Academy of PHYSICAL MEDICINE

Transcript

Dry Needling/ Acupuncture
With Mike Cummings

APM: We've parked our tent this evening in London once again so that we can talk to a very distinguished guest, a man who qualified as a medical doctor in 1987, did the usual couple of years in hospitals before joining the Royal Air Force again as a medical officer and speaking as a former military man myself, I can say that must mean he's a thoroughly good egg because of that background in military. What it means, of course, is in the military, a lot of your injuries are musculoskeletal in nature. So he's got a really good grounding in musculoskeletal injuries, an interest which continues to today and also includes myofascial pain syndrome and includes acupuncture which he encountered first when he was in the Royal Air Force and then subsequently has developed that even further to the extent that he's now the director of the British Medical Acupuncture Society which is a full time role, split between the teaching clinic and between being the publications editor for Medical Acupuncture which is a Medline recognized journal. He's also the honorary clinical specialist for the Royal London Hospital for Integrated Medicine and I can't go without mentioning that he was, in 2010, nominated by the Times magazine one of UK's top doctors. He is Dr. Mike Cummings. Mike, welcome to the Academy of Physical Medicine. It's a great treat to have you here.

MC: Thank you. That's —

APM: All the more so, you've spent the whole of today filming with the BBC I gather. So you're no stranger to the cameras.

MC: Well, yeah.

APM: After all what I've said about you so far, I hope I got it all right —

MC: Well, that was very impressive, how you managed to remember all. I was thinking, "Where are you reading that from?" That's incredible.

APM: I do rehearse it a few times but I was going to ask with all that I've said, do you have any time for conventional doctoring as we might put it or is it all acupuncture?

MC: Well, it's pretty much all acupuncture now because I'm…the only clinical work I do is in an acupuncture clinic but because of the nature of the patients I see, I have to, you know, retain conventional medical, you know, perspective on a lot of them, depending on where they come from, you know. They come from various different areas and so I have to always think…I still have to remember all the, you know…that western assessment and of course, I use acupuncture as part of…mostly as a tool to assess pain. So I'm still using quite a lot of conventional musculoskeletal medicine but because it's an acupuncture clinic, people expect acupuncture.

APM: Where is the BMAS clinic?

MC: So the London teaching clinic is housed on the corner of Great Ormond Street and Queen Square. We lease some space from the NHS there, UCLH. So we're a part of…I have an honorary apartment to UCLH and we have sort of a symbiotic relationship hopefully.

APM: And you also have a role the Royal London Homeopathic Hospital as well?

MC: Well, that's the old name. So now, it's the Royal London Hospital for Integrated Medicine.

APM: I see, right.

MC: But that's actually, now, really a department of a national hospital for neurology, neurosurgery which is part of UCLH. So UCLH is a big beast.

APM: So tell me, I mean when you came across acupuncture which you did, first of all, in the Royal Air Force, you then went on to study that I think at the Queen's expense which is very kind of her. Did you study traditional acupuncture or —

MC: No. I studied with the organization I'm now responsible for in a sense or a medical director for. So I literally had it listed as one of the things to do. It wasn't top of the list, I have to say, you know. Top of the list were things were like skydiving and canoeing and surfing and…surfing wasn't allowed in the military, actually. So it was kayaking. Anyway, that's another side. Surfing wasn't allowed for some reason. But anyway, and then acupuncture came on the list and then I thought, "Oh, acupuncture, I need to go on an acupuncture course." So I rang up the BMA and I said, "Do you have a British medical acupuncture society?" which was, you know…they said, "Yes, we do. Here's the number." And so I remember that was funny. I just got the name

perfectly right and I went on one of their introductory courses and because of where I was in the military…and, you know, in the military, there was generally…you had fewer people to look after as a doctor compared to the NHS because of the nature of the military and where it's positioned. There's always going to be one doctor on the camp. So no matter how many people you got there, at least one. And so I had quite a lot of spare time to experiment, if you like. So basically, I had afternoons off.

APM: It was the Royal Air Force after all.

MC: And so I mean I had various duties but what I could do, if I needed to, was expend my time to, you know, try this out. So I did a huge amount —

APM: Did the Air Force know you were experimenting on its personnel or —

MC: Well, I mean I suppose the whole of medicine's an experiment, isn't it? In a way. I mean I think modern medicine has become very much restricted compared to those days but, you know, within the parameters of safety and, you know, doing your best for the patient, you know, it seemed a lot freer in those days to, you know…I call it experiment but basically, I used to do a lot of injection techniques and I found that the —

APM: This is steroid injections or —

MC: Yes, usually. I mean local anesthetic as sort of a test. So I would think a peripheral source of pain, you find that in some way by various tests and then just to be sure, I would block it with…I borrowed some really fine needles from the dentist, good friend of mine who worked next to me, the dentist and he had these lovely little fine needles and I thought, "It'd be much nicer to use those." Really tiny ones and I would just pop little bit of local anesthetic somewhere, retest the patient and say, "Oh, yeah, OK, so it must be coming from there," before I would do, say, a steroid injection but in those days, I was pretty limited to just steroids. So when acupuncture came along…and I wasn't expecting much. I went on the course because of the history and the Queen paid for it and the like and then I saw images of these trigger point pain patterns which I've been interacting with and I thought…and as it happens, there was a grumpy old sergeant who came to see me on the day before the course and he was going, "I've got this tender bit here and it's going up the back of my head," and I said, "Oh, it seems like a muscle, don't really want to inject it." And then on the course the next day, I saw exactly a little crosshatch there, the pain up his…I know, that's that grumpy sergeant and he came to see me the next week and I'd never had a good relationship with this guy. I tried my best but I could never really get inside that and I went, "I've got just the thing for you, mate." As soon as he sat down, I went, "Don't move." I pulled out a needle and I said, "I'm just going to put a needle in this," stuck a needle in semispinalis here, a famous acupuncture point and he went, "Oh, god, yeah, that's it, doc. It's right up the

back of my head." I pulled the needle out, five seconds later, "All right, there you go. How about that then? Off you go," and he went out of my room quicker than he'd ever gone with a slightly dazed look on his face. The next time he came back to see me, he had a smile on his face for the first time ever.

APM: That's not like a sergeant, is it?

MC: I know it isn't. He was an air loadmaster, actually. So he's a warrant officer and he said, "Well, that pain disappeared, doc, straight away. How is that possible, just you put one needle in for five seconds?" I'm like, "Yeah, I know. It's good, isn't it? I just learned it actually." And then he said, "I've been feeling, you know, quite good this last week for some reason, because I'm leaving the service, as you know soon and I didn't know what to do and I've been feeling quite good," and I thought, "Really? Have you? Just one needle?" and a smile on his face and he said, "And the other thing I wanted to say, doc, you know, the reason I've been grumpy all the time when I came in to see you was because the way you called me in."

APM: Really?

MC: And I went, "Really?" He said, "Yeah. You called me in as if, you know…you say master," you know, whatever. He's a warrant officer but master, air loadmaster. So you call them master. So if it were me, it'd be Master Cummings. Of course, it sounds like me calling my son.

APM: Your child, yes.

MC: And he explained why he'd been…so every time I called him in, he was a bit grumpy. So —

APM: But he hadn't thought to tell you.

MC: Well, no because he was grumpy with me. I mean he was upset and I thought, "Bloody hell, one needle." Sorry about that. One needle and I've cured his headache. He's been much happier and he's less depressed about leaving the service and it's changed the entire relationship with this guy. It's incredible and I thought, "Blimey, this is incredible," and that was one of the first patients I treated.

APM: We're going to get on to some aspects of that a bit later on, you know, where are the points and about the patient communication business but can you explain to…a lot of our viewers will have done dry needling or acupuncture. A lot of them will have looked into it but many won't have done it. Can you give us a bit of a theory behind it? How is it supposed to work? Either trigger points or non-trigger points in acupuncture.

MC: Well, I mean there's been a huge amount of research, basic science research on acupuncture since…it goes back to I think the late '50s, '60s in China. A chap called Ji-Sheng Han, to use the Chinese way Han Ji-Sheng. He was instructed by the party, "You will find out how acupuncture works," and he was going, "Oh, well, I didn't really…" He wasn't planning to do that for his medical career but, you know, that's what he did. And so from those days, from the '60s, he started doing experiments mostly on rodents, rats, to look at how acupuncture analgesia worked and then in the '70s, we had some in the west, a particular prominent physiologist, professor of physiology in the Karolinska Institute in Sweden, did some important studies. Because of his credibility, you know, he was looked upon as a very credible scientist, Sven Andersson was his name and he started to do experiments, laboratory experiments on medical students. So he had these laboratory experiments and experiments on humans, healthy humans, looking at analgesia and they demonstrated that you could get analgesia with acupuncture stimulation, usually electroacupuncture.

APM: There have been studies out, hasn't there? Where there have been some videos, if I remember rightly, acupuncture being used to provide anesthesia during open surgery which I think have been proven to be false, haven't they? We're not looking at that level of analgesia, are we?

MC: Well, yeah, that is…in about maybe 10% of the population are susceptible enough to the effect that they have pain thresholds raised up to maybe 400% in some experiments. If you select those people then yes, you can comfortably do acupuncture. They can be comfortable, provided that you blocked the skin. So you want local anesthetic to skin or some way of getting through the skin because you can't…acupuncture won't stop the pain of a scalpel going through skin. So you need some way of doing that and either do it quickly and suddenly with a strong stimulus elsewhere or use local anesthetic but once you're into the body cavity, say, then actually, in those people who are very sensitive to acupuncture, they can be pretty comfortable but that's not the majority.

APM: So the pain of having been cut by a scalpel will be controlled by acupuncture. Not the pain of being cut.

MC: The pain of having been cut. To some degree, perhaps but certainly, the pain related to manipulation of internal organs and doing any surgery inside because you don't actually…on the inside, the sensation is very different. The skin is highly innovated and so once you're below the skin then the sensation's much less intense. I mean it does vary, of course and this hasn't caught on. So if it really worked really well, it would be used. It would be used more. So it's highly…it's a small percent of the population. I do believe, for some people, it's possible and a trip to Brazil a few years ago, I discovered that some colleagues in Brazil had been to Cuba. When Cuba was still under the blockade and it was difficult to get access to a lot of anesthetic drugs and

alike, they actually developed use of acupuncture analgesia and became quite expert in using it. So the Brazilian doctors have gone over there to learn. It was very interesting to hear, you know. It's not straightforward. You need to see the patient, select the patients. They need to be psychologically in the right frame of mind to want to have this done, surgery done awake, where they can feel some sensation still but just have a reduction in the unpleasantness of it and that's what it's like.

APM: When you say 10% of the population, you said, is an estimate of how many people are very sensitive for acupuncture, what's the percentage do you think who are not sensitive at all to acupuncture?

MC: I mean you might say 10…I mean it depends on what you want to pick. You might put 30 at each end or 10 at each end.

APM: But there is a proportion who won't respond at all.

MC: There appears to be a group who are particularly unresponsive but I always wondered because acupuncture works in different areas, in three different areas, really. It works locally. There's effects around the needle. I suspect those effects occur in most people. There's modulation of pain or incoming transmission, spinal cord. I think that probably has a genetic predisposition to how strong that is and then there are effects in the brain and I guess that the effects in the brain probably have a certain genetic component as well. So we do see in…we know definitely in rodents, there are certain strains of rodents that respond better than others in terms of acute analgesia.

APM: How do you measure it?

MC: So in the early days, the very first studies tended to use something called tail flick latency. So you have a rat in a nice little harness with its tail sat over a light like this and you turn the light on and in those days, they didn't have fancy LEDs like we've got. They had conventional lights that were hot. So as the tail got hot, the rat would eventually go, "Oh, my tail's hot," and flick it off the light. The light would then be detected by a detector which would turn off the clock that had been turned on when you decided to turn this light on. Turn that light on, the clock goes on so you know exactly how long it left its tail on the light, hot light. Then you do something to the rat, electroacupuncture, give it drugs or whatever and then you see whether it keeps its tail on longer. So that's a test of thermal nociception, really. It's not a test of treating pain but it's a test of a type of threshold, a thermal threshold. So those were the early tests and if you did electroacupuncture on the lower limbs of the rat, segmentally quite close to the tail then it would leave its tail on longer. Usually, they would have a cut off so they didn't burn the tail. So they'd say, "OK, if it leaves its tail on too long…" If it's a good responder, it just leaves its tail on until it starts smoking then you don't want

that. So there's always a cut off so you don't actually do damage to the tissue. So those were the early experiments.

APM: But even if it doesn't relate directly to pain, normal pain, not thermal pain, it's an indication that something is changing as a result of acupuncture which in itself quite a useful indication —

MC: Something physiological and that's absolutely clear from the basic science data. Nowadays, the models are very sophisticated now. I mean you've got all sorts of different models, neuropathic pain where you have, you know, ligation of nerves to create neuropathic pain. You have models where you inject a substance into a joint or into the heel pad to cause inflammation and causes sort of a semi chronic inflammation and then you look at, you know, pressure on the heel, things like that that was…those type of things, sophisticated tests. All sorts of tests now, they do fascinating tests on rodents. They can tell whether they're depressed, anxious, you know, all these things, how their cognitive function. Really, very impressive, the type of things but they're not patients. So it doesn't convince NICE. The fact that there's a massive database of…clear data on how acupuncture works and we know how it works, at least in these models. I mean in minute detail.

APM: What about then the 365 very precise acupuncture points, the traditional acupuncture and the 13 channels of acupuncture? You know, and traditional acupuncturist with 2 or 3 years of training will have gone through all this and will believe that they're altering the flow of chi along these things and I know it's not your area of expertise but have you seen evidence? Do you have any opinion about that? I might expect you to tell us it's all ******** because it seems to work for them for all sorts of things.

MC: Well, acupuncture, mostly seems to work in practice. Most of the time, it works. Maybe more than half. It depends on your population but, you know, I would expect that whatever population you had, if you used acupuncture on them…well, let's say a pain population then you would expect to have reasonable result in half of them at least. It really doesn't matter what you do. You're still going to get…as many as exactly what you do with the acupuncture. You're likely to get, you know, quite a good effect.

APM: So therefore, a sham acupuncture will be just as good as real acupuncture, whatever sham acupuncture is.

MC: Sham acupuncture seems to be…in clinical trials anyway, where patients think they're getting real acupuncture, sham acupuncture works pretty well and I tell that on my teaching courses. I say, "Look, don't panic, you know. Don't feel like you have to be getting it right every time," because in the studies, when people deliberately get it wrong, it still works quite a lot of the time.

APM: What do they mean in the study by sham acupuncture? Because I mean you can get sort of a pinprick sensation but if you get that sensation, that possibly is the same as acupuncture. So are they stimulating an area away from where they think they should or is there some way of making a patient think they've been stung by a needle —

MC: So the important thing in a double blind randomized controlled trial or a blinded trial anyway, where you need to blind the patient who's having the intervention so that they don't, you know, imagine that, "Oh, this is the treatment I want and I must be getting better," and, you know, people saying, "Oh, well, that's because they knew what they were getting," and we know that blinding does make a difference to outcomes. So in order to blind the patient with acupuncture, you have to do something that looks like acupuncture, really or…I mean some people have used…some groups have used mock TENS for example which quite clearly isn't acupuncture but they say, "Well, it's an intervention. It involves interacting with the patient and touching them and stuff," and, you know, most of the critics have not accepted that. They want patients to believe they've got needles stuck in them in which case you miss the point in the control group which always frustrated me because from a western perspective, you know, we have no substrate for the point. No clear substrate, you know, I mean it's in a bit of muscle, in a bit of fascial plane.

APM: Are you're talking about trigger points or acupuncture points?

MC: I'm talking about acupuncture points, yeah. I mean trigger points are pretty controversial as well, of course but yes, acupuncture points in an otherwise normal area of the body say, and they're often in planes of fascia or into muscle. And of course, if you go a centimeter away, off point, off meridian, for my money, it's the same bit of muscle. It's going to have similar nerve endings. It's going to have the same sort of effect in the nervous system and I wouldn't expect to see a big difference and indeed, a lot of those studies didn't show much difference. The better the quality of the study, the less likely it wants to show a difference. So the skeptics came along and they said, "Look, better quality of study, there's no difference. It's all placebo. It's all in your head," when in fact, they're doing acupuncture against acupuncture instead of —

APM: Which is the problem, it is very hard to do —

MC: It's very hard, yeah.

APM: I remember when I did my acupuncture course, I did it with Anthony Campbell at the…what was then the Royal London Homeopathic Hospital and he trained traditionally in acupuncture, first of all, under a name I can't remember but a very well known —

MC: Felix Mann. He trained with Felix, yeah.

APM: And Anthony was absolutely adamant, that you don't have acupuncture points. You have acupuncture areas. So that couple of centimeters of missing the point is not going to make a blind bit of difference, is it?

MC: Absolutely, yeah. And so acupuncture treatment areas that something that Anthony is very keen on and I think that's a great idea in the sense that…from a physiological perspective, that's absolutely right and really, for a long time, back in the day when we were developing courses and thinking about how we move along, we thought about dispensing with points all together because from a physiological point of view, really, you can't identify them. And so why stress people by having to get an exact point? And then through education, through trying to teach people…I mean for me, it would've been fine if someone handed me, you know, in the military the type of attitude, handed me some needles and go, "Yeah, you can still them anywhere you want." As long as you don't puncture the lungs, try not to stick it in the bowel, you know, bits of muscle, try to avoid the big arteries, I'd be going, "OK, fine. I know my anatomy and I could learn more," and I did learn much more from needling, you know. Put a needle in and you go, "Oh, god, I wonder where that went," and then I went and looked it up and I remembered my anatomy much better.

APM: That's kind of the wrong way around, isn't it?

MC: It's slightly the wrong way around but —

APM: There was a phase in my career where I did go through calling this random pin sticking rather than acupuncture because if the points aren't precise then the anatomy isn't necessary then.

MC: Well, no, I think anatomy is necessary —

APM: I'm not recommending that people should do that —

MC: There are two things. One is points are much easier to write down. So if you're not going for trigger point and you can identify it and label it…and I tend to label those on diagrams rather than write them down and I put a little crosshatch on the diagram but the points are actually very easy to- My favorite point, stomach 36 in the knee, just below the knee here, tibialis anterior, it's much easy to write ST36 than it is to say, "Well, the top of the tibialis anterior, just left of the or right, just lateral to the tibial tuberosity." They're very convenient and then in teaching all sorts of professionals…in the early days, we taught doctors and vets, dentists and then we expanded because the NHS needed us to teach the nurses, physios and various other professions because they were the ones who were tending to do more of the treatment in the NHS. So we expanded to teach other professions and then,

you know, it was a quite a varied group then. So they weren't all like me. So I couldn't teach them all as if I was teaching a bunch of, you know, military medics who were just going to make it up anyway. Not make it up, you know, but we're happy to go on and do it, you know. People who were more careful —

APM: I know what you mean.

MC: Who were a little bit more cautious, who wanted to make sure they're doing it properly and for them, it seemed actually teaching them points was a much easier thing to do and much more comfortable in themselves.

APM: Does that mean you…despite the fact you're not trained in traditional acupuncture, you've had to learn all those 365 acupuncture points or do you just learn the ones useful to you?

MC: No, I learned the ones that are useful to me, yeah. I mean they're in a book. You don't have to learn all that. I mean you're never going to remember all that even if you did learn it in the first place. I know quite a lot of them because of…not because I tried to learn them but because I had to write notes. I had to draw them on the notes for the courses, you know. I did this thing with Primal Pictures. You know Primal Pictures 3D Anatomy? So a few years ago, I spent some time with them placing needles in their 3D model and, you know, I of course had to go, "OK, where's that supposed to be? Let's just look at that. Oh, I don't want an artery there. Move it away from that artery." And I spent in depth detail, looking at the anatomy in three dimensions of where we were placing these needles. So I learned a lot that, you know, I wouldn't…I don't necessarily use…we all use our favorite points but, you know, it depends on who you're seeing. I much prefer to make it up as I go along for that individual patient but sometimes, say, you're treating bladder irritability, overactive bladder, you know, there aren't specific points. It doesn't matter, you know. Trigger points aren't really relevant. You just need to put a stimulus in to the right myotopes to have the effect probably, you know, and similarly for polycystic ovarian syndrome, you know, you need segmental electrical stimulation to muscle.

APM: I want to come on to the conditions that you believe we can treat with this in a minute but we've got a question in from Matthew Davis and it's very nice of people to send in their names. It's nice to know who's asking the questions. He's asked a very sensible question about the bloody terminology for this because, you know, on one hand, we have traditional acupuncture and then we have western medical acupuncture and we have dry needling. What's the difference?

MC: What's the difference, yeah.

APM: When do we use the term?

MC: So traditional acupuncture…I mean actually, there isn't…when you come down to look, if you stuff cotton wool in your ears and you just watch somebody practice and they weren't wearing fancy kit, you know, they all look the same, it'd be very hard to tell the difference, really. I mean you might well tell the difference between this type of dry needling and, say, a Chinese type of needling. If you knew, you know, they might twiddle as they're lifting and thrusting, so lifting needle up and down. So dry needling, often you're trying to hit that spot in muscle and you won't twiddle probably. You just go straight in and out whereas the Chinese way of stimulating a needle might go like this. It might go in and out, it might move around a little bit but there'll be rotation as well often but it's quite subtle, you know. I mean someone looking might go, "I can't really tell the difference between these three, you know, dry needling, traditional acupuncture, western acupuncture." So the difference actually is probably more in the mind of the person holding the needle than it is in what happens.

APM: How do you describe what you do, western acupuncture?

MC: We call it western medical acupuncture. Not because it's western but because it's western medicine. Now soon, we'll have to change that term as medicine becomes just medicine but western medicine as opposed to traditional East Asian medicine, so as in modern scientific medicine. So it's within the category of that. So there's people doing western styles in China. So they're in the east but they're doing western style rather like we would use…so it's western medicine, not western. That's quite an important distinction. So basically, we're trained in western medicine, so we think in terms of physiology and, you know, normal anatomy and physiology and we use acupuncture based on that understanding. So how I think about what I'm doing is based on the mechanisms we understand, local mechanisms around the needle, stimulating the right segments, targeting trigger points, you know, peripheral sources of pain. So in my mind, I'm thinking in terms of how it works and the optimum treatment for the patient. A traditional acupuncturist will be thinking more in…after excluding important, they do, you know…in the UK anyway, the traditional acupuncturists are all well trained in excluding important medical conditions to try and select those out and then they will think in terms of this very ancient idea about how the body work. So this is 2,000-year-old medicine and I…I mean I don't use it and I would have to say my opinion is that it's not essential. I don't think it's essential. I don't want to upset them but I don't think it's essential for doing good acupuncture but it still has a certain validity. It was how people thought the body worked 2,000 years ago and whilst you can say we moved along since then, they ought to stop doing that, actually, we're coming around full circle now to going back and going, "Well, actually, quite a lot of what they said is now very pertinent to modern lifestyles," exercise every day, don't eat too much, respect your elders, don't get all wound up about stuff, try and go with the flow, you know. All these type of things are very…I think these are

really important. Now, that doesn't really relate to acupuncture as importantly as other aspects of lifestyle but I think Chinese medicine has a lot to teach us, really, you know, in modern western medicine. I don't think it's necessary for doing acupuncture but I still think there's a lot —

APM: Well, you could argue, couldn't you? There's a lot in medicine as a whole which we believe to be the case and in fact, it doesn't matter whether we're right in our beliefs, as long as it's doing some good to the patient —

MC: Do more good than harm, yeah. Always do more good than harm and in fact, one of the…that was one very important thing that…I think his name was Sun Simiao who was one of the early writers of acupunctures, said, "First, do no harm," and rescue with needles was always at the end, you know. Try everything else first, lifestyle, diet, other aspects and then rescue with needles was at the end of-. So I think acupuncture probably practice was quite different 2,000 years ago, especially since they didn't have the nice, fancy needles we have today. So it must have been a more of a robust treatment.

APM: A lot of what you've said suggests that as a western medical acupuncturist which…and I presume we can use dry needling for anything where you're not injecting something into the body.

MC: I think that's how the term came up, you know, dry needling as opposed to wet needling and therefore, what are the targets for wet needling? Actually, mostly, dry needling tends to target trigger points but there are some people who use the term dry needling for using a hypodermic needle and bashing into periosteum, you know, and there are some —

APM: But you can do that with an acupuncture needle as well, can't you?

MC: You can do it with acupuncture needle. You don't do as much damage with an acupuncture needle because- and that's why I like them so much because they do relatively little damage and we're now…I mean there is more. There's always more to learn and one of the recent interesting things…I didn't really take it seriously when the data first came out, was about adenosine release. I don't know if you came across that. It's only—

APM: Hmm, no.

MC: --within the last five years or so, some paper in Nature which clearly demonstrated that in this model that they were using, a rodent model, that the acupuncture that they were using worked via adenosine release locally, blocking local nerves. So a small amount of adenosine blocks nociceptive fibers. A larger amount of adenosine is pro nociceptive. So it makes pain worse, so a bit more tissue damage and you get more pain but just a tiny amount of adenosine is enough to block nociception. Now I didn't really take

that seriously because it didn't really fit in with all the other studies that we've done over the years in terms of this but then there are some cases where I think, "Oh, actually, maybe that is this effect," you know, patients who are…typically, palliative care type patients who have massive doses of opioids and you think, "Well, that can't be an opioid mechanism, surely, an endogenous opioid." When they're taking all these exogenous opioids, maybe this is one of those. Maybe this is a local effect of using points nearby, usually proximal to the site of pain, sort of having a blocking effect on nociception.

APM: So this is pain gating?

MC: Well, that's blocking nociception. That's slight different from gating. Gating usually uses the opioids. So gating works via the brain stem, periaqueductal grey and endorphins and a few bunch of other chemicals and that's a system that is probably under a degree of genetic control. So probably some people, you're going to get a bigger effect than others and it does require repeated treatment. So personally, I tend to use electroacupunctures. I think it's easier to get a palliative…not palliative. A strong palatable treatment to get maximum stimulation. We don't have good data to say electro's better but I think it's coming just.

APM: We'll come on to electroacupuncture in a minute. I was going on with that question to bring up something which one of our viewers has sent in because everything that you've said so far suggests more or less that with western medical acupuncture, you're going to be treating local to the site…particularly where pain is concerned, local to the site of pain whereas a traditional acupuncture is will have needles all over the shop. Is that —

MC: They will. Yeah, they will and that's what you might see in the UK. It depends on the school and the background to the school but if you go to China, they will say treat the pain first. Always treat the pain first and they will always do local treatment. So, you know, the sort of Chinese version of that would be yes, you would do like western acupuncture type, local treatment, would be very similar to the Chinese treatment but then they would be looking at the underlying person and they'd be going, "OK but how do we make this person better?" That's OK, that's a peripheral symptomatic pain that that person needs treatment as well and their lifestyle that we need to teach them how to live and eat and acupuncture might be part of that where you're tuning up different bits but I think other aspects are probably more important in terms of advice about how that person should live, their constitution, what's good for them. So I think some of that can be lost sometimes but I think that's the background of treating the local condition but then not ignoring the patient. So I think there are different ways of which you can appreciate that and I don't think we always…all of us get it right but I think that's important. We don't just treat the patellar tendinopathy. We have to think about, "OK, how did you get that and how are we going to stop you getting it in the future?"

and I think the Chinese approach is probably similar, you know. They think, "OK, what's the cause of this?" and they might talk in different terminology but it might end up having similar effects in terms of the advice you give to the patient.

APM: So turning to the training then for a western medical acupuncturist, obviously, you are semi biased in this because you run the BMAS's training school. So you believe that's the best training in the world. There are other courses one can attend including…Anthony Campbell still runs courses of his own, does he not? What would you expect…I mean there are I suspect members of the public who would be quite surprised to find that you can learn acupuncture in a weekend.

MC: If you're a regulated health professional then you can learn to use a needle, you can be introduced to it in a weekend, yeah because you already know how you should behave. You know how important it is to take consent, adequate consent, to do more good than harm and a modicum of anatomy and we can teach you in a weekend how to do some safe needling. That's not to teach you to be, you know, as good as, as proficient as someone who's spent 25 years doing it but you can certainly start to use the technique and that's not…I mean we often get that thrown at us. How can you teach people to do acupuncture in a weekend? Well, we don't. We teach them to start to get interested in a weekend and to be able to and hopefully encourage them to learn more.

APM: So your initial course will be a weekend or a two-day course —

MC: Our foundation course is four days usually, I mean sometimes split, sometimes all together and then that's really the start. Then you need to, you know, keep a logbook of what you're doing and you need to write up a few things and we have a safety quiz and then hopefully, that will start people on the road to…we call it certificate of basic competence where you do a bit of safety, a bit of a logbook, couple of cases and then those are presented to us and then we say, "That's an appropriate sort of level for someone who's using acupuncture within their existing practice," but if you want to go and advertise to the public as an acupuncturist, you need to know a bit more. You need to be able to advise them, you know. You don't necessarily need to be able to treat everything but you need to be able to advise them which way to go. So you need a much broader background in where it works and where it doesn't. So that, we have a diploma for that level which takes longer to achieve and it's very flexible.

APM: How long?

MC: Well, I did it in 18 months. That was a record.

APM: And what were the criteria for this —

MC: It takes at least about three years part time and you get a longer logbook of patients and you do a variety of courses that suit you. Its hours is very flexible. Maybe we're going to toughen up on it soon and make people do more but it's very flexible because we've got such a diverse population, you know. We've got nurses who might be working in a post-op environment who, you know, have a very limited use…want to use acupuncture in a very limited way, relatively limited way and, I don't know, we may have…I was going to say orthopedic surgeons. That's not very common. We have lots of GPs as members and physios who, you know, want to do a variety of musculoskeletal stuff, depending on —

APM: Must be tough for a GP, mustn't it? Because, you know, a GP's got, what is it, eight minutes per patient these days and I know they're always —

MC: Ten. I think 10 is standard now.

APM: Is it 10? OK, between 8 and 10.

MC: I used to love it when I had 10 minutes but 10 minutes is…I used to run late because I just, you know…if I had the opportunity, I'd be sticking needles to people and running late —

APM: All GPs run late and I don't know why they don't accept the fact that —

MC: It's gotten much harder now because there's so much for them to have to do and we've seen that on our courses. We've seen a, you know, gradual drop off. So I'm afraid in terms of general practice, it's really diminishing. It's really diminishing because they've got so much to do. It's very hard to…and that's where I came from. I came from general practice and I wanted to, you know…so I invented all these systems of rapid assessment, you know. How do you rapidly assess someone who come in and you think, "Oh, I've only got 10 minutes"? I don't even want them to take off their boots, you know. And so I developed these ways of, you know, where you could assess patients without getting them undressed, quickly to then give you a clue as to whether or not it might be useful to try acupuncture or not —

APM: Somebody's actually sent in a question, saying, "What are your criteria for going for either steroid injections or acupuncture or any other treatment?" How do you make that decision —

MC: Well, I mean I used to use loads of steroid in the past and when I learned acupuncture, it really dropped off. My prescriptions for ibuprofen in the military was the other big thing I did. That dropped off as well, you know, a huge amount of dropping when I did acupuncture but steroid injections particularly. I use needles more than I would've done before and I use steroid much less because so many people got better with just the needle alone and

Carroll Lewitt he's a famous…in the field of musculoskeletal medicine. He was the first to describe the needle effect in myofascial pain back in the '70s. He also described post isometric relaxation similar sort of time. So the needle effect is quite prominent especially in soft tissues, you know, it's the needle and my first research in fact was a systematic review on needling in myofascial pain and I was really shocked when I looked at all the data and there were lots of trials of injecting things against injecting saline and I mean in some of them, saline was better and we were going, "Oh, saline, that's nothing," but that's really quite effective to inject saline.

APM: It's a lot cheaper.

MC: Yeah. Well, and you would never think of doing it. As a medic, you'd think, "Well, I have to inject it something," but in fact, saline is quite an effective thing to inject and that's normal saline as opposed to hypotonic. Hypotonic saline tends to be an irritant. So in these studies, they tend to do…inject normal saline and quite often…there were no studies that showed anything was better than anything else, basically, but everybody seemed to get better.

APM: So when a patient came through your door, what was the first thing that made you think, "I'll try acupuncture"? Is it the fact there's a soft tissue injury —

MC: So a relatively localized musculoskeletal pain where I could find a spot that reproduce the pain. If I could put my finger on it and usually, muscle band and reproduce the pain the patient recognize then that was a needle in it. No question. One needle for five seconds. I didn't even let go of the needle, in, out, throw it away. Patient didn't sit down, out the door and then I would hope they got better and for the first few months, I have to say…first six months, I was panicking a bit, "I haven't seen any of these guys again. I wonder what happened." And they would come back and I'd see my notes or I'd see a little diagram and I'd go…and they've be talking about something else. "So it seemed to…looks like I stuck a needle here last time you're here," and I would carefully ask and they'd go, "Oh, yeah, doc, yeah, that disappeared straight away." I say, "Oh, really? Did it?" "Yeah, within an hour or so or, you know, I didn't…yeah, didn't have it again." And 90% of them said that.

APM: This is extraordinary because, you know, we have a number of acupuncturists, traditional acupuncturists in my clinic. We have a number of practitioners who practice western medical acupuncture and I suspect that the traditional acupuncturists have their needles in for a very long time, probably 15, 20 minutes, even on Anthony Campbell's course, I think we were talking 10 minutes as being a good time for needles and you're saying five seconds is enough.

MC: Well, that's the military population with the trigger points. So that's dry needling of the trigger point and the key…probably the key intervention is the needling…is that needle hitting the muscle? Although we don't know for certain, I think that effect is immediate. There seems to be an immediate effect and this is an area that I'm very interested in but we just don't have really hard data. I think there's a reflex action, inhibiting muscle tone and maybe other effects locally but that tends to be an immediate effect. We don't need to leave the needle in. Treating a trigger point, in and out. Now, if you're treating osteoarthritis of the knee where you're trying to affect pain modulation at the spinal cord, you need 20 minutes, probably, you know. If you're looking at changing analgesic effects over grow-…when we're measuring acute analgesia in models then that grows over 20 minutes. So you get maximum 20 to 30 minutes. So analgesia which is probably mediated through descending systems takes that long. So we assume then that that's the right thing to do to treat things like osteoarthrosis where probably the effect is in the cord mainly but some recent good quality data, looking at inflammatory effects. So there are some inflammatory effects. This might be new to you, effects on TNF alpha. So inflammation in the body, so it's been discovered in relatively recent years that the vagus has an anti-inflammatory reflex effect. So releasing acetylcholine on macrophages can really reduce the production of something called TNF alpha which is a potent inflammatory substance and to such an extent that it can have significant effects on certainly animal models of inflammation. So septic shock, so mice dying or surviving, 10 minutes of electroacupuncture made the difference between these mice dying or surviving. Now that's the 10-minute effect and I've seen that with adenosine work as well. So now this is very new stuff. I'm starting to think, "OK, so for some interventions, it seems 10 minutes is optimum." For analgesia, it looks like 20. Trigger points is in-out. I mean I'm saying I think because we can't be absolutely certain about…a lot of these things haven't been directly tested in a rigorous manner but that's my impression.

APM: Interesting that I…I've always had the impression that patients would be quite dissatisfied if they got a five-second treatment when you poke a needle in, take it out and then send them on again but I suppose if they get a result from that then —

MC: I think it depends on what they're expecting. It does depend on what they're expecting and I have to say that having gone from a military practice to end up in an acupuncture practice, I do leave my needles in far more now. So getting back to that technique where I'm using in-out needling is unusual and usually driven by the patient who says, "Oh, doc, you know, do that stuff where you're getting twitches and fiddling the needle around. That seems to work better." And I go, "Oh, good." So I like to be able to do that whereas I feel slightly obliged to leave them lying with needles in whether or not I think that is going to make much difference. If they're attached to electroacupuncture, that's fine because, you know, I think the effects in the central nervous system seem to build up over about 20 minutes. So I usually

leave it on for 20, 30 minutes because that's how my clinic works but it depends on the clinic and I think the expectations of the patient are crucial because we have the power. This is endogenous analgesia. We totally have the power to completely turn it off, anxiety and anxiety seems to be the thing and they've done a really nice experiment, nothing to do with acupuncture, injecting remifentanil, intravenous remifentanil where they've shown- and functional scanning of the brain and a bit of laser burning on the arm. It's a beautiful study. It's the first one that's done this. It correlated the patient, saying how…the subject, describing how strong the pain was, at the same time, scanning the brain to look at how much of the brain was lighting up. So they had a sort of an objective thing to measure against —

APM: What's the drug doing?

MC: Remifentanil is a very fast acting opioid and what they did was they turned it on before they told the patient or the subjects. And so they've done a baseline and then they turned it on and said, "We just have to repeat the baseline." So they looked at how good remifentanil was, intravenous remifentanil with this laser burn without the patient realizing they had it. So just looking at the chemical effect and of course, for baseline pain, the pain rating came down. Then they came in and went, "Now, we're giving you this fancy drug, you know. It's called remifentanil. Everybody's using it. It's really good." So they picked it up and then the effect doubled and then we've seen that with the open and closed injections with opioids. Basically, the effect of opioids doubles when people know they've got them.

APM: It doubles the placebo when they know they've got it as well, isn't it? There's been a very good study on placebo medicine…placebo drugs, giving people sugar pills and you'll know the name of the very publicity hungry doctor who does all these studies and it'll come back to me in a second but —

MC: From Harvard?

APM: No, Cambridge. You give somebody a sugar pill and tell them they're getting a drug and they were using…drugs that induce nausea. Give me the proper name.

MC: Emetic.

APM: Emetic, thank you. So they're giving what he said was an emetic and they would take the sugar pill and they would feel queasy and he gave them a double dose of this and they felt twice as bad and that's sugar pills. So the effect of placebo can be doubled as well as the effect of an opioid through the psychological involvement of the patient, one guesses.

MC: So there are all sorts of ways of manipulating so called placebo effects or context related effects and they do vary with color, with context. So context is involved —

APM: He wrote Bad Pharma and Bad Science. His name's on the tip of my tongue.

MC: Ben Goldacre wrote that.

APM: Ben Goldacre, yes. He didn't do the study. I remember reading about it in his books and they are very good books for anyone who wants to read them, excellent books —

MC: So anyway, the fascinating thing about this was not that because know that happened. The fascinating thing was they came along and said, "All right, now, switching it off and putting you off again," but they didn't switch it off and I thought, "OK, so that's going to go back a bit," you know, that's going to have a negative effect and stuff, it went back to baseline. So they had baseline levels of pain and brain lighting up with intravenous opioids. So just the expectation, just the changing of the context, the way we interact with the patient basically. So we induce that negative expectation or anxiety on the patient is enough to reverse the effect of an intravenous opioid and now we know…and I thought, "How does that work?" And then of course, it works through…we've got the antagonist to opioids in our brain and it's released by anxiety, CCK-8 and if you make someone anxious…so this is crucial to all, anybody who's using any type of therapy in medicine. You don't want your patients to be anxious. You want to be nice to them because if you make them anxious, any therapy that's involving the endogenous systems or even exogenous opioids could be reversed simply by making them anxious.

APM: It makes it sound, what you've just said, that provided a practitioner does a short course to learn the safety of this mechanism, actually, it doesn't matter a damn where you stick the needles because as long as the patient's expecting it to have an effect then it'll have an effect.

MC: It depends on…yeah.

APM: Two needles is double the effect.

MC: Two needles is double the effect. I don't think that quite works with two needles but we do have data to say more needles are better in chronic pain to some degree. So the dose does have an effect. There is some good data on that. It doesn't say anything about length of time they're in, numbers of treatments. Number of treatments and numbers of needles I think correlate with bigger effects in meta-analysis.

APM: In fact, I remember Anthony Campbell talking about that and saying that the effect of acupuncture was exponentially accumulative and so first couple of

treatments may well not be…have some effect but it was after he would…he said 6, 7 or 9…up to nine treatments and then you reach a plateau of pain relief. Is that what you found?

MC: I think that's roughly…I wouldn't use the word exponential, that's a specific curve but you —

APM: Absolutely, that's what…I'm pretty sure I remember him…he might not have used the term but that was the diagram he drew.

MC: Generally, I think there's an…probably, if you're talking about treating let's say a chronic pain condition where there's ongoing nociception, an ongoing perception of pain then the effect gradually builds and I think the effect gradually builds up over about 6 to 8 sessions, probably and I think you reach a plateau, yes.

APM: At what interval, would you say?

MC: I think you need to do it weekly. Twice weekly is good, daily doesn't seem to make it quicker. So twice weekly might be optimal. I think —

APM: But weekly is adequate.

MC: Weekly is adequate. I think two weekly might just still be in the parameters but you're starting to lose it then and if it's too far apart, you won't get the buildup effect I think. So weekly is probably fine and then where the patients perceive the effect depends on the condition and the individual I think. So quite often, they'll start to perceive an effect or some, straight away but then some won't be perceiving an effect until the 3rd or 4th treatment. I've had some patients not really perceiving anything until six just recently and I thought, "Oh, god, I've been under treating some people." It's always difficult to know when to stop.

APM: And in private medicine, you don't want —

MC: Yeah, absolutely.

APM: Always conscious of their pocket. I've got a whole load of questions, Mike which I've been carefully hiding until now. I'd like to get some out of the way. Someone said they didn't catch or understand what you said about acetylcholine earlier on. Could you go over it again?

MC: So this is the anti-inflammatory —

APM: Can you think that far back?.

MC: The anti-inflammatory reflex. So OK, so if you want to look it up, it's the alpha-7 acetylcholine receptor on macrophages and if you've got a bit of acetylcholine realeased from the vagus, say, on a macrophage in the spleen…so a spleen's a good place to get macrophages releasing TNF alpha. So this is tumor necrosis factor alpha. This is a big target these days for these monoclonal antibodies. So have you heard of infliximab?

APM: No, I haven't.

MC: So in treatment of inflammatory arthritis, like rheumatoid arthritis, if you haven't got the patient in relapse by six months of the diagnosis, if they're not in…sorry, remission, so you haven't got rid of inflammatory joints by then, usually, they then start these…they go in for infusions of this monoclonal antibody which attacks TNF alpha. So it gets rid of it from the body. So it's anti-inflammatory big time and that's what they use to try and control the inflammation. We have our own method of controlling that through release of acetylcholine. Now, we haven't proven that acupuncture can control rheumatoid but now there are experiments going on with stimulating the vagus. So people are implanting stimulators in the vagus and doing this and the guy who —

APM: So these are in place needles, are they? Or some other —

MC: These are implanted stimulators, not…it's electrodes on to the vagus. They're implants. They were first used to try and control intractable epilepsy but now they're starting to be used in trying to control rheumatoid arthritis. Now one researcher from the States, Lewis Aloha published a paper using acupuncture suddenly out of the blue because a colleague in Mexico said to him, "What are you doing implanting this thing?" "We're trying to stimulate the vagus." "Why don't you use acupuncture?" And he went, "Huh?" He said, "Yeah, acupuncture stimulates the vagus," and we sort of have a bit of data to say that it does seem to reduce sympathetic vagal tone and so he said, "OK," and so he went and looked up an acupuncture book for rodent acupuncture points, picked a point and did this experiment and sure enough showed that the mice survived septic shock in his model. There's a model that he used and published and it came out of the blue for me. I didn't even know he's doing this research. So I invited him over and that's how I learned about all this. I thought, "Blimey, I've never heard of this before," but it had been described in nature by a guy called Tracey back in 2000, the anti-inflammatory reflex. So it's well described but it's relatively new, you know. It's relatively new in medicine and I think now, some of the big companies are getting involved in bioelectric medicine. This is something you'll start to hear coming out where they're thinking about programming the body to try and use the endogenous systems to be more subtle in modulating outputs and they're doing this entirely on the basis of acupuncture research. You won't see acupuncture mentioned because it's not sexy enough.

APM: Coming back to my questions, you know, you've touched on this. The question is, "As an adjunct to, say, osteopathy or physical therapy, is the benefit of acupuncture purely in pain management? Are there other circumstances when a physical therapist might choose to use it?" I suppose is the point.

MC: Well, pain, yeah. Pain is a big thing now. Everything else has much less data but…so this girl Karen Lucas did a PhD on treating latent trigger points in shoulder girdle and she certainly showed a change in activation patterns. So if you're into that degree of subtly of, you know, tuning people up then you could target…so this is non-painful shoulders but where you can find latent points, you know, these ropes that aren't causing pain but you can palpate them. So she showed in her study that treating those did improve activation patters in abduction of the shoulder. Now that's one paper. That's the only one that's ever been done on this but I guess you could say then if you were tuning up athletes to be absolute on form then that might be an excuse for going around their body, trying to clear all these points.

APM: Did the research show how long that effect lasted?

MC: No, they just…I mean it's very difficult to do. You don't do long term outcomes for that sort of study. That was probably rather relatively short outcomes. Now what else would you do, use? You're talking about —

APM: You talked about bladder problems earlier on, didn't you?

MC: Bladder problems, yeah. So bladder activity, overactive bladder is certainly…seems to be an area where there's quite good data. It doesn't always come under the title acupuncture. Now I missed it for a long time because they start using terms like percutaneous tibial nerve stimulation, using, wait for it, acupuncture needle-like probes but because you don't find acupuncture necessarily in the title or abstract, you won't find it if you're searching necessarily. So PTNS. There are other terminologies that use acupuncture needles on electrical stimulation. TENS has been used. That's percutaneous electrical nerve stimulation..

APM: So why are they not making it more obvious, acupuncture study? Are people trying to conceal the fact that —

MC: I think acupuncture isn't very sexy. It puts people off basically because they associate it with something that's alien to them.

APM: It puts the conventional medical fraternity off —

MC: It does, I think, yeah. I mean I think it does put some people off in the east as well if they're brought up in a very conventional way and a lot of them are now. There's quite a lot of people I've bumped into in Beijing who go, "I go to

western medicine hospitals. I don't go to these, you know, traditional hospitals." And so I thought, "Oh, that's interesting."

APM: One of the questions that came in is that whether you twiddle needles or not. You did mention initially —

MC: I twiddled them today on Michael Mosley. You'll see. I don't know when that's on.

APM: You were doing "Trust Me, I'm a Doctor" today, weren't you? And your —

MC: I'm probably not allowed to talk about that though.

APM: So strike that from the record.

MC: Well, anyway, there might be something on it and yeah, I had to twiddle needles. I don't usually twiddle needles because I use Japanese style needles which are very smooth. You twiddle them, nothing happens. They're so smooth, nothing happens. So if you want to twiddle needles, you really want a Chinese style needle which are a bit rougher. So you get a feel. As you can feel a bit of resistance as you twiddle them, there's a little bit of a grasp on the tissues. So as you twiddle and pull —

APM: Absolutely. I've had needles you can't pull out —

MC: That can happen.

APM: Is that common or is it —

MC: It's not common with those needles, with these smooth ones. It's a bit more common with the Chinese needle but then it depends on the part of the body. So I think the low back is a good place to get them stuck, nice, big, chunky bit of muscle, especially in a man, especially if you haven't flattened out the lumbar curve. So the muscle's got potential to shorten and then you tickle the fascia as you put the needle in and they go, "Oh," and then it clamps down on the needle. So that's a good place to get them stuck. I have to say, I haven't had a needle stuck for so long and I wonder if it's partly to do with the smooth needles or I don't know whether it's just —

APM: Well, I've said stuck. I mean they come out eventually —

MC: Come out eventually, yeah. I mean, you know, the technique of putting another one next door, very interesting phenomenon. It wasn't until I'd learned that…as a youngster doing acupuncture, so to speak and it wasn't until later and I met a guy called Siegfriend Mense who's a big basic scientist, muscle pain basic scientist at a conference, I'd invited him and some of his research had shown that in fact pain in muscle compartments inhibits motor

activity and that slightly ran contrary to this old idea we had of pain, spasm pain cycle which is still…it's reducing now but it was knocking about for a while. For quite awhile, we used to think about it and it was not because the pain was coming from the muscle. The pain was probably coming from another structure and the muscle…so if you've got pain from a joint or from fascia or something then the muscle can contract around about it but if the pain is in the muscle, the muscle relaxes in the muscle compartment and I think that's the…and so then I thought, "Oh, god, that's the explanation of putting the other needle in." So presumably, the pain from this needle going in that got stuck was in the fascia, not in the muscle and then the muscle clamps down and then the fascia is still being stimulated and the muscle's tight but then when you put the next needle in, because the muscle is tight, that needle creates sensation of the muscle that then causes it to relax. That's my guess based on that basic science.

APM: So let's try and run through some more of these questions. I'm not quite sure I understand this question. The question wants to let us know…or to elaborate. It says, "Is there any difference in efficacy and/or outcome when the practitioner treats themselves over treating a patient?" I suppose —

MC: Self-treatment.

APM: Is that as effective as being treated by someone?

MC: So I mean, actually, Anthony started the self-acupuncture thing I think a long time ago, treating…because in the NHS, getting patients to do their own acupuncture and he was very cautious. He would give them little tiny needles and teach them some simple points but we've continued with that policy and we've expanded a bit more now and there are some circumstances where I've taught people to do their own electroacupuncture, you know, with needles in the abdomens and legs and the full electro- very successfully. And we've had these debates, is it better when you do it as a practitioner to somebody or whether when they do it…if they do it themselves, can they be as effective? I think the majority of practitioners think that it's slightly less effective when the patient does it themselves —

APM: A lot of patients would be quite reluctant to do that, wouldn't they?

MC: Oh, god, yeah, this is a minority sport. Yeah, you have to carefully…I mean I introduced it to the patient when I think, "This could be a subject." I'll say, "What do you think about doing it yourself?" They go, "Oh, no, I couldn't possibly do that. I don't even want to watch." OK, fine, no worries and then a few sessions later, I'll go, "So have you thought about having a go yourself or? "Oh, no, I couldn't possibly do that," and then other people, you know, straight away, you put the needles and they might say, "Oh, can I do it myself? Really? Can I do that?" And that really, you know —

APM: It's not rocket science, is it? It's —

MC: No, it's not too difficult and some of the patients, frankly, are better than some of the doctors I teach but…I mean they are. They concentrate on what they're doing and…I mean usually teach them limited points and then we have these protocols and we even run a course now. A couple of colleagues of mine run this course on self-acupuncture. So teaching practitioners how they might go about getting patients to do it themselves.

APM: I'm trying to get through all these questions. We're rapidly running out of time and we want to do a little bit of a demonstration, don't we, which I'm slightly nervous about, I must admit that I'm slightly nervous. Somebody says here, "Watched last time and people told me that they were drinking this evening and having soup," I don't understand what the hell this is about, "And tiramisu whilst watching. I was wondering what's the difference between five elements and TCM acupuncture?" I think the question is what's the difference between traditional five elements and TCM acupuncture?

MC: So there are lots of different schools of —

APM: Forgive me, I have no idea what that business about the soup was about.

MC: Or tiramisu.

APM: Or tiramisu.

MC: We're drinking water. So there are lots of different schools of acupuncture. In the UK, there is a prominent five elements school and that is…and then there are other schools that take more standard TCM approaches. So there are different schools and different approaches and the five-element school, well, it's principally based on that particular theory, five-element theory. I don't know the history very well but it looks like an add-on that came on, you know…it looks like a lot of TCM theories then five elements came and get plunked on and they incorporated probably in the Han Confucianism era which was about 100 AD, if someone can check. Oh, we're not allowed to use AD anymore, are we?

APM: We can.

MC: BCE.

APM: We know what you mean.

MC: You know what I mean, so about 2,000 years ago anyway and they were into…trying to incorporate different ideas and putting them together to keep everybody talking, you know, the same language. So you can see it sort of forced in to fit in the five-element theory. So it's just one particular approach

and some people learn that technique and, you know, it's about elements and there's all sorts of…I mean I don't want to get into all the details of five elements now but TCM, the more standard TCM theory looks at meridians, meridian pairs and in what's called rooted branch, so the underlying causes of problems which in 2,000-year-old theories to do with damp and heat, wind, this type of thing. So there's external factors and internal factors. So that's more common in TCM, eight principles I think it's called than five-element theory. Five-element theory looks, you know, quite complex and entertaining.

APM: I think there are a number of questions on this topic, quite important for us to look at the adverse effects of acupuncture. What adverse effects are you aware of that you've experienced in clinic and how do you communicate those risks to patients? Because obviously, communicating with patients is very important in all forms of medicine.

MC: I mean consent has changed. I co-authored a paper on consent back in 2001 when we used the term "informed consent" which has gone out of favor now. Now we talk about material risk. So we have to try and agree with the patient what is material risk to them, very difficult to do because how do you know what's material risk to them and the more I talk to them, the more they get anxious which is counter therapeutic. So I think our current consent procedures do not help us. It make patients anxious. I always tell patients about pneumothorax. Pneumothorax is the biggest…is probably the most prominent —

APM: And there was a fairly prominent case of that not too long ago, wasn't there?

MC: When? You mean the one I wrote up? We had one on our course.

APM: Did you? Right, OK, tell us about it.

MC: And I wrote that up and partly because it was three doctors involved. Doctor was a patient or subject, the doctor, very senior doctor who's doing the needling and me holding the camera because I'd organized the course and I actually captured it on video. So I published this case report with all three of us contributing and published the video just to show and it was basically a very simple missing a rib down on the back of the thorax and you can see…the video caught it, you could see that the insertion was slightly too deep at one point. It's easily done and —

APM: What is too deep then?

MC: Well, into the lung.

APM: How far down?

MC: Well, in this case, the needle actually went in four centimeters in a relatively slim chap and that's partly because practitioner thought they were by the angle of the rib. So they thought they were just by the angle of the rib and they thought, "I can't feel the rib now. I wonder if I'm by the angle, just go in a bit more," you know, and was slightly distracted by that, probably.

APM: But this was an experience acupuncturist —

MC: Very experienced needler, never had any issue like this before and the patient was a colleague of mine who came in the next day. I mean wasn't diagnosed until the next day, came in the next day and said, "You know, Mike, I think I might have pneumothorax." I went, "Oh, really? Do you want me to do…" Anyway, we organized a chest x-ray and had a small pneumothorax, didn't need treatment, left alone, got better as many do but very important lesson for us and I looked at our procedures and I rewrote our procedures a little bit to look at how we can try and make sure we avoid that and I only added a few things, you know. When you're needling everywhere, this is the most risky thing, you're trying to get a trigger point and you're needling on to a rib. Ribs are very easy to miss. So I just added a couple of things and those two important things were make sure you go in…when you're palpating a rib, make sure the needle goes in exactly the direction you can feel the resistance of the rib, OK? Everything else stays the same and the other thing, try and guess how far the rib is. Just guess, you know, and it may be 2 centimeters, 1 ½ centimeter, just have a figure where you're going to stop and check and just stop. Don't just carry on. Just stop and go, "OK, I'm going to check now and I'm not going to take this out because I'm not sure." Go somewhere else. Go somewhere where the rib is easier to feel and check to see how deep it is but very few people do these techniques that are directly under the rib because of that risk. Often, there are other things you can do. You can angle your needles and go, you know…pinch tissue up and try not to go towards the lungs but that is the biggest risk and it happens every year. There are lots of cases.

APM: Are there?

MC: There are actually lots of cases, yeah. I would say lots.

APM: I looked at some recently because I was teaching first aid and we incorporated pneumothorax into the first aid training because lots of physical therapists do dry needling or western medical acupuncture. Actually and I couldn't find many instances reported on a simple search of Google. It wasn't a detailed search.

MC: Not all are actually published. So there was a report from the NHS some time ago where the reports that came in to the NHS were logged. So they don't all get published that would be accessible. Well, the best estimate is from a big German study where they treated 220,000 patients, roughly 10 treatments

each and they had two case of pneumothorax, one of which needed treatment, one didn't. Unfortunately, in that massive data…it was huge and beautifully constructed database. What we didn't know is of how many actually had needling over the thorax which, you know…some of them would've had needling for the knee and of course, there's no risk there. So whilst that was one in a million —

APM: It was one in a million of the people who had thoracic needling.

MC: Yeah, who were actually at risk. So we can't be sure actually.

APM: What are the other adverse effects? And I'm rushing along a bit because I'm conscious of time here but —

MC: Infection is something we think about. It's not common. From the big German, that big German study Wit 2009, 1 in 70,000. Now, that included simple local infection of skin and I have to say in my…I don't think I've ever seen a case myself. Through running the journal, I published a few cases of serious infections. They're quite uncommon and I think there's nothing much you can do. As a practitioner, hand washing is the most important thing. Hand washing.

APM: What about needle shock as it is often described?

MC: Fainting? You mean fainting or…?

APM: Yeah, fainting.

MC: We had a very interesting case recently. Now, I haven't written this up. I've written a report that was in for internal purposes. I haven't published it but we had a patient who…an osteopath actually, so he might be listening, who shocked me a little bit because she fainted lying down. That's very uncommon.

APM: I've had one

MC: It happens very rarely but to faint lying down is very uncommon and…I mean we had three anesthetists on the table next to her. So it wasn't really a big problem. By the time we turned her over, she came around but that would be something with your head in a hole. So it's always important I think…it reminded me, you know, always communicate with your patient.

APM: Keep talking.

MC: Keep talking to your patient. If they say anything, make sure you check them. Unfortunately, her partner who's a GP was talking to her, fortunately female

partner. I mean if it'd been me, I might not have said anything. Can you imagine two males just going —?

APM: But you used the term fainting and fainting by definition is not particularly serious. It is transient. So are you saying that actually, left alone, it might not be a fainting? It might be proper unconsciousness and therefore is much more worrying.

MC: Well, a vasovagal faint basically means…it refers to a slowing of the heart rate, dropping of the blood pressure, reduction in blood flow around the brain such that you lose consciousness as a result of anoxia, so reduced oxygen in the brain. Now that can vary how profound that is. So you can stimulate some people strongly enough that they have a…basically the heartbeats go quite far apart. I don't want to say stops because it does not stop but you can have a long sinus pause, long enough to then…even if you're lying down to then convulse as a result of that anoxia. Some people refer to it as the reflex anoxic convulsion. So you might get convulsions and I certainly have seen that in the past, usually patients who have been sat upright. In fact, I had a case in the military, in a sergeant who had had electroacupuncture before and told me that he had electroacupuncture before. I said, "You'd be all right," Then I left him in the chair and started needling him. What he didn't tell me was he was lying down for the electroacupuncture. You have to stay lying down for 20 minutes after and I didn't ask but he fainted and I then couldn't get him lying down quickly enough and he had a bit of a minor sort of convulsion there.

APM: What about the conditions in which people treat…are there any special requirements that you would say…if someone's going to do medical acupuncture or dry needling in the treatment room, should it be different to any other treatment room? For example, on our carpeted floor here and —

MC: I mean technically, you're supposed to have washable surfaces for acupuncture is considered skin piercing and therefore it's lumped in with skin piercing regulations and they like to have washable surfaces. You could sometimes get away with a small pile of carpet. You can talk your way out of it sometimes. I think it's unnecessary to have washable floors because we don't drop blood anywhere, you know. Acupuncture involves, if anything, a spot of blood.

APM: A pinprick of the… yeah.

MC: Very rarely does it go anywhere. So you might be able to argue your way to not having washable floors necessarily but you would need surfaces, you need towel roll, you need, most importantly, hand washing facilities in the room and hand washing is the critical thing. It really is the critical thing because the big issue are things like hepatitis B. Now we have had no case of hepatitis B related to acupuncture for quite a long time now but there is that

potential. So it's really important for practitioners to know their status, to be immunized if possible. I mean not everybody can raise immunity but to be immunized, know their status and to take suitable precaution. So every patient is a high risk to you. You assume everyone's high risk and you'll be fine. Wash your hands, avoid getting…yeah, washing hands between patients by far and away is the most important thing.

APM: Which we would hope that everyone's doing anyway. We had a question about hepatitis which came in earlier on along with a lot of other questions which I won't have time to ask. Would you be happy if we asked those of you offline as it were and get those answers?

MC: Yeah.

APM: One I would like to ask is coming from Mike Bourne. He's one of our long standing members. His was one of the first questions that came in, so some time back but he wanted to know whether there's any dialogue with the Advertising Standards Agency over what we're allowed to say we can treat with western medical acupuncture which is a perennial problem for osteopathy and other therapies like ours.

MC: And I had been to said department and sat down with them and had this discussion and I thought I understood before I got there but I understand fully now how it works and it's quite restrictive. It is quite restrictive and I can't say I necessarily agree with the levels of restriction but I understand the necessity to have rules and basically, you have to be really careful what you write and I would…what we do now is we look at the CAP codes, so that's the Committee of Advertising Practice. So they work side by side with the ASA, Advertising Standards Authority, the sort of the body that adjudicates. CAP advice. Now, you can ask CAP. You can ask them to look at your website or look at your patient materials, patient documents and say, "Is this OK? Can I write this?" and if they say yes, it's very unlikely that a complaint against you would be upheld. So that's one useful thing. You can ask their advice. The other thing is they have a page on acupuncture and they'll say what —

APM: And that relates to western medical acupuncture as well as traditional.

MC: It's just like any old acupuncture. Not any old acupuncture, any acupuncture, either acupuncture and if you say what's on that page and don't say anything else, you'll be fine. Now that page could be updated from time to time but it's a slow process with evidence. The other thing you can do…now if you want to write more, if you're the type of person who wants to write lots of stuff and talk about things, what you are allowed to do is have research items on your website. You can have a research section and you can refer to that. You can say, "If you want to know about acupuncture in various conditions, refer to my research pages," and then you can have a research page on absolutely anything, acupuncture on Parkinson's disease, for example, and

you can discuss the evidence and what effects or otherwise there might be and you can be a lot more free in the way you discuss that if you call it a research page —

APM: Even if the quality of that evidence might be—

MC: Absolutely.

APM: --below the standard of a peer review journal. You just say that this has been reported somewhere and here it is. We have got five minutes left and a member of the audience does want to talk about…does want to learn about electroacupuncture, so can you…I'm very nervous about this and I'll tell you why because the last time we ran a course on acupuncture, I was the model for something and I reacted quite strongly to this.

MC: Did you?

APM: Yeah. There was no needle shock or anything. It just hurt. So are you going to hurt me?

MC: I hope not.

APM: This is the communicating with the patient now. So we're going to work on my knee —

MC: So we'll just use two. We'll just use two points then and —

APM: And you'll tell us what electroacupuncture does while we're at this.

MC: Well, electroacupuncture is…now are you comfortable? Do you want to just put your foot flat on the floor so you don't have to move?

APM: Sure.

MC: Perfect. So are you getting this? This is my favorite point here, Stomach 36 nicely in tibialis anterior.

APM: And I can't feel that at all. I'm pleased about that. I can now start to feel it.

MC: Cool.

APM: Which is a misconception about acupuncture, isn't it? A lot of people don't even feel when needles go in and wonder when you've taken them out.

MC: I know. It's weird sometimes.

APM: And yet sometimes you can get a very, very strong reaction. Not today, I hope.

MC: So this is what I use to do a lot, partly because…is that OK?

APM: That's absolutely fine.

MC: Often the fascial layer is what you feel. So that's the idea. With these needles —

APM: What would you use this for?

MC: This might be osteoarthritis of the knee. Now typically I would use four but we haven't got a huge amount of time. So we'll just connect these up. There we go —

APM: You got a cunning little machine which you might want to show to that camera over there when you get a chance. All right, I'll hold onto that then.

MC: And I don't know. For some reason, I always like. If I've got only a choice of one set of needles, I always go for the red one. Don't ask me. It doesn't seem —

APM: Red for danger.

MC: But red, it looks like it's more effective. In fact, placebo, red pills work better than any other. So maybe that's why.

APM: Really?

MC: Maybe that's why. So I'll just connect those up there like that.

APM: And what's the theory behind electroacupuncture as opposed to any other acupuncture?

MC: Well, so these are little impulses. So with acupuncture, it's a mechanical stimulus. So you're going to be stimulating mechanoreceptors. Electroacupuncture puts little pulses…nerves work on electrical impulses. So we're giving the same size impulses as the nerves run off basically. We're creating those, so we're stimulating all nerve fibers in the area.

APM: Is there a parallel with TENS?

MC: Well, it's very similar to TENS in terms of the nature of the pulse. It's much less intense than TENS. TENS is about three times as strong. Let me just turn that on while —

APM: I thought you had. It's already twitching.

MC: It's already twitching. Well, I'll give this to…have you got it on camera? Can you see this? You just basically turn it around. You've got numbers on them. Tell me if you feel anything.

APM: Yeah. OK, I'm getting a pinprick around the lower needle, quite an intense pinprick around the lower needle. Now I'm getting a pulse.

MC: Can we see anything moving?

APM: This one's twitching.

MC: So basically, you just connect to that. So you can put it up and down as you wish. I quite like to see twitches. So let's see if you can…yeah, that one's going. Yeah. So what a twitch means is that we're directly stimulating muscle fibers.

APM: Now it's pulsing quite regularly now.

MC: That's it. So that's usually a good sign. So that means the minimum we're doing is depolarizing a muscle cell, minimum. So there are two reasons for twitch, one might be direct stimulation of motor fiber and one might be direct stimulation of the motor cell…sorry, a muscle fiber which acts like a nerve as well. It, you know, depolarizes but they're quite difficult to depolarize. So looking at that, it's only a tiny twitch, not the whole muscle going. So probably that's the muscle cell or some muscle cells in the vicinity. So that means we're at the level that we're going to stimulate the nerves we're interested in. So that's why that's quite a good sign if you see muscle twitch. Of course, you won't see muscle twitch if your needles aren't in muscle because sometimes they don't go in muscle. Sometimes you put them into-, you know. So I might a pair into…or sort of if you've got a defect in your patellar tendon. I mean patellar tendinopathy is difficult to treat so it's not like…this isn't a cure by any means but I'd be putting two needles into that and do these as well. So you'd have control of those two and those two separately and maybe I'd use little fine red ones to go into the tendon and hope that that helps the repair process, you know. Obviously at the same time as you're instructing a patient to modify their activities, to stop jumping, whatever they do and try and gradually get them back to fitness.