looking through Andrew stills books. I love all that stuff. You know, I spend, spend a lot of time. My wife is always trying to keep my library hidden.

Steven Bruce 5:21

Yeah, well, good. We've sort of broken down a few barriers between osteopathy and chiropractic. As our regulars will know that one of my missions in life is to try and draw the professions closer together. There are always going to be elements in those professions who are totally different to each other, but the vast majority are very similar, aren't they, and so we've got a lot to a lot again, from supporting each other. I think I asked you this same question last time as I recall, and it was about the sort of the contentious nature of treating babies and asking that of a chiropractor is particularly relevant, because, of course, that was the source of the big problems that you all went through when the so called good thinking society went for anyone who was advertising that they were treating babies. What's changed in that regard, over the last few years, do you think,

Mike Marinus 6:09

you know, we've had some interesting developments in Australia, where there was a bit of a fuss kicked up about chiropractors seeing children. And then what happened was one of the biggest, sort of big data studies that's been undertaken. About 20,000 people were asked to bring their information in about having seen a chiropractor with a child. How did you feel about it? What was the outcome? And the outcome of that was really, really positive. And I think the most important thing when we're working with children is safety, and I think that's where everyone has kind of stood at the moment and gone. First of all, what we're doing, is it safe? As long as we can say it's safe, and the literature is really aiming itself towards the fact that it is safe now, and now we're starting to

look at what is the most effective thing we can do with children. But I think when it comes to kids, that is the stance to take. Is it safe? And then move from

Steven Bruce 6:58

there. I would argue that that safety is paramount no matter who we're tripping but obviously the risks are that much greater with a small, fragile youngster,

Mike Marinus 7:08

they are because they're not structural. Now this is a bit of the concept we're going to get into. They're much more functional. So the anatomy is not detailed yet, so it's not about creating a problem with the anatomy that's obviously there, but it really is about, when you're working with them, to be able to allow their function to work properly, because that's going to give them the anatomy later. So in terms of safety, it's not just about being safe now. It's about creating safe passage for them through

Steven Bruce 7:37

their development. But then we come on to what you said just a moment ago, which is, which is effectiveness, and the complaints that Simon Singh's organization was making about chiropractors were largely that the claims being made in people's websites and other marketing advertising were unfounded in the evidence. Are we getting better evidence for effectiveness? Evidence

Mike Marinus 7:58

is always on the go. One of the things I love doing about with PubMed is is popping onto the website where we get all the research, and having a look at how much research has been done in the last little bit at the top left, that gives you how much research is going on on something like PLA Joseph Tori, colossal, what have you all of them. The research going on from 2020 until now is going through the roof. So there's a lot of stuff that's coming out. I think the problem is it's the kind of research, because the case studies, those kind of things are wonderful, but it really is the systematic reviews. Interestingly, it's professions like osteopathy and physio that are providing a lot of those higher level systematic reviews at the moment. And the wonderful thing is, things like especially with plagiar Cephalo and torticollis, it's coming out that manual therapy is the first port of call, and not only is it the first port, but it needs to be done timelessly so that we can get the best outcome. What

Steven Bruce 8:53

about I'm going to choose not to use a word colic, because that's such a contentious word for all sorts of reasons, we could perhaps go into later, but last time you were on the show, we talked about unsettled babies. Is there enough evidence now for you, as a kind of writer, to say I treat unsettled babies?

Mike Marinus 9:11

So it's a wonderful question. And I posed this question, I think it's been between when I seen you, and now, I posed this question to a research fellow in the states that I work with. And I said to her, where do we sit from now? And her answer to me was this, we're in the position now which Where is treatment because of the safety and efficacy, treatment of babies is worth a course of care. We're at that point now claims above that. Let's not make those claims, but it is worth a course of care.

Steven Bruce 9:39

Okay? Well, this evening, we're a bit this bit more of a general topic, isn't it, treating children and babies. I've emphasized this as being incorporating a number of things, including how we communicate with small, squealing, small, squealy creatures that before with an osteopathic. Speaker on the show. So be interesting to hear what you have to say that. Where are we going to go in that? What's

Mike Marinus 10:04

the Okay, so break, break this evening down into three parts. So, so the first part is we want to talk about communication. We want to talk about, how do we how do we get our point across to the babies? How do we get our point across the children? But the most important is the family. So if we have a look communication at the top here, we're saying the patient is the family, and I think that's most important, because communicating what we need to get done, because a lot of the time there's homework that needs to be done, and being able to get everyone on board is very important. So if you have someone in the family who's not quite on board, or they're not quite you haven't communicated it to the patient, because the patient is dependent on the rest of the family, so most important that your communication goes through to everybody, so everyone understands. And when we say that, we're really talking about the people that spend a lot of time with the kids, so it's the Nans and the grandpas and those people as well, we forget about a lot of the time, and then they come from another world, and they go, you know,

Steven Bruce 11:04

you're communicating with all these people, but you can only do that once they've come to you, so something's got to draw them to your clinic. So communication,

Mike Marinus 11:11

this is the thing I love about communication, is a non stop, never evolving thing. It happens on your website. It happens when you're in the clinic. It happens on the phone. It happens by the way your office looks even that's one of the biggest things we kind of been looking at at the moment, is, is the is the way you are portraying yourself, because you can say as many words as you want to, but if you now have an office which has a lot of sharp edges and those kind of things, that gives away the fact that you're not actually there for the purpose that you're talking about. So I think when we talk

about communicating, yes, it's that front line so that they're coming in, they're seeing your online presence and that kind of thing. But even when they walk into the office before they've spoken to you, they've really made a snap judgment about whatever you're going to say to them, because they're going to go, Are you part of my tribe or not? Are you part of the new parent tribe? You're going to get this. Why aren't you? And I think it's so important to look at all facets of that. When you communicate

Steven Bruce 12:05

in terms of communication, I struck up for a moment there, by the way, you're describing your work environment, you talk about an office. As far, I don't know any osteopaths that would do that. I think they would all say clinic. And I don't know, is that a South African thing, or do chiropractors generally first office rather than a clinical retreat. So I

Mike Marinus 12:22

think there's a really good point, because I think it is a South African thing. We do talk about the office. But also my this is, this is actually quite a fun bone of contention, because my office is generally a disaster. It's generally toys all over the place, gear all over the place. And interestingly, when I arrived in England and I started working, I had a South African patient that came in with a baby that I'd seen the first baby. And she came in and she looked around the room and she said, but you're not here. I don't understand. I thought. I don't know what she means. She said, But none of when I came to you before, it was toys. It was fun. It was this is, this is a clinic. And I was like, hang on a second. This has to change. So then everything got thrown out. And, yeah, I'm forever being told to clean up my room. That's hard. That's the same at home as it is.

Steven Bruce 13:15

Well, you know, there's an interesting aspect of communication in there, isn't it? Is making it clear that you are baby friendly without making it look as though you've got 1000 toys covered in several babies dribble all over the floor. And, yes, that's the other very, very important, I'm guessing, that hygiene is an issue even between little babies who've got very few bugs in them. So

Mike Marinus 13:34

this is the wonderful thing about having boxes that kind of rotate around each other and another special door draw of choice hidden at the back.

Steven Bruce 13:41

Get off topic for a second. I had a lovely comment from Christina, and I think it's a lovely one. She says, as a chiropractor, we can all learn plenty from each other, whatever you do. And I love that, Christine, thank you. I always feel that I'm going out on a bit of a limb when I say I want to bring our professions together. I'm fairly confident. I'm not the only person who thinks that way, but it's always reassuring when people tell me, yeah, we we like this joint approach, as it were. But she

Christina, you've also said, and Christina said, that the birthing process is really traumatic. Now, I believe that the osteopaths, I know, believe that, but I know that I have seen on the website someone, it might have been Mr. Simon. Singh, a bit more abusive about him. I can't be bloody. Simon Singh, I'm sure, either on his website or someone else, someone said, we can't describe this as traumatic. And I was saying, well, which part of it's not this is traumatic enough for the husband, let alone the other two going through the physics. You

Mike Marinus 14:35

know, I've had so many, so many times where, you know, we sit down with a mom, and moms, this is the most interesting thing about moms, is they are, they are the most selfless people in the whole world. And they sit down and they look at what's happening with their baby. And, you know, maybe we've got a fussy baby, we've got whatever's on the go, and then almost to remind the mom to go the process you've both just been through. How are you feeling? Oh. But actually, you know, to think about it, oh, you know, right off my feet, I feel terrible. My body's still coming back and you but you've both been through it. So even though that birth process was wonderful and magical and it was what it was, it's tough. It's the same as marathon. It's wonderful, and getting to the end is great. But sometimes, you know, you hurt through the middle of it. And I

Steven Bruce 15:19

suspect that the thrust of what I read was that we're putting such a negative spin on childbirth by saying it's a traumatic process, but at the same time, if we don't warn people about that, you can't tell them it's all warm and fluffy. Surely, because I agree a bit surprised I agree

