Academy of PHYSICAL MEDICINE

Transcript

Hand, Wrist and Elbow
With Dr. Elliot Sorene

APM: This evening, this is going to be a really stimulating session of CPD. We have with us Mr. Elliot Sorene who is a consultant surgeon at the King Edward VII Hospital. He specializes in hand, wrist and elbow surgery and of course, he's got a long list of successes and accreditations to his name. He is, of course, a fellow of the Royal College of Surgeons but he is also, in the most recent survey, Tatler's best regarded doctor for hand, wrist and elbow surgery which makes him quite an exalted person for us to get in our studio this evening. Elliot, welcome to the set. It's a great privilege to have you here.

ES: Thank you.

APM: You do so many things. I'm going to ask you, first of all, the diversity of your practice, even specializing as you do in hand, wrist and elbow, you must see quite a lot of different conditions. I think I counted 16 alone on your website and I know you go out to India to do charity work out there. Can you just quickly run us through to a range of things that come across your radar?

ES: Well, certainly. In comparison to a hip and knee surgeon who sort of does hip and knee replacements, as a hand surgeon, it's quite a broad sub-specialty. So there's pediatric hand surgery, adult hand surgery. There's traumatic conditions, fractures, nerve injuries, tendon injuries, post traumatic reconstruction of problems after a fracture or after an injury or after a nerve injury, after a tendon injury, tendon reconstruction. Apart of the traumas, you have the elective conditions. So basically, it's everything to do with the hand, wrist and elbow whether that be cerebral palsy to pediatric abnormalities, congenital abnormalities and overuse syndromes such as your tennis elbow and common conditions such as carpal tunnel syndrome, trigger finger, tennis elbow, tenosynovitis, infections of the hand. It's a very, very varied sub-specialty, keyhole surgery of the hand, wrist and elbow sports injuries, basically everything. So there is a very, very wide range and this means that my clinics are interesting as you don't know what's going to come through the door and the operating list also…you have to keep up to date and it's an interesting thing.

APM: Now, we were just talking earlier before we went on air and you were saying

that the most interesting part of your practice is probably the trauma, the reconstructions surgery and I did see online as an article…we don't often bring patients into this because of confidentiality but I think…is it Newton Franklin (sic Newton Faulkner) who's a musician who you treated some time ago? Now, he coincidentally had released a double platinum album I think which was called Hand Built by Robots. Then, he went and fractured his radius and then you treated him afterwards and sort of hand rebuilt him yourself.

ES: Yes.

APM: But you elected for a slightly not unusual but less than usual procedure. Can you talk us through how that went?

ES: Well, he had a skiing accident, broke his wrist and the wrist was broken in a number of pieces. The way I fixed his wrist was with a locking plate and the concept of a locking plate which is now common practice but at the time I mean it was undertaken less is that a locking plate locks the pieces of a fracture in a rigid and stable position. So even fractures that involve a number of fragments, they can be held in position by screws which the heads of the screws lock in the plate and there was immediate rehabilitation and no need for a patient to be in plaster. So traditionally, patients who had wrist fractures would be six weeks in plaster or have their wrists wired and they'd be in plaster for 6 to 8 weeks and afterwards, they'll have very, very stiff hands and the concept of fixing a plate rigidly to begin with and stably, be able to move it straight away is very important. Not just for him as a musician but for anyone and if I may qualify, I may say that hand surgery, any surgery we do or I undertake is not as important as the rehabilitation thereafter. It's an interesting concept, hand surgery. The surgery itself is…of course, it's very important but if it's not 100% the surgery itself, that can be forgiven but even the best operation, if the rehab is not adequate, the patient will get a substandard result and if that certain patient…I will elect not to operate if they're in a situation where I know they will not get the necessary rehabilitation. So it's all about the rehab.

APM: So in his case, just dealing with that specific instance, what was the nature of his fracture? Simple fracture or —

ES: Well, he had an intra-articular fracture which went into the joint. It was a displaced fracture and the concept of…one of the reasons why I like trauma so much is…at my heart, I'm an orthopedic surgeon and putting…orthopedic surgeons, we like…as children, we like playing with Meccano sets and Lego and putting the pieces back together. The concept is when you reconstruct a fracture, put the pieces back together, you're reconstructing the articular surface and the concept of having a locking plate for a distal radius fracture, even complex fractures nowadays, can be fixed in a position where these pegs and screws, through the plate, hold it together so you can immediately mobilize. They can't bear weight and start doing press-ups on it but they can certainly go through the normal range of movement.

APM: Is that now the normal treatment of choice for such a fracture or —

ES: It's controversial to say that, you know. There's a saying that says when you've got a hammer, everything looks like a nail. It still will be what the surgeon…if the surgeon is more experienced to undertaking the more old-fashioned methods then that's fine. There's no one way to fix a fracture but it has become a much more common place and it's not just wrist fractures. All around the body, the concept of locking plates, of immediate mobilization has become a more common place where we would have to previously put patients in plaster for possibly a prolonged period of time.

APM: So in the instance we're talking about here, did he get back to playing guitar to the same standard as before and —

ES: Of course, yeah. If not, better. In fact, he actually used the x-ray for the album Rebuilt by Humans. Newton Faulkner actually put his post-op x-rays—

APM: Did he?

ES: --in the album itself. Yes, it's in the disc, in the plastic…yeah.

APM: Obviously, most of our audience are physical therapists. So what would you say is sensible or normal rehab for a fracture that's been fixed either with a plate or which has been splinted? Is that the same?

ES: Well, if a fracture is fixed rigidly enough with a plate and if it's strong, good quality bone and it's not osteoporotic bone and if the surgeon is confident then really, we could be going immediately for full range of movement but not weight bearing exercises and obviously, in the beginning, there'll be issues with respect to looking after the wound and the first two weeks until the stitch is out, there will be limitation but pretty much, you got to go for it.

APM: So you work quite closely with the physios on this and I'm saying physios because that's generally what we find in hospitals.

ES: I work very, very closely with my hand therapists. I have to. It's a must.

APM: What then are they doing in the way of physios? Range of motion just means wiggling your hand around. Are they building in strengthening exercises —

ES: Yeah. Well, muscle strengthening will come on a bit later on, a couple of weeks down the line but you're going for range of movement and once again, if you've got a wrist fracture then the elbow can stiffen up, the shoulder can stiffen up and likewise, the fingers. A lot of hand operations and hand injuries and even patients who have not undergone surgery, if they don't mobilize quick enough, they can develop stiffness and even a complex regional pain syndrome which is something which we do see. And the movement itself, it's not just mobilization. It's also edema management, swelling. It's the whole management of the limb itself.

APM: In terms of complex regional pain, which actually…I think it was our last broadcast but one, we were in the same studio discussing that very thing. Why does that occur? Why should somebody develop that from a relatively simple traumatic injury to say the wrist?

ES: Complex regional pain syndrome is an extremely complex condition that no one really understands. It can come on after a paper cut. It can come on after a carpal tunnel decompression. It can come on after a closed fracture. I believe that the hand is an organ that has to be moved and I do believe that there are many factors including patient factors, the factors to do with the injury but I do fundamentally believe it's related to the overreaction of certain neural stimuli to pain, to the injury itself, to the swelling of the limb, to the blood supply of the limb, to the venous return of the limb. It's basically a situation where the limb shuts down and stiffens up. We could have a whole session talking about complex regional pain syndrome but it is…I don't believe it's black or white. I believe that every patient that's immobilized for six weeks in plaster or that doesn't move the hand develops a certain element of dystrophy and stiffness. I believe that everyone who's been in plaster has stiffness. Everyone who's been in plaster has skin changes, develops more hair on the hand. The blood supply is…even in the best situation and that's…complex regional pain syndrome is an extreme of that which involves severe pain, aggressive stiffness. Even changes in the skin and even Dupuytren's thickening that changes the palmar fascia itself could occur as a result of the injury, post traumatic Dupuytren's in a patient with complex regional pain syndrome. So the whole limb changes basically.

APM: If somebody's been plastered instead of having a plate fitted to their fracture, what rehab can they do before that plaster comes off? Is there any mileage at all in simple hand movement?

ES: Very much so. One of the most reasons for stiffness in fingers of patients who've had a plaster cast applied to the end of their fingertips or immobilizing the MTP joints and this…I will see a patient that's had a fracture which has been reduced and put in an excellent position and the x-rays look wonderful but the patient could've been in a plaster which immobilize their fingers and they will develop extremely stiff hands, rigid hands and they will come to me and the x-ray will look beautiful and they will say, "Something's gone wrong here. This fracture needs to be rebroken. It's in the wrong position. I'm worried about the fracture." And I will tell them the fracture's history. The fracture's fine. The problem is you get by which we used to call plaster disease but basically, they have to move their hand straight away. If you have a plaster, it immobilizes the metacarpalphalangeal joints, the hand will become very, very stiff and in fact, if a fracture could only be reduced in a perfect position with the hand in an abnormal position, that will be an indication for me to say, "Listen, I can't have a patient like this for six weeks." If a patient's like this for six weeks, they will develop carpal tunnel syndrome, complex regional pain syndrome. I've held my hand like this now for a few seconds and already, I'm losing the sensation in my fingertips and it's quite painful. So if I was to hold this like this for six weeks then it's not going to work.

APM: I mean why would they need to in order to get the fracture into a normal position?

ES: Because the classic Colles' fracture, distal radius fracture goes into dorsal angulation and radial deviation. So the position to reduce the fracture is on the deviation and forced flexion. Once the fracture is reduced, the plaster should be ideally immobilized in a functional position. If the only way to keep the fracture in the right position is to hold it in what used to be called a cotton loader position, it's not sustainable and this is going to cause problems. So that's one of the reasons for a great deal of stiffness and even…you get to the stage where you could actually recognize which accident, emergency a patient's been to for how the hand has been immobilized in plaster after a fracture.

APM: How often does that happen, do you think?

ES: It happens a lot. If I ever see a referral to my practice in London, if I look at the address and it said Scotland or Lincolnshire or Yorkshire, they're coming from a very, very long way away to see me, I know they've either got complex regional pain syndrome and often on the background, being immobilized in plaster for a long period of time in such a position or they've got Kienbock's disease, basically. Yeah.

APM: Now you talked about Kienbock's disease which I confess, to my shame, I've never heard of until I read you bio. Talk us through Kienbock's disease if you will.

ES: Kienbock's disease is actually quite a rare condition but because I'm a hand surgeon, I see a lot of it and because a lot of it tends to come my way and I treat a lot of patients with Kienbock's disease but Kienbock's disease is a peculiar and unknown condition where the lunate bone…the blood supply shuts off the lunate. The fact that it's called a disease causes patients quite rightly to be anxious about this and the concept of a bone dying and avascular necrosis cause a great deal of concern but many patients with Kienbock's disease are in fact asymptomatic. For example, a patient has come to see me just before I came to you, the last patient I saw in my clinic today came to see me from Lincolnshire with Kienbock's disease but in fact, the patient's got base of thumb osteoarthritis and as an incidental finding on the x-ray, they've seen that she has wrist arthritis and her lunate has shattered into many pieces. Actually, she's got a full range of movement of the wrist. The problem is her thumb. The Kienbock's disease cannot cause any problems. It can cause pain and progressive stiffness in the wrist. So the message would be that if a patient…and often, they discover it after an injury. So it could be quite a…and they will put it down —

APM: It's an incidental finding.

ES: An incidental…the patient will say, "I sprained my wrist," and then ever since, something quite minor, they'll have had their X-ray in A&E which shows fragmentation of the lunate and that can provoke the symptoms and they can

develop progressive stiffness. So my message would be, for our audience, first of all, wrist sprain by definition is a diagnosis of exclusion and I'll get back to that in a minute, if you don't mind but Kienbock's disease…if a patient has had a wrist injury and is not getting better, the pain is staying there and they're getting progressive stiffness then they do need more investigation such as an x-ray or an MRI.

APM: Sorry, I interrupt you there. How does this come about? The lunate has double blood supply, generally. So what would cause this necrosis? Why would it suddenly —

ES: Well, there are those who say it's linked to certain shapes of the lunate. It's linked to certain blood vessel arrangements in the lunate. It's more common in patients with cerebral palsy who have, obviously, more wrist flexion. It can't just happen for no reason at all. It's a peculiar condition but just like other spontaneous avascular necrosis in different bones in the body and like any orthopedic problem, it has a progressive nature where it progresses the collapse and I'd like to say for my audience, there are many classification systems and basically, in orthopedics, you either…classification systems…early on in the disease where you can do a reconstructive option and make things good or later on, once it's all gone bad and the bone has collapsed, that will be what's called a…when you have to do what's called a salvage option which is either a fusion or a joint replacement and you can't get this bone to heal and that's the same whether it be avascular necrosis of the lunate or of the femoral head, wherever it may be.

APM: If this is asymptomatic, what's the consequence of not having a functioning lunate for people?

ES: If it's totally asymptomatic, so we would observe…if it's already collapsed, the lunate and it's asymptomatic and we have a situation where the lunate's fragmented into many pieces and they've got a full range of movement then we'll leave them alone but if it's early on and it's discovered on MRI scan, the patient has wrist pain, it will be unusual by definition to find an asymptomatic Kienbock's disease because you're doing the MRI for a reason or the x-ray but if, for example, you were to do…someone had a wrist pain and you x-rayed the wrist and saw a lunate which had not collapsed but yet was sclerotic and you discover Kienbock's disease then we would…there are procedures to revascularize the lunate or to shorten the radius if the radius is long but before that, six weeks of immobilization in a splint can often make it better. This is a controversial condition. What I'd like to say about Kienbock's disease, the long term study shows that…by taking 1,000 patients with Kienbock's disease, whatever I do to them, they will eventually have painless stiff wrists. So whether they're operated or not operated on or whatever operation I do, they will eventually have painless stiff wrist which would…you only treat patients with Kienbock's disease for the pain. You don't treat them —

APM: So those who come in with it as an incidental finding, you'll treat whatever they were being seen for but ignore the Kienbock's.

ES: If it was advanced Kienbock's, most certainly.

APM: In our clinics then, I mean we treat sprains all the time or certainly, our sports therapist colleagues treat a lot of sprains and most physiotherapists will. What's our examination? How do we exclude Kienbock's disease?

ES: First, it's not just Kienbock's disease. I'd like to say one of my bugbears is that…if anyone sprains their ankle, they'll go to A&E and have many, many x-rays because everyone will say that, "You could've broken your ankle. Let's do lots of x-rays," but wrists are often…you'll see a patient who's fallen off a motorbike on to their wrist and they've gone to A and E and often, they're never x-rayed. They're —

APM: Well, the instinct is to look at the scaphoid, isn't it? I mean that's —

ES: But often scaphoid views aren't undertaken and the wrist is a little bit neglected in terms of…so often, a patient could attend your clinic with a diagnosis of a wrist sprain. You have to bear in mind they might never have been x-rayed, OK? So firstly, to rule out a scaphoid fracture is of utmost importance and apart from Kienbock's disease, there are ligament injuries of the wrist and really, if a patient's not getting better, they need more investigation and with respect to physical examination, the way I examine the wrist…there are many, many provocative tests for the wrist which are difficult to elicit but the most important thing for me, I say to the patient, "Where does it hurt you on the wrist?" And the patient says, "Invariably, it hurts everywhere, doctor," and I will say to them, "If you had a piece of gold dust at the end of this finger, I want you to show me exactly where it hurts the most. You can only touch one place." So if they touch here then I'm thinking of a scaphoid fracture or I'm thinking of…if it's not traumatic, I'm thinking of De Quervain's tenosynovitis. If they touch the back of the wrist, then I'm thinking of…that could possibly be Kienbock's disease. If they touch over here, then I'm thinking base of thumb arthritis or a problem in the base of the thumb. We have to remember patients don't know that's the base of the thumb. The patient believes that's the wrist which it is, in effect. If patient touches over here, then I'm thinking of the pisotriquetral joint or structures on the underside of the wrist and they touch there then I'm thinking of a triangular fibrocartilage complex or a ligament structure on that side of the wrist. The whole concept of the area of maximum tenderness is extremely important for the wrist, I would say. The area of maximum tenderness where the patient points on physical examination and if they're stiffening up, that should be a warning sign that something's going on, OK? Patients —

APM: Well, you'd expect initial stiffness with a sprain —

ES: You expect initial stiffness but if it's not getting better, if they're getting more and more stiff and already it's weeks, months down the line, this is an issue that needs to be looked into.

APM: Somebody has actually sent in a question, asking how you revascularize a lunate.

This transcript will shortly be replaced by a concise text summary.

ES: That's a very good question. OK, so how do you revascularize a lunate? This type of surgery was brought about primarily to do with scaphoid fractures but also because of the lunate. There are many branches that there is an arcade, there is a connection between the radial artery and the ulnar artery on both sides but primarily, on the back of the wrist, there is a connection, where these two arteries have a connection and there are vessels that go back in the floors and in between the extensor compartments of the wrist and there is a technique which we can use where we can lift a piece of blood…a piece of bone, sorry. We can lift a piece of bone on a branch of one of these vessels, lift it in the air and it's a piece of bone. It's a flap of bone. It's a piece of bone that has a vessel attached to it and we use magnification to do this and we can take this piece of bone, insert this into our dying lunate or into a scaphoid. We can use this piece of bone and it's an operative technique which…as orthopedic surgeons, we call vascularized bone graft but it's a piece of bone with a named vessel, giving it blood supply where we plug it into the bone and then put a little screw across. And so that's how we physically do it. So it means surgically, yes.

APM: That's fascinating, there's nothing we can do about that, unless…somebody has asked in one of their questions whether the source of therapy that we would do is going to help with vascularization. Even, soft tissue massage is generally regarded being very good for improving —

ES: Well, most certainly.

APM: Is that going to help with something like that or is the reduced vascularity of the bone too much to overcome?

ES: I mean that's a very interesting question. I mean one of the reasons why…some of the operations for Kienbock's disease, for example, involve an osteotomy of the distal radius or just digging a hole, what we call core decompression of the distal radius and there is a school of thought that says why do these operations work and they just say because you're making a scar and scraping bone around. You're increasing the blood supply to the area and actually maybe or not really, it's just the whole limb getting more blood supply and helps the lunate to heal. So certainly, movement, soft tissue massage, anything you do that can get that limb to work makes it heal. Likewise, with complex regional pain syndrome and if there were movement, it's functioning and without movement, the blood supply is altered.

APM: Did I miss something earlier on? Why the emphasis on the radius in treating Kienbock's disease? Is it a deformation or lengthening of the radius which causes the problem or…?

ES: Well, Kienbock's disease is more common in patients that have longer radius. There are different variants and all the negative for having a longer radius…they believe that the step between the radius and the ulna increases the load over the lunate and can interfere with the blood supply. So that's the reason we do a radial shortening and that alters the mechanics of the…and that

can be a very, very successful surgical procedure, to actually shorten the radius.

APM: That imbalance in length, is that detected along physical examination? Can you see an unusual lateral, medial deviation in the wrist if the —

ES: Well, sometimes. I mean sometimes you can see. If the arm is extremely prominent then you know their ulna's…they have an ulnar positive which could be linked to other conditions such as abutment but that's more of an arthritic process but if you can't really see your ulna, maybe it's tucked away. They've got a more…

APM: One more question on Kienbock's, if I may. I'm fairly old school and I remember being taught, particularly with scaphoid fractures, there's no point x-raying them within the first 10 days because you need to be able to see new bone growth and it won't show up on x-ray. Given that we're looking for that sclerotic tissue, sclerotic bone tissue in x-ray, how long before an x-ray's going to be of value in Kienbock's?

ES: In Kienbock's disease, sometimes the x-ray's…very early Kienbock's disease, sometimes…Kienbock's disease is a weird one, you know. You can have a patient where they have wrist pain, you don't see anything on the x-ray. On the MRI, you can see the bone's dying. You can put them in a splint for a couple of months, a bit of physiotherapy, a bit of rehab and then it just disappears and heals. Kienbock's disease, sometimes you can possibly never see that. There's no rule that says it's going to progress from stage 1 to stage 4.

APM: But by the time they've got pain, presumably, they will be —

ES: Not necessarily. Sometimes they can have pain at stage one and sometimes they don't notice until it's stage four. There are no rules with this but yes, with the advent of MRI, we MRI patients a lot more. That's one of the reasons we discover Kienbock's disease in an earlier stage and many other conditions. That's the reason we have —

APM: And that's your diagnosis of choice or medium of choice, MRI. Is that better than x-ray or is it just different?

ES: Well, most patients that present with Kienbock's disease do present much later on when it's already collapsed, to be frank. So you do see that already on the MRI but the early on patients, certainly an MRI would be would be the examination of choice.

APM: You mentioned De Quervain's disease earlier on. Talk us through that one then.

ES: So De Quervain's disease is a tenosynovitis of the first extensor compartment and this is when you get a swelling…sometimes a swelling but you get basically radial sided wrist pain. The classic patient will be a patient of the…postpartum De Quervain's tenosynovitis after they've given birth. It used

to be described as being a condition to do with wringing out nappies but now, you have disposal nappies. Then we said it was due to hormonal changes of breastfeeding but now, I'm seeing stay at home dads and they're clearly not breastfeeding, OK? So I believe De Quervain's has to do with repetitive