Mike Marinus 15:35

with this, because the thing is sugarcoating it is then more damaging, because then what happens is, then you have a family unit sitting at home going, this is not supposed to be like this. It's supposed to be this other way, which is supposed to have been easy. And everyone Ted, and no one talked about the other side. And now here I sit with the other side, and I'm trying to deal with it. And they'll always do this, they'll kind of go, maybe I'm the problem, and then the efficacy of the parents starts to go down. And then we have a real trouble going

Steven Bruce 16:07

to draw you back to unsettled babies for a second, because while we were talking about it a moment ago, I was thinking, I want to remember the name of this trial, but Kerry has just sent in an observation saying that there's an osteopathic trial called the cuties trial, which is apparently getting some pretty encouraging results about treating unsettled babies. I don't know if you're familiar with

Mike Marinus 16:24

it, I'm familiar with it. I remember looking at it a good while ago. I think this has been on the go for a good while. It might even have been when we when we last it was, I think it was on, I think for a

while before that as well. I haven't looked at where it is at the moment. That's actually something I've got to have a look at. But I know that's on the go, and that's going to be really big data that comes out of that. Now we're going to

Steven Bruce 16:43

get on some specifics of what you want to talk about eventually. But another comment is all good. Let's go. There's another comment of Christina Ann, which is, well, we'll see what you think about this. Yeah, the best evidence Christina Ann says, is gained from the parent who comes back in telling me it's like having a different child. The child can only tell by or show this by behaving differently. Now that's that is interesting, but of course, it's the quality of that evidence is useful in one context only. I would argue, yeah, it's a case study rather than something you could argue widely on your website. It

Mike Marinus 17:18

is. And I think that's where something like that Australian study is so interesting, because what that Australian study did is invited parents who'd had experiences to come back and tell what their experiences was. Now all of sudden, you have 19,500 cases that. And they invited everyone, if you've been with your baby to a chiropractor you had a negative experience, please come and tell us. And I think potentially, they were looking for quite a bit more than that than they did get. So at the end of the day, when you've got that mass sort of big data, and this is something that Joyce Miller, anyone in pediatric field, will know that name, she always talks about the fact that you need to have the big data that is real world. So one of the things that we're leading to with this question is it's the difference between saying, Well, I've ticked my boxes of what I think should be working, and the mom coming in going, I've got the result that I was after. And I think that's the difference. If they come in and they get the result versus saying, you can say, well, this is functionally better. That's functionally better. And the mom goes, that's great, but I don't have the result. What we're talking about, there is someone that has come in for something in particular, walked up with potentially even more than they wanted to. And I think another point I want to pop onto that is what's fixed up here is not just the baby, not just the parent, but it's this relationship, and the stronger we can get that relationship, the better development we get for both.

Steven Bruce 18:41

Ashley has said is so often important to treat the mother as well as the baby. And I guess that must be the case. But give me some examples of where that's been very important, or describe how that might be very important then, or how you can make a difference through improving that relationship between parent and

Mike Marinus 18:58

child. Oh, absolutely. So. The thing is that the baby is dependent on the parent for everything, but dependent right down to a baseline level of emotional directioning. So if you have a parent that is super stressed all the time, it's only biologically appropriate for a baby to be stressed because they

have to be because that's how it works. Because if mom is stressed, I need to be stressed for whatever's coming forward. But being stressed means that you can't develop nicely. It means that you your healing capabilities are down, and it means that everything's going to take slightly longer. So if you can get in and like, like we were talking about, treat the mother as well, even treat the rest of the family, treating also, I think for me, and I think this is very important. Yes, getting them on my table is very important, but even just getting them to start acknowledging this is tough in a good way, and I think that's exactly what we were alluding to in the beginning. We've got to say, look what you're going through. And I think not acknowledging what a parent is going through just adds to. Their burden, because they go, they don't actually understand me. I'm trying to explain how bad this is, and they'll say, Well, it's actually this, and it's that, and taking the time to go what you're going through is tough. I completely get that. And if we can organize this, and even if we can get you on the table and we can treat you as well, we get your sympathetic dominance to go away, I won't say that, but you know, who gets you to feel a bit fuzzy, and then at the end of the day you can enjoy each other. And I think that's the thing, because a lot of time the parent is is focused on I have to make my baby better, not thinking that something like skin to skin time a calm baby on you is really healing for the parent as well. And we lose that sort of that connect. What the connection there's actually, there's a wonderful quote on this that the baby's like a light bulb. It doesn't work until you plug it into the parent, and once you plug it in, then the light goes on, and then everything works, but the moment you separate, then we walk around in the dark, and it's really to be able to get that connection back. And that connection can be physical, but it needs to be psychological as

Steven Bruce 21:01

well. I must come from a sheltered background, because I genuinely not been exposed to any mothers who don't want that skin time with their baby, or maybe it's just, I don't think you cuddles rather than skin

Mike Marinus 21:13

time. The western world, right? The western problem there's, there's this overwhelming feeling that you don't want to create a rod for your back. You want to have your baby on you too much, because that's going to create a dependency. And that if I can smash that like if once a week, I can take that fallacy and just crack it in half and throw it away, I've done my job because it's biologically unapproved. Well, not appropriate for those two to be separated. We're all supposed to be together, but the western world is all about convenience, and if it looks like it's being inconvenient, then it's not a good thing, and then we must find another way. So we find another way to pacify, another way to separate children. And the thing is, you've got millions of years of evolution in that child's brain going and need to be connected to be able to work properly. And I've had, I've had moms in my office that, literally, like, you can see the weight come off them when they go but you mean, I can just pick them up, and I can just hold them and I can, and it's not going to cause a major problem. It's fine. You can do this, you know, yeah,

Steven Bruce 22:14

saying that makes me think that there's, there's more of a problem, perhaps with maybe it's a third world problem or another country's problem, but there's more of a problem with artificial baby

food, so formula, milk and so on, because presumably there is going to be less skin to skin time when you're feeding a baby in that way than if you're feeding them naturally.

Mike Marinus 22:33

Yeah. So the thing is always to push the skin to skin as much as you can to I mean, if we look at like pain control trials in kids, skin to skin always comes out on top. If you're looking at anything non pharmacological, to be able to contain or be able to manage pain, skin to skin time, and if you have skin to skin time with breastfeeding, with movement, that really is like the top level, because at the end of the day, that's what the baby needs to balance, sure. Okay,

Steven Bruce 23:01

so yes, you won't be cuddling your baby or not, but you're doing it through clothes. That's not quite so good. What amount of skin to skin? Because most breastfeeding takes place probably cheek against skin rather than so

Mike Marinus 23:13

this is a really good question, because, and I've had so many moms where they come in and they and we go through the we go through the first form, and we say, did you get skin to skin in the hospital? Oh, yes, I did. Okay. Hang on a second, you'll see your baby was on your chest. Yes, was your baby wrapped up? Yes, not, not quite skin to skin, you were connected with each other. But there's a hormonal facet once you have that, skin to skin content, there's a dopamine, serotonin, there's a there's a real push that goes on once you have that. And I think that's the other thing, is just to clue parents into the fact that that's still there, and it still works really well. And then the next question is, how long does that work for? And you go, well, it gets a little, you know, iffy if they're 16, but, you know, at the end of the day, it always works. Having another person close to you is always, always a winner, right? And have we got,

Steven Bruce 24:03

have you got, have you seen, proper, substantial evidence that can just, you know, we don't need to give it to the parent, but something that justifies what you're saying. We know this works, not just, it's obvious it should work because of evolution,

Mike Marinus 24:18

in terms of, in terms of like, skin to skin care in terms of

Steven Bruce 24:22

dopamine? Well, yeah, that it produces dopamine. Yeah. We just think that's probably what it

Mike Marinus 24:26

does. So Nils Bergman, Swedish. Doc, one of the most amazing people. He's called a zero separation. Doc, I had the chance to be to go to one of his lectures, an amazing guy. He has more literature on this, and produced more literature on this than I've seen, and at the end of the day, the skin to skin, time between a parent and a child is the most balancing thing that a child can get. They started bringing it back again in it was in an African country. I really wish I could remember where, but they didn't have enough incubators. And what they started to do was say, Okay. Send the children home, but send them home with skin to skin, and the skin to skin children started to the physiology started to stabilize a lot faster than the kids that were inside the in the hospital. So at the end of the day, that started this resurgence of kangaroo mother care, or skin to skin. And, yeah, the research on it is, the reason on it is pretty big.

Steven Bruce 25:22

Okay, good, but we're not yet saying Prem babies should have skin to skin and not incubators.

Mike Marinus 25:26

So that's going to be past my that's going to be that's going to be past me. I work in the hospital, so I'm not going to say anything on that, but to have to say, any chance you get having them skin to skin is going to be beneficial, right?

Steven Bruce 25:39

Okay, Sarah's asked a really good question about treating babies, and obviously it's one that applies to everything we do. And it is, of course, consent. And she's asked, you know, what do you do in order to get consent from parents, given that we're supposed to make sure it's informed consent and continuous consent and all the rest of it. And perhaps you've got some examples of where it was difficult to go through that process successfully. Yeah.

Mike Marinus 26:01

So, I mean, one of the problems that happens is that new parents are in amygdala hijack. They're in this position that their frontal cortex is just not functioning, especially if the baby is screaming and there's a lot of heightened emotion, I think at that point they would say yes to about anything which is not informed consent. So there are times where, if there's a lot to explain, which there generally is quite a bit to explain, and we need to sort of break it down. And also, I'm going to talk about checking and chunking here as a way of doing informed consent, is that if they're in that space, we need to, and we're pretty lucky, we've got space where we can separate, Mom, go and have a feed. Calm everything down. Bring everything down. If you need to come back at another time, that's fine. Or sometimes, if you've got, ever got a child that you can see, the situation is really tough, maybe to have a little bit of a chat beforehand, just to be able to get some ideas across. But checking and chunking is my biggest thing that I can tell you. Forget it. Giving, giving information and getting consent from parents, you have to give a little bit of information. You have to give a chunk, and you have to check that that chunk is understood. Give a little bit of a chunk, check that that's

understood. And if you can run through that process and build that information on that makes, that makes all the difference, because there's too much, there's too much at once, and also with babies, the nice thing is, we're only going to be treating a little bit at a time, so we're really talking about, in a wider sense, this is what we're saying, yes to doing. And again, to be able to get that informed consent, I have to say what's going to happen with treatment, what's going to happen without treatment, what might happen with different treatment, and we have to be able to go through that for the parent to go, Yes, I'm quite happy to do this, but I'm going to say the one is it has to be in an emotionally low environment, because it's a lot of information to take on. And also, they're in a vulnerable position. They're in a position that they could be bullied, is the wrong word, but they could be a little steamrolled. And I think it's up to us to be able to go, hang on a second. We need to control that situation. They need to understand what we're about to do, and then give them small bits of information that they Yes, I get that and then move on.

Steven Bruce 28:08

I suppose when you're talking about consent with babies, we're on slightly safer ground in that most of the techniques we use on babies are not likely to be dangerous. So the issue of consent is making sure that they understand the likelihood of success, rather than that I might kill your baby with a neck manipulation. How important do you think that is? Because I suspect that you can never be positive about the outcomes of your treatment potential.

Mike Marinus 28:38

So I think, and I think that's true with every single patient that you see, you can never be 100% sure of what's going to happen, because it is an intervention. And any intervention, no matter how small, is going to come with some kind of risk. I think the most important thing is to explain how you are mitigating that risk. The reason that I've asked all the questions up to now is to be able to build the picture that your baby is in a state, that we can do this. And then from there to say, what I'm about to do is this, what I'd like to talk about is, you know, the strength, or the pressure that a baby can take is about 20 Newtons. We'll talk about that just now. And I use two. So I'm sitting, I'm using a 10th of what potentially we could use, because I want to do the least to be able to get the best, because at the end of the day, they're not structural, they're functional, and it takes a lot less force to get the function right. And I think one of the most important things as well with this consent is not a something that happens and it's done. The more buy in the parent can get, and the more understanding they can get, the better. So like, I take a good example this morning, working with a baby that's just had a tongue tie, get into their mouth and work and open their mouth a little and show mom that the tongue is way back behind the behind the jaw, and explain behind the gum line, explain why that's important. As I'm treating explain what I'm doing. And then as I go, I go, I'm going to do this. This is okay. That's fine. That's fine. As we go. We've already got consent, but just making sure she's in. And then as we work, we can see the tongue moving forward. We go. Now, can you see that that happened? I see So I see that this has happened, and that being the outcome. So with kids, it's really nice because you can see that. But I think what's important to realize is that there is one degree of separation between the person you're doing things to and the person consenting, and that that consent can change as you go through the process, because it's quite a different thing than than they would normally go to and I think that's really important, is to keep them on board the whole way through, because the last thing you want is then to assume you've explained it and then

dive off and do something else, because in your mind, it was part of what you were doing, and just to have them on board every step of the

Steven Bruce 30:41

way. How much of your treatment do you do where you are in sole contact with the child, as opposed to treating the child while it's in contact with its mother or father?

Mike Marinus 30:51

So if it's a case where it's a nice and relaxed environment and the baby's nice and dozy, I have probably about 90 90% of the treatment happens on me, and I think that's also it's quite important, because you there's a bit of a non verbal communication that goes on here as well. Is that the moment you take the baby, having them sit comfortably with you and melting into them, and have the parents see this. I'm a baby person. I understand how this works, and to be able to move them around quite confidently. Is quite a thing for parents to be able to see and to be able to watch how that works. But I have them on me the majority of the time. They only move down when I put them supine, and then we start doing Nero checks and hip checks and those kind of things. Okay,

Steven Bruce 31:33

are you going to run through any of those for us in our demo today?

Mike Marinus 31:37

Yes, I'm going to, I'm going to run through two three techniques that work really nicely. And I'm going to give an idea about working indirectly with kids, instead of always directly, which is quite a thing for manual therapists, because we're always about moving into correction. And this is slightly different. It kind of takes us

Steven Bruce 31:55

back well before we do that. I mean, you've probably some other things you want to cover as well. Kim has rightly asked, this is skin to skin time that you talked about earlier on? Does that only apply to mums, dad, skin? No, I'm not suggesting you, as a practitioner or their bare chest, doing skin to skin. You've

Mike Marinus 32:11

seen my photographs, so no, absolutely. And the thing is, it has the same positive effects for that as well grandparents. It's the it's the human connection that's most important. Yeah, yeah.

Steven Bruce 32:25

And interesting. I don't think it's just babies either. There isn't. There's an awkward age, as you mentioned earlier on. But I remember, on many of the shoulder courses we've done with Simeon, Neil Asher, and we were talking about, as he's coming on later this week to do a course in the studio, you know? He said, There's this whole business of human touch. It's something quite special to physical therapy, isn't it? It's really important in the healing process. And human touch is quite rare in society. Yes, your partner possibly touches you in the way that we might as practitioners, but very few other people do. And now

Mike Marinus 32:59

we layer another layer of complexity onto that being you may be the first person that's touched that baby outside of the immediate family, which is another thing that we really have to take cognizance of. And it has to be quite a moment. I always remember this story where a friend of mine was shortened the story a lot. He worked in a restaurant. You two came into the restaurant the one night, and he went up to one of the members and said, I remember seeing him in Mexico, and the guy looks at him and said, Oh, that must have been a Thursday, and walked off and took this monumental thing that he'd had and just squashed it down to it was the day of the week. And I think we've got to be really careful making sure we don't say it's just Thursday in our way that we work with them, because we may very well be the first people that have got hold of that baby again and again. One of the problems in society is we don't see babies. We don't see interactions with babies. So you very well might be showing a parent. This is how you hold them. This is how you maneuver them from here to down. This is how you pick them up, just by them seeing you. Because we don't see babies really well. This is, this is one of the biggest problems with breastfeeding, is that we don't as children growing up, we don't we're not in a tribal culture where you sit through the day and you watch and see your neighbor breastfeeding, so you don't have the idea of how one body shape would fit into another body shape. But then when you're supposed to breastfeed, you're supposed to do it right now, and if you don't get it right, it's done. But we don't have that in that almost, that human instinctual learning just growing up through and this is one of the problems. This is one of those Western, Western problems. Is

Steven Bruce 34:36

this something that I don't know what your pediatric training Incorporated, but would you be able to offer the same sort of advice that a lactation consultant would be able to offer to your mum?

Mike Marinus 34:46

So we have a lot of chiropractors that study lactation as well, and those are, they're like unicorns. They're fantastic, because if you have those two together, they're amazing. Really good friend of mine in South Africa has completed her course, and she's, she's amazing, because now. What you get to offer is both. But what I would say is, as a chiropractor, if you're not working with a lactation consultant, you are definitively missing a trick, because they we work together. There's there's really good literature on it as well, of how our professions mesh. But if you're not working with one, you should find yourself a good one. Yeah, I think

Steven Bruce 35:18

most of the people we've had on the show who talked about treating with treating babies. Have said, you know, working with midwives, working with lactation consultants, it's a great synergy that builds up between those practices. Yeah,

Mike Marinus 35:29

we tend to understand each other, I think, as well, because we're in this allied practice where we see the fallout a lot of the time, which is, we're not a contact practitioner, that goes, Okay, I'll see you in six months time. I have to see you later in the week, and I have to gage how things are going. So I'm actually taking your experience, and I'm working with that. And the lactation consultants have to do that, the midwives have to do that, we have to do that. So I think we understand each other in that, in that workspace,

Steven Bruce 35:57

before we move on again. You've probably got stuff. You're desperate. What's the primary reason that people bring their babies or their young children to you? Okay,

Mike Marinus 36:08

so babies, we've got a top five babies. We have a top five irritable inference is way high up on that list. The interesting thing is, like we're saying now, colic, terrible word, it really is doesn't tell you a thing. If you were to have someone come into your clinic, a grown man, come into your clinic and shout at you and scream from pain, that would be tantamount to you diagnosing him with screaming. You haven't figured out why. You haven't figured out what the problem is, and that's one of the things we really talk about now. And drill down. And this is something Joyce Miller was really big on. Why are they in that position? And we've got physical causes to that. There are physical causes, there are chemical causes, there are microbiome causes, the food they're taking in. And we have to be skilled to be able to go, Is this a mechanical cause? Is it not a mechanical cause? And then work with the mechanics, if that's the case. So that's number one. Is our cry, fuss babies, absolutely play. Joseph Lee, so our skew head little ones, we get tons and tons of those. Those are interesting because I find them a lot more than they find me something like a torticollis will find me because the parent will come in and say something, obviously is not on here, but a lot of the time parents are looking at their babies in the face, and they're not looking at them from the top. So there are many times where I sit a baby in front of me, and I look down and I go, how am I going to explain this? Because when they see that half of their baby's head is missing, they haven't seen it before, and you have to be very careful about how you go, look. This is what's happening, and this is what we have to do. And interestingly, the researcher working with plagiar safely is fantastic at the moment, really, really, really good. And this

Steven Bruce 37:47

will have been seen by an obstetrician, a midwife, a healthcare visitor. Why is it not being picked up? Because

Mike Marinus 37:54

plagiar safely is the sneakiest thing. Initially, you have molding of the skull, but then it's only at about a month, around six weeks, where there are a couple of different physiological changes that happen altogether, where if you have a tension in the base of the skull, all of a sudden that skull starts to flower out into the vault. So one of the most interesting and important things is when you are seeing a baby in the beginning, even though the head shape looks good. You mark it, you measure it. It looks good because you'll get a time where they come in and all of a sudden, as plagiar has kicked out, and if you haven't marked it up to that point you it's tantamount to that you've missed it. And it happens like that.

Steven Bruce 38:32

Yeah, right, what is the conventional approach to dealing with plagioccephaly? So it's when I say conventional, you know what I mean? Yes, absolutely standard medical care.

Mike Marinus 38:43

So, so, so nothing is is number one. The problem is that the plates in the skull don't really come equipped with actual like epiphysis and that kind of thing. So they're not so that if you don't put a force in, the chances are they're not going to change back. And if you look at adults heads, you will see some funky looking heads out there. There really are quite a few. And the problem is it's everyone kind of harps on. It's the cognitive side. Yes, that that is still up for debate. But the problem is, having that means that it creates torticollis, it creates asymmetry, which messes up that journey of all your milestones. So it's really important to look at that. The problem is it doesn't cause something hard and fast, like diabetes, so you can't tick it off. It causes a longer term issue of development going forward, which is not something that's easy to sort of just tick on a box, but the initial thing is to do that. The next thing is to and what is most important, really passionate about it is to educate parents. Beforehand, they have to understand that this is part of Western life. Again, babies are we are apes. We're not designed to be put down the calvarium of the skull is the bone is made in such a way that it doesn't go through a cartilaginous stage. Only goes through a member in a state, so it's really soft. It's not meant to lie on the ground and have all this pressure onto it. We're meant to be on top of each other, but because we put each other down and we look to one direction that's going to start that push. So one of the things is to actually educate parents before where there's any head problem that you need to change sides. You need to do tummy time. You need to do FaceTime. You need to have them upright. So education is key with that, because if you can stop it before it starts, brilliant, then we have positioning. Positioning is really difficult without any physical therapy, without any manual therapy, because that's asking a parent to lie down, have their kid that wants to look to the right, move them to the left, and all they do is move back to the right, and they start feeling like a failure, where we know, with the systematic reviews coming out now, that cervical range of motion is the key and opening cervical range of motion is the key to be able to unlocking what happens with the

Steven Bruce 40:53

playground. I can see why that might distress some parents, because they can be contrary. Little creatures can't Yeah. And the

Mike Marinus 40:59

thing is, you get told to do one thing, you end up not being able to do that, that same thing, and then at the end of the day, the problem becomes me, I'm the problem. And then you have this thing with a parent having the lack of efficacy, and then they stop trying.

Steven Bruce 41:13

And I'm really glad to hear you say that there is evidence about this, because, you know, so often the criticism of professionals like ours is that we're just trying to sell more treatment to people, and, you know, a conventional practitioner, consultant or whatever, will say, you know, you don't need to do anything about this. It'll work itself out over the next few months or years, or whatever. They're just trying to get you into unnecessary treatment. Pay them some money, and it's not really going to make any difference. So, here's,

Mike Marinus 41:40

here's an interesting point on that, because I think it also depends what you are doing with these children, because in the literature, it says what works. So it's not about them coming in and doing, let's, let's just say we have an unethical guy and they come in and it's just adjust the same thing every time and let them go. That's not what we're talking about. We're talking about the evidences out there for specific maneuvers over specific time frames with specific checks to be able to see, am I getting this right, or am I not getting this right? Because also, if I'm not measuring you're not following up correctly, you're doing a disservice. So at the end of the day, if you are working with them, but it's getting worse, or that kind of thing, you really need to be able to be on top of that to be able to able to refer out and continue working, or

Steven Bruce 42:24

what have you. And would all people working with pediatric pediatrics, and I did explain to you earlier on that I have had nothing to do with babies at all. Unlike you in your early days, I don't particularly want to have anything to do with babies. Would they all be familiar with those protocols?

Mike Marinus 42:38

So this is this is my work at the moment, this is the work, because it's coming out. It's really, like we said, from 2020, to 2024, heaps of research coming out on this. The problem with researchers, we all know, is it's not exactly free to everybody. You know, I'm in the education space. This is what it's about, is being able to put those protocols together, and being able to upskill chiropractors and osteopaths in their pediatric space to be able to go, Hey, here's the data, here's what we need to be doing, and then give them more efficacy through the treatment. And

Steven Bruce 43:09

no doubt, I will ask you this again towards the end of today's show, but is there a way that you can share what you're doing with people so they can have access themselves to the pathway, the protocols, the Oh, absolutely,

Mike Marinus 43:22

yes. So I run something called ConnectED pediatrics, which is where people jump on it's once every two weeks. We have we have lectures that go on. We've got a technique bank that's on there that you can have a look at all the techniques we talk about. And basically it's there to create a community support, to support people that are looking to increase their understanding of pediatric treatment and looking to become more proficient practitioners. Okay,

Steven Bruce 43:45

good, open to all,

Mike Marinus 43:47

yeah, at the moment, chiropractors, osteopaths and I do, I do have a sneaky one or two other people on there, yeah,

Steven Bruce 43:54

okay, but yeah, okay, right. Where do you want to go from here? Do you want to talk to some more about slides? Or should we go and look at I

Mike Marinus 44:01

think I want to just jump onto, I'm just going to move a little bit further here. And I want it. I want to go into here. This is really important. If we look into into this part of the slide over here. Now, this was actually brought to my attention by a lady I'm working with at the moment. She's doing a tongue tight talk at the moment, and she talks about the fact that, well, the form follows form follows function. This is exactly what we've been talking about. They're functional first, and then the structure will come later. Now it's the genetics through the environments. And this is kind of, because I'm a very visual person, this is the way I've been able to understand it. You have the dough, and depends what kind of

Steven Bruce 44:39

that dough you have, right? That is dough cookie cutter. I

Mike Marinus 44:43

will make it more dough, so you've got the dough, and that's a genetics. Whatever is in that dough is wonderful, but that dough will look like that unless you put it through the cookie cutter of the environment. So that's why it's really important, not just lying on your back all the time, having tummy time, being able to have freedom of range. Motion all those things, because that at the end of the day is going to give you that adult that are either going to look like that wonderful, little tasty gingerbread man, or it's going to look like something that is maybe not as stable, and you pick it up and yeah, so at the end of the day, it's really important to understand that when we work with kids, we're working with function. And this was a wonderful, wonderful quote from Heine Biederman, a German he's a surgeon, but works a lot with manual therapy, with kids. I love this because he talks about function dominates development of the genetically available morphology. And then later, I know they're very catchy. He's going to have to get better for the bumper sticker. But then later, the morphology, you have the symmetry, the asymmetry, whatever that function has given you at the end of the day that is going to determine not only your range, but it's going to determine your your tolerance to stress. And that's where we get the adults that come in that you go, it doesn't make sense. This person sits in an office for an hour and feels terrible. This person sits in an office for six hours and they feel okay, and it's exactly the same thing. Their function has given them a structure that allows them to be tolerant or doesn't allow them to be tolerant, which is why seeing patients as children really allows for that best development.

Steven Bruce 46:12

Okay, right? So we really go, and absolutely, I'm sure our audience will now realize that we're not gonna we're not gonna talk treat a real baby, because it's quite quiet in the studio. So, yeah, let's go. Let's go look at this.

Mike Marinus 46:24

Introduce you to Travis. Travis, yeah, Travis, the traveling, the traveling baby. Travis has been all over the world. This

Steven Bruce 46:31

baby you were telling me earlier, he's had more cavity searches than anybody gets cavity so

Mike Marinus 46:36

guy, I think he looks a little, do one eye that comes down a little, and I think they look at him and they go, hang on a second. You don't look right. Also, we've been able to Don him now with a nice poo fighters t shirt, which is actually quite funny, because I did see a guy that was the chiropractor for the Foo Fighters. Look at him, and he was like, that's really good. So before we get to Travis, I want to talk about the reason that I brought this set of scales here. A lot of the time when we work with babies, we talk about the literature talks about we want to use two newtons of force. Two

newtons of force is 10 times underneath us, as we were saying just now, 10 times underneath that safe limit. We want to be able to use that now. I remember sitting in a seminar and going home and going, what is two newtons of force? How do I know what I'm supposed to do? And then work with a very good most of mine in Australia, and he's got this amazing, like, touchpad that shows you how much this and how much pressure you're using, or what have you. And then I thought, well, hang on a second. I'm sure I can do that in an easier way. And I'd like to, you know, guys at home, grab out your scales, and this is how you can check two Newtons of forces, 200 grams. So if you get onto there, and let's just set that to the right place. There it is. I've now missed it. There we go, getting down to that 200 that is, give that a go. So you just want to get

Unknown Speaker 47:56

to that too,

Mike Marinus 47:58

yeah. So you get that feeling of that's the kind of pressure that you're going to hold on. But there's a better thing to show with this, because a lot of people will like to do a little bit of a flick, a little bit of an adjustment flick at the end. The problem is force is mass times acceleration. So this is a really nice thing to do at home, to check get yourself down to that 200 and then do a little flick, and it shows you how far that actually goes. So give that a go, and just give it

Steven Bruce 48:25

a tiny, little scary message.

Mike Marinus 48:29

There lies the problem. When you are going to give a little flick at the end of the treatment, you really got to know what you're doing, because the force that you're applying can be a lot bigger.

Steven Bruce 48:36

No, it's interesting. It wouldn't have occurred to me that people do apply a little fleck to small creatures like this. So

Mike Marinus 48:43

one of the problems we have is that anyone within the profession can say, I want to start seeing a child. They haven't maybe done work on children. This is why our work is so important. To be able to go they're not just little, big people, morphologically, physiologically, they are different, and they require different amounts of input, the same as you don't just give them a 10th of the medication, because their glomerular filtration rate's different. So it's not just about less, it's about how long do they take to get it out? And the problems we have here is that the cartilage that they have, when we

say babies are made of cartilage, it's not adult cartilage, it's baby cartilage. Again, it has a much lower resistance rate. So again, what we know, and from people like the wonderful orally Marchant, who's done fantastic research on this, we know that that's safe. So what's nice is, if that's the pressure that you're using, you're within the literature,

Steven Bruce 49:34

yeah. Now, how often, under what circumstances would you want to apply that sort of technique, that sort of flick, or what I would call a high velocity technique, to an infant,

Mike Marinus 49:45

so that if we look at our safety, safety margins, and these have been documented, so we know none of that happens with infants that only starts to happen way later into into development, and if we. At a child at about eight. Eight is the magic number. Now, eight, it's not about age, it's about stage. So it's your general developing eight year old. So because, you know, development has to do with you going through the environment. So if you have a child that doesn't like a cerebral palsy, child is going to have a very different morphology than we're talking about your neuro normative eight year old. That's when we have more of an adult situation, and that's when we can start looking at changing up technique. But again, that's not a technique that you want to be employing straight away. And I think something like showing that goes, Oh, that's why I don't want to employ it, because it's not just a little bit more, it can be a lot more,

Steven Bruce 50:38

right? I'm reassured. Now I got the impression you were saying that, yeah, it's okay to do these, as long as you keep the pressure

Mike Marinus 50:44

with that. Your whole idea is to be able to show, that's how that that's how far that can go into be able to show, first of all, we don't need that, because we've got, you know, the research that we have done is on touch and hold, which is what we're talking about there that kind of pressure. So the research out there is on that kind of those kind of movements with babies, and that's where we keep it right. Okay,

Steven Bruce 51:04

so what are we going to do with Travis? So

Mike Marinus 51:06

what I want to talk about with Travis is the indirect approach, because, and as we've really hopped on with this, but it's great that babies are functional, they're not structural. And when we work with

function, we want to be able to open the function and be able to get them to move now, as adult, chiropractors and osteopaths working with adults, we want to move something from an area that's stuck into correction. So we want to move it through. But with babies, a lot of the time, the issues are fascial, because they're functional. And with fascia we want to try and move things out of that direction. So we want to try and find an area of ease. Now I've tried for years to try and figure out a way of explaining this, because when you sit in a room full of chiropractors and osteopaths have been working with direction of correction for years, and you say, I want to take you into direction of ease, you get the look of, don't know what you're talking about. So the best way I can explain it is this, if you have a shoelace which is really, really tight. The knot is all over the place. If you continue to pull the edges of that shoelace, all you're doing is making the knot worse and tighter and tighter, because the knot, because the idea is that knot is functional. It needs to open, it needs to close. The rest of the shoe might work like that, but the knot, we need to work this slightly differently. So the idea is pulling that doesn't work. What we need to do is try and create some ease inside the knot, open that up, and then maybe pull a piece out and then retest it to see what's going

Steven Bruce 52:30

to osteopaths are familiar with the idea of functional technique, of the idea of moving a distressed, I'm going to call it a lesion, a distressed area, into a position of ease. I'm intrigued to see how you're going to apply that to Travis here. Okay,

Mike Marinus 52:47

so I want to look at two of the five diaphragms for this. So I'm going to look at the pelvic floor, and I'm going to look at the respiratory diaphragm. These are two ways that it's really nice to sort of get into this. So if you think of the respiratory diaphragm, it's not just here. It's not just at the back. It's a cylinder that runs across the attaches to T 12, comes around into the ribs and into here. So what we have is this functional piece that works like this. The idea is that that can torsion up, and we know that if that torsions up, that can give us things like reflux. It can add to that kind of thing. It can change and especially more functionally with babies. It can mean that the core is not working. So rolling becomes an issue. Lots of issues can come in with that. The problem is to try and take it into a direction of correction is not really going to work because it's a knot inside a shoe. So what we need to do is open it up and allow the baby to make a little bit of a change. The one other way I really saw this really nicely explained was having a blow up mattress that's got a little bit of air, but it's folded over itself. You can't really blow the bottom up without lifting the top slightly. When you lift the top, all of a sudden, the bottom can open up. And that's exactly the idea here. So what we're going to do is a hand underneath onto T 12, a hand onto the top, just onto the ziffy Sternum. And in your mind, I want you to think that you've got a three dimensional object here. So what we're going to do is move it transversely. We're going to move it A to P, we're going to move it into different angles, and we're going to find which of those is the most released. So let's say with Travis here. I mean, he's missing a diaphragm, but we do what we do, so let's say that rotating him in that position really releases what's happening. I'm opening up the shoelace. I'm lifting the mattress slightly. From there, the best thing I can have him do is suck or weirdly, cry if they are crying. But we don't really want to do that, and sucking would be the best, because that functionally is going to work all of the structures connected to the diaphragm. It's going to work all of the neurology that connects down into the diaphragm, working into that position, holding let him have a good couple of sucks, three, five seconds. Oh, dummy. Finger appearance. Finger works really nicely. So from there, into that

position, hold, into that position, and then come back. But now the interesting part is, then. Recheck again, what's happened? Because you might find that now the area of tension is in a different plane because you've undone the knot slightly, but you haven't undone the whole knot, so it's not good enough just to go in one now we want to go into another area to try and release that that can work with the pelvic diaphragm as well, just going down onto the sacrum and just above the pubis. That can also work for coming onto the thoracic outlet. Very much the same ideas, coming into that position there, lifting slightly and then moving in that direction. Why

Steven Bruce 55:32

would you work on the thoracic outlet? What's your cue to say, I've got to do that. Or is that just, would you go through all of these? So

Mike Marinus 55:37

thoracic outlet, the biggest thing for me is going to be a torticollis, if they're sitting in that position, because you see them coming down, but you will see a lot of fascia coming down again. Your vagus is going to be caught into that as well, and especially if you have those asymmetrical babies like this. Wonderful just to be able to bring that down. Wonderful friend of mine in in Australia did research on the joint that he found the most restricted and irritable babies and at the shoulder right. Interestingly, so there is reason to go into that area and release an open

Steven Bruce 56:06

okay? And I guess there are. There are very obvious reasons why some babies would have shoulder problems given the delivery methods that absolutely right. While we've got Travis in this position, Simon has asked, what you think? What's your opinion of the present philosophy always lying babies on their backs? And you did talk about that a bit over there. Yeah. Over there. In Simon's experience, all reflux babies would prefer to lie on their side or even their front. I advise a pragmatic approach. What about? Yes,

Mike Marinus 56:29

absolutely so. So here's where we have to look at safety and efficacy. Because again, being on your stomach is a much more functional position. It's it's in terms of reflex, it is an easier position to be in, and they are going to want to be in that position. The problem, and the thing that we face is that SIDS, as Sudden Infant Death Syndrome, has been brought down massively by having children onto their back. So we kind of have to play this game now. This is the other thing about the sort of the Western world. It is things inside the Western world that more make sleeping on your tummy dangerous. Okay, things like being on a bed that's loose and those kind of things. And so at the end of the day, safety reigns with these kind of things. However, if you've got them on their back a lot of the time, we want to then put them onto their tummies as much as we can. And we want to be able to also do something called Face Time, which is to be able to have a parent sitting with their knees up, having baby on the knees and doing a little bit of lifting so that they get this area working. So I agree with Simon 100% they are much happier in that position. I will say to you that this year, I've

dealt with the SIDs case in practice. It's horrific. So at the end of the day, that is what's deemed safe. I explained that that's what's deemed safe. I explained that I understand that that's not that's not easy for them, but this is the way we're going to get around it. And then tummy time and face there

Steven Bruce 57:58

is a lot in modern in the obstetric world, a lot of advice about doing tummy time with babies, isn't there. So become, I don't say, a fad, a more important aspect?

Mike Marinus 58:08

Well, it disappeared, and then it came back again. Because initially in 1992 when they came out with back to sleep, it wasn't back to sleep, it was back to sleep, tummy to play. But because of the seriousness of back to sleep, tummy to play disappeared. And the other reason tummy to play disappeared is it's difficult, especially if you miss it for the first little bit. And then babies do this arms race of becoming big and becoming strong. Now they're too big for their and they don't have enough strength, and so they hate tummy time. And that's always the thing is, you get you get parents coming in saying, but they don't like to do it. It's not for us to go, but you've got to continue. To do it. It's us to think outside the box and go, Well, how can I rehab this? How can I make it slightly better? So if you have, if you have a child that doesn't want to go into tummy time, one of the best things to do is to get them to sit on mom's lap, get those elbows right in like this, and drop them down forwards. Because one of the most important things of tummy time is it's not the neck, it's the shoulder girdle. That's what's got to get strong, doing them in this position, and then also having them in this position. So doing tummy time, but on an incline, means that a lot more of the weight is distributed down, and it's easier to get this to work

Steven Bruce 59:16

at what age is that appropriate? I mean, people worry a lot about the strength of the neck in a newborn baby, although I've known obstetricians will say, Hang on, we yank them out with forceps. And volunteers, their necks are pretty strong. So

Mike Marinus 59:27

really, good friend of mine that works in the neonatal ICU talks about the prim Prem premise, do an hour a day of tummy time, because I can do an hour a day. These, the these, these big guys can do an hour a day as well.

Steven Bruce 59:40

Okay, where do we get to you've talked about some functional release here, some positions of ease. We talk about neurotesting in babies. Is that something is important for you?

Mike Marinus 59:50

Oh, yeah, yeah. So one of the interesting things about neurotesting in babies is very difficult because they won't listen. So the problem is, if you want to break your normal. Neurotesting down to your sensory and your and your and your motor it becomes difficult. Deep tendon reflexes are a nice one, because you can get them. Triceps are a little difficult, but they really are good to use. The trickery is to use primitive reflexes as your sensory testing. So sometimes what we forget is that by doing a Palmer the checking out a Palmer reflex. What we get is we stimulate the palm and then the fingers close over. But that's actually a sensory test at the end of the day, because you are testing the sensation of that area. Doing the planters is exactly the same thing you're doing that sensory test. Having them over and doing a Galant is doing a sensory test. So the thing is that these

Steven Bruce 1:00:40

will have been done surely, by their obstetric crew before they leave hospital. Will

Mike Marinus 1:00:45

they not? So it's one of the best ways to check that the brain stem is working properly. It's a really nice test to be able to do on a child. And again, everything may look good, especially with brain issues. So if you have something like, let's say we have, let's say we've had a little one that's had a stroke, mini stroke. No one quite knows. In hospital, it looks fine as they go home, and as they start to get bigger, things start to deteriorate. So that's why doing well checks like this, we could be the first people to pick things up and go hang on a second. Neurologically, this is not looking good. The picture is not working out. So if we find that, we find a bit of clonus, we find a little bit of tremors, those kind of things. We can go, hang on a second. This baby needs to go back and get checked.

Steven Bruce 1:01:26

Okay? And how long do you continue with those checks?

Mike Marinus 1:01:30

So those like, if you, if you look at something like a primitive reflex check, it actually moves over and becomes something completely different. So initially we're checking brain stem health. So we're checking to see how well the brain stem is working. But those primitive reflexes only meant to be there for six months. The way to be able for a baby, to be able to organize themselves in their environment. But as the postural reflexes kick in, these need to go away. So after six months, some of them up to here, but after six months, we start to test the primitive reflexes to make sure they're going away, because now we want to know that the cortical structures are taking over, and the and the rest of and the rest of things are kicking in, and if they don't, you can have a primitive reflex that's stopping a postural reflex kicking in. And now you have a child that doesn't sit nicely, can't turn nicely, can't roll nicely. Dare

Steven Bruce 1:02:15

I ask how often you would expect to see a, let's say a baby comes to you almost as soon as it's been taken home by Mum, how long would you continue your your system of care? Is there a typical example? Absolutely.

Mike Marinus 1:02:30

Yeah. So, so the first part is to be able to work on whatever problem that they have. And we know from the literature that if we have like an irritable baby, we're looking about four treatments. If we have something like a torticollis, if we pick it up late, we might be months. If we have a if we have a pleasure, it might also be a couple of weeks, couple of months. But the important thing about them is that they're developing all the time, and what we're looking for is to be able to make sure that that development is on track, so that the final product is good. So I now, once all of this is done, I put myself in the position of the coach more, and I start to go, right? I want to see you at three months, because at three months we have there is a wonderful Polish lady that has done this most amazing research on being able to look at postural ability to hold your pelvis and to hold your neck at three months, and if you can or can't, that can throw forward to a year as to if you're going to be able to walk properly, if you're going to be able to crawl properly. So I've got evidence based timelines, like at three months, I want to see you at six months, I want to see you at nine months, and then at a year, I want to see you. Those are my basics, but not for nothing. I've got this is the reason that I need to see because there's a developmental step that if we have that, the next one's going to be great. And I should

Steven Bruce 1:03:41

know the answer to this question, bearing in mind that my daughter is a children's nurse and a health visitor. But are health visitors going to be doing those checks? Because if you don't do them, who checks? Yeah, so,

Mike Marinus 1:03:52

so a lot of the time the health visitors around our area will be I think maybe you should go and see them, because, you know, I found something that's a little off. Maybe go and have a look. So we get a lot of, Oh, I get a lot of referrals from health visitors, which is great. They will be doing the checks. Those checks also tend to slow down a little bit. And then you might have a child that is just on the outside of sort of normal development, and then they start to fall off the wagon, and one of my very good friends talks about sheep dogging, which is what we want to do. We want to take all the neurology, all the little sheep for this whole one year, up to, like eight years. What we want to do is we want to take all of those sheep and keep them close, move them into the paddock properly, and then they can carry on. And it's important not to lose sheep on the way, because it can look like a little bit of a problem now, but it can become a bigger problem later.

Steven Bruce 1:04:44

Okay, you got more to do with Travis, or can we leave? I think

Mike Marinus 1:04:47

we're pretty sorted. I've just noticed that my daughter's painted his nails. So Travis is Well, I

Steven Bruce 1:04:53

think sensible

Mike Marinus 1:04:58

child, Travis is allowed to do. He wants to do.

Steven Bruce 1:05:04

Thank you for that. Mike question. Pip says, Does Mike recommend MIMO pillows, sleep curve mattresses or my perfect noggins to his parent patients for plagiarism? Okay, so

Mike Marinus 1:05:14

the perfect noggin is really interesting. It's put together by by a doc in the States there is, there is someone who brings the perfect noggin in that is really close to us. So what it is, it's an insert that goes into the bed. It's for pleasure, safely babies. It's an insert that goes in that has sort of a mold into it and and when they sleep, they put it in there and they don't have as much pressure onto the back of the head. Seemingly, the results of that are fantastic. They look really great. Is a bit of an expensive piece of kit, but it's into 1000s. I'm not exactly sure, but if that changes it, that's what you're after, right? So that I'm happy with the issue becomes, are you allowed to or are you happy to have something in the bed with the child? That's where the issue comes in. Again, it's a safety thing. The Mimos pillows are great, though it's like a donut pillow. So what happens is the baby lies down, and if they rotate it to the right and the right side is flat, that side's not contacting the ground, so it actually gives a little bit of chance for it to open up. So they are great, and the theory is quite sound with them. Again, the problem is, who do you use it with? Because it is a piece of kit that's in a bed with a child, and you don't want them to get into a position with it. So again, you got to, kind of, you got to pick and choose with them. But the products are not bad.

Steven Bruce 1:06:33

Okay, what was the other thing that we were asked about there? Sleep curve mattress.

Mike Marinus 1:06:39

Sleep curve mattress I'm not super familiar with, so I'm not gonna I'm not gonna comment. Fair enough.

Steven Bruce 1:06:46

Sam wants to know if you get babies to do tummy time lying on their parents. Absolutely.

Mike Marinus 1:06:51

However, Sam, this is a really, really important point when they do it, lying on their parents. It tends to look like this. They tend to sort of hug Bay onto their parents, like we were saying. Now, tummy time is about getting the medial epicondyles onto the ground. Once the medial epicondyle is down, you start to get all of the shoulder tractioning and working. Once that happens, you start to get communication between thoracic outlet, diaphragm and pelvic floor. That's really, really important. So, yes, absolutely, they can do it on their parents. I talk about that as getting half points. So if they're getting points through the day for it, they can get half points for that. The trickery tends to be that we tend to want to put babies down on their tummies and then walk away. The problem is, this is why the treadmills of gyms have television screens in them, right? Because no one wants to be bored doing a workout. So if you just have a baby lying down trying to do something, they're going to kick off a fuss and they're going to scream. So the idea is, when they're on the ground, you're on the ground one toy in front of them, and you interact with them in as many sensory ways as you can, taste something, move something, hear something, feel something, and keep them in that position and make it a sensory experience for them. Yeah, kids are hard work.

Steven Bruce 1:08:03

It doesn't so I'm going to go back to what you said earlier on about you know that that calm relationship, yeah, you're working this hard. Your child wakes you up at night. You're going to be stressed, you're going to be sleep deprived. Then you've got to stop all this stress in order to develop this child properly.

Mike Marinus 1:08:19

So the theory of it is, is the development should be for both of you at the same time. And if you, if you look at it as it's an extra stress that becomes a very bad lens, to be able to look through that, it's about doing hard work now, to be able to get to get the points out later, and also, it doesn't have to be difficult. You just have to do the right stuff. And to do that, you have to know the right stuff. And to underpin all of that, you have to have a baby who's functional, right? It's a lot easier.

Steven Bruce 1:08:52

I'm enjoying a comment which I'm not meant to read out. It's come from Kerry, mainly because you've already covered it. But Kerry says she finds that babies don't like when babies don't like tummy time, it's due to a thoracic spine restriction, and also, some babies are bored. You just said that, and they're before they can there, before they can move much. If parents get down and sing face to face, babies will do tummy time for a lot longer. Now I'm really hoping I just next time we're going to get Carrie on the screen and she can sing to us that we can hear exactly what it is that improves their time with

Mike Marinus 1:09:23

you know what that brings up, which is a really important thing here. Babies are people this. It is because the thing is that we treat them like machines, where lie down, do the thing. They're not doing the thing. What's broken in the machine that it won't do the thing when, if you peel that back, and if you had to. And I love doing this. If you have a three month old that's not doing that, take your three year old and put them on the ground and work out why they don't want to sit on their tummy. They're bored. How do you get them to do it? How do you get a 13 year old to do it? How do you get a 30 year old to do it? And you make it an experience for them to be there.

Steven Bruce 1:09:59

Yeah. Yeah. Yeah, I've got a question from Annabelle here. I haven't heard from Annabelle for a long time, or at least I'm not aware that I have. She says, So, if you've got a baby that's retaining some primitive reflexes beyond the usual timescale for each of them, and they're unable to sit or crawl, for example, is that a case of referring out, or is it something that we potentially could correct ourselves as physical practitioners. Well,

Mike Marinus 1:10:21

there's a lot to learn about primitive reflex retention. It is something that you can work with. I definitely have sort of a hierarchy of cases that if it's something that I feel is within my gambit of my understanding, I'll definitely work with it. We also have wonderful relationships with occupational therapists, which is, when it's slightly higher than that. There's more going on. There's also grades to primitive reflexes. If the grades are higher, we've got more primitive reflexes going on, then absolutely they need that sort of sensory integration. And we've

Steven Bruce 1:10:50

had a we've had a couple of people on the show talking about primitive reflexes who are clearly, you know that that's their focus in life. They know about these things, like everything. It's a spectrum, isn't it?

Mike Marinus 1:10:59

And again, many ways into a brain. Primitive reflexes are one that Bitterman we were talking about, his way in is through C, naught c1 you get other people that do exercises that push the postural reflexes that then dampen the primitive so many different ways in,

Steven Bruce 1:11:17

Kim says, how much information do you get from Mum about the position of delivery of the baby. And I guess she's asking, Well, you know, how important is that much, as much as anything else?

Mike Marinus 1:11:25

Yeah, so, I mean, we, we used to have on the forms, we had face presentation, which was meant to be that they've come out the wrong way, that they've come out back to back, and everyone was ticking it, because they kind of went, Yes, I saw their face. So you're gonna be very careful about how you put that information through. It's very important to get that information. What I generally find, though, is the more information they have, the worse it went, because they've been informed as to more of what happened. So asking things like Apgar scores, which is that score that parents came out, one of my Telltales is, if they come into the office. They're not medical, but they know their Apgar score. I'm going to start asking some questions, because someone has spoken to them about why that's important, and especially if they have a third Apgar score, because you're only really supposed to have two, and if you're doing really poorly, you get a third. So there are those little bits and pieces that you really want to get hold of. But yeah, I mean, most parents are quite up on what's happened, how it's happened, especially if something goes wrong, if they've had assault, a dystocia or something, to be perfectly honest, those are the people I've learned the most from, because they've been through the situation. And a textbook can tell you one thing, working with patients can tell you another, but actually getting that firsthand experience about what that was like, how stressful it was, how long it took, what's the

Steven Bruce 1:12:41

spread of different problems then over the different delivery methods, whether it's Caesarian or von tus or forceps. Yeah.

Mike Marinus 1:12:49

So I think one of the biggest things to keep in mind is that as a baby moves through the birth canal, the whole idea is for compression. C, naught, t1. Is a cone within a cone. It's designed to take compression. That area is not structurally designed to take traction. And when you start using things like rotatory forceps, and you start losing things like volunteers, you start bringing these, these things. And now one of the most important things, and I had a mum on the brink of tears today talking about the Vantage because you could see in her mind somewhere, this is her fault, that this has happened. She hasn't done something or and at the end of the day, we've got to say to them, Look, once they start using those implementation, those implements, it's because it's important to get them out quickly. We can fix that stuff you couldn't put maybe fix what they were trying to fix. So let's say, you know, take the stress away, but it does create different problems. So you don't so you have more tractional issues around sort of see naughty one, those kind of things with your again, it's quite interesting if, if, if parents are going into labor or not, because then it means that the baby has pushed the button to go, I'm ready to come out, or I'm not ready to come out, and then also, nearly, how ready are you to be able to face the world. Another interesting thing with C section is that rapid change of that rapid decompression, which is where, if you do a natural birth, you do into water. The whole idea is to stop that decompression, slow it down, make it an easy transition. One of the things we don't think about with the Caesar is in this position, and all of a sudden, this rapid decompression into into the world can be can it can be another problem. And also, they haven't moved through the birth canal so they haven't gotten that, that squeeze that, you know, moving the other fluid out of the lungs, those type of things, so you can have those problems as

Steven Bruce 1:14:30

well. Okay, I got another question from Annabelle. I just said it was nice to hear from again,

Mike Marinus 1:14:34

I can't stop she

Steven Bruce 1:14:36

said, this is a specific case for you. Now. We got answers on this 12 week old baby, slight facial deformity, one sunken eye from a back to back delivery, no intervention. Vaginal what treatment would you do? Bar ensuring proper cervical movement?

Mike Marinus 1:14:50

Okay, so this is where we want to start looking at some of the cranial stuff that's going on. It's a wonderful question, because it brings into play. What you're going to do with the facial asymmetry. So the first thing, exactly like Annabelle said, you're on the money. You want to make sure the cervical rotation is right, not just for the cervical rotation. We need to keep in mind that those reciprocal tension membranes inside the skull all come down and attach to c1 two and three. So if you have rotation, you have tension there. Now you have tension that's pulling on those reciprocal tension membranes. And those have connection right the way around the temporals into the oxidant. They attach right into the front of the clingoids, the sphenoid. So if you have that pull that's consistently going on, you now have this, this, this functional pull onto the very undetailed structure. And the idea is to create as much ease inside that cranial vault as we can, exactly like we were talking about with an indirect technique to try and create ease around the sphenoid. But the most important there for me is to look at the sphenobasila junction. So your junction between your sphenoid oxipot is going to be where that kind of rotation and traction is going to move. And we also need to keep in mind that this is very possibly from the position that the baby had before the birth, because the birth didn't sound that that that involved. So we may know well, we may have an inkling that this has been around, or that functional pull has been around for a while. So it's going to take us a while to open that up. Interestingly, one of the things that Benjamin talks about is that facial asymmetries come right faster than like an occipital asymmetry from from a plagiar because there's the facial asymmetry has to do with the muscle tone, and that has to do with the stellate ganglion. So once that opens up, you start to get the tone back in the face. So that's also something to keep in mind. Okay,

Steven Bruce 1:16:37

hopefully that will satisfy Annabelle on that one pitch made an observation C section, babies also miss out on the transfer of vaginal flora into the baby's gut, which has some quite prone to digestive issues.

Mike Marinus 1:16:50

Absolutely massive.

Steven Bruce 1:16:51

Is that proven? I know there's a lot about you know,

Mike Marinus 1:16:54

there's a lot of data. There's a lot of data on that. Also, another trick inside that is, generally, with the C section, you are going to have some sort of antibiotic that's going to be fed through into the mud system as well. The issue is the worst time for the microbiome to experience the baby's microbiome to experience an antibiotic is perinatally. So while the birth is happening, it's almost like a nuke that goes off and just opens the field up. So any of those the bacteria that are commensal bacteria that you want to get in, the Bifido bacteria, the lactobacillus, all the really good stuff for you, organs are blown out of the water. And now you started. One of the interesting things is when they when they've taken cultures from children C section, children tend to their culture in their stomach tends to resemble the same culture that they find on the light in the operating room compared to the culture on the baby that's been through vaginally, which means that they've got a lot more of those commensal bacteria, which means that you've got a lot less acid in the breakdown. It means you've got a lot more anti inflammatory capability around the gut, because that's what the commensal bacteria do. Gosh,

Steven Bruce 1:18:00

brilliant. Sarah wants to drag us back to the conversation a little while ago, when I asked you what the most common things you treat are, we talked about one, which is plagioccepha. She wants to know what the others are, right? Fantastic. She's asked for the other top five. Yeah, absolutely.

Mike Marinus 1:18:12

Yeah. So, so number one is going to be those cry fast babies. Number two is going to be the plagiar kids. Number three, this one was the cry, fuss, so your irritable, irritable infants and whatever that's come from plagiarism, torticollis, ear infections get in there as well, and then breastfeeding issues. Those are my top five. Those are my top five. Are what I see, and a lot of the time those will overlap with each other. Is

Steven Bruce 1:18:34

this, I don't know if there's a silly question, how does an ear infection manifest itself? Because it'll make them squeal because it's painful feeding.

Mike Marinus 1:18:42

As they feed, the feeding becomes the feeding moves. It moves off. They feed for a little bit. They move away. You'll also get the tugging onto the ear quite a bit. You can, if you've got the proper equipment, you can have a look and check it out and see and see and see what's on the go with it. But there's such a manual side to that, because we get these little muscles like Sol pingo pharyngeus that work, and even your medial, lateral pterygoids that work to open and close the Eustachian tubes. And if you have a lock onto those, they can't open and close. And then you have this environment which creates the C type ear, which now sucks all of the all of the fluid back up into the ear. And then it's dark and it's warm and it's moist, and it's just a wonderful place for bacteria to hang up. So

Steven Bruce 1:19:22

your treatment protocol there is, again, yes, quite a

Mike Marinus 1:19:25

bit of Osteopathic stuff that comes in, comes into there as well. There's some Muncie maneuvers, which is, which is osteopathic. We get, get TMJ to work properly. See naughty one working again. And also the innovation that goes up to those, to those little muscles that operate everything come out around your signals you want. So you've got the vagus is in there. Have a glasses there. All of those are in there as well. And you want to make sure that those are working properly too. So there's a neural impact, there's a facial impact in the in the joint. Hopefully

Steven Bruce 1:19:56

that's that satisfies. Sarah. Got the top five do? Just a little bit of smoke for you. Bob says that he's loving the way that you stress the need to bring parents and relatives into the clinical conversation. And was interested to hear about how you treat tongue tie. You refer out to tongue tie specialists.

Mike Marinus 1:20:13

I get referred in a lot now from the tongue tie specialist, which is great. We've gotten into this wonderful relationship with the hospital behind us and a couple of private midwives, where what they're finding now is if the tongue is really tightly pulled down into the mouth, and they can't lift nicely, and they can't actually see what's going on, they refer to me first to get the fascial stuff out the way to be able to remove that tension around the tongue. We then send them back, and then they can look to see if there are focal areas of tightness to work on. So what's really nice about that is they're not rushing in to cut something. They're trying to see there's maybe a functional issue. Let's get the functional issue gone and then and then move on. I definitely do refer out to tongue tie practitioners. I've got the hat lift assessment, which is from Alison Hazel Baker, which I like using. It's got a functional side. It's got a structural side to be able to actually score what's happening in the tongue. And what's interesting is, if they score quite well on the structural side, so it's not really pulled down, but it's acting like a tongue tie. That's where our mechanical fascials start to come in. And just like we were talking about now, there's different diaphragms, because the nerve supply is shared, and because the fascia is shared, you can have a pelvic floor and a diaphragm that are tight,

unwind those and all of a sudden the tongue starts to move. So there's a lot of reciprocity between these different horizontal layers. Are you

Steven Bruce 1:21:33

worried that there is outside our world, your world? There is a rather strong rush to cut tongue tie.

Mike Marinus 1:21:40

Well, now the rush is moving to not cut tongue ties again. So this is the new data that's coming out as to saying maybe we shouldn't be doing this to all the kids, because, also, you can't just cut every tongue tie, because there are certain children we know that you can't hypertonic, hypotonic children, you can't cut tongue ties because that's because we remember that that tongue tie is keeping the structure tight, and it's going to give it mobility. So we've got to look at is mobility the issue that we want to get to? And for a long time, there's been a lot of just cut, just cut, but that comes along with its own problems, which is why the assessment is so important, doing the non invasive stuff first and almost earning your way to them doing a resection. Because I've had one or two babies that have had a second resection and a third resection, but you don't, you still don't get the mechanics right. So it's really important that those go hand in hand. Everything

Steven Bruce 1:22:34

you've said has been really positive this evening. It almost makes me want to treat babies. It's not it's not corny, though clear. Time lucky. I really do. It's great fun talking to you. I wonder, could you maybe it's the wrong way to end a show, but could you just sort of perhaps talk to us about the pitfalls of treating babies? Where can it go wrong? What are the things people need to be careful of? Yeah,

Mike Marinus 1:22:58

I think taking your eye, off the ball is one that's really, really important. Getting complacent with the treatment of a child, especially if you have an ongoing condition, Sega torticollis, for example, starting to become very routine about they come in and you maybe don't do your checks correctly the way that you should, and they start to veer off, but you're now in a nice little system. One comes in, Hi, how are you? We talk, we talk, and we carry on, and we start to miss things. That's number one is not to become complacent, because, again, the functional net function can change. It's not just the structure you're looking at. It's to keep them on the functional path. That's number one. I think number two as well is is, again, getting complacent with the parents, and it can become quite boring for parents. So the idea is also you have to invigorate them every time, and give them a reason, give them something to check out. So throwing forward is something that really works for me, explaining that this is what I'm looking to get, especially when the times get tough, because they go, Look, we've been three treatments. Now, it was changed in the beginning. Now, nothing's changing functionally. It's changing, but your outcome is not there. Give them the reasons that the function is changing, show them as much as you can and get them there. So, yeah, I mean, those could be the pitfalls is not, is not doing that kind of stuff. And I think I can't think of any pitfalls apart

from that. I mean, like, as I think, as long as long as you know your red flags, because that's, I think, where the maybe other communities get a little bit suspect, and they go, hang on a second. Are you guys just taking kids in and treating and treating and treating, and what if something goes badly wrong with this child and you haven't been able to see it? So one of the things that we harp on, and we really, really push a lot of the time, any of the seminars we do, any of the masterclass stuff, it's all about, Are we safe? Do we know that this is we talk about like, is this a monkey that belongs in my circus, or is this a monkey that belongs in someone else's circus? Because if they belong in my circus, that's fine, but they don't always belong in my circus, and I have to keep checking to see. Is this still someone who belongs here? Or do I have to refer them out? And I think missing a red flag probably the biggest key red flags. Key red flags are children that behavior changes a lot, things neurologically that kick in later. So neurologic things that you may be dealing with in the beginning are quite some. They're okay if you get a torticollis out of nowhere at six months, we don't like that. Things like dehydration. So the amount of wet nappies you're getting. People always talk about the sunken fontanelle. That is one of the last signs you're going to get of a dehydration. You first of all want to see, are they crying with tears? Are they wet around the mucosa of their mouth? Are they getting big snotty noses? Always all of this happening, and they're not getting that so dehydration is a big one as well.

Steven Bruce 1:25:43

Okay, thanks for that. Guys blasted. Annabelle again. Annabel, Annabelle says she loves this guy. Could listen to you for hours. Thank you so much. Please get him back again. That's very kind. Thank you, Annabelle, yeah, and I suppose the reason I asked that question is because it would be very easy for other communities to say when something goes wrong with a child, you should have picked it up. If you put yourself out to be a specialist in babies in pediatrics, then you should spot these things. And I guess therefore that your note taking must be pretty clear, comprehensive and accurate. Yeah,

Mike Marinus 1:26:21

you know, it's, it's, for me, it's always a work in progress. I'm always changing something. I'm always trying to make it a little bit easier, to make the system a bit easier, to make it a bit more clear cut. Things that you want to keep checking need to be there all the time. So head shapes, hips are another one that can arrive somewhere along the timeline. And you have to be able to show the displacement of hips, the hip dysplasias. It can be fine, and then all of a sudden you get a positive test, you know, a couple of weeks down the line. So those kind of things you want to be checking, I'm never really happy with with the notes. I'm always trying to change. And that's also when we do seminars, is to try and collate the best notes to be able to give to you as a practitioner to go this is what you want to check, but the information changes as time's gone. Like, give a good example, there's a much better way of well, a much newer way of checking hips now this is now we're starting to add that on as well. So

Steven Bruce 1:27:13

Mike, we're out of time. We'll get you back in if we can, not just round Bell's sake, but because these conversations, I love these conversations, even though I don't treat babies, it's fascinating stuff. Thank you, pleasure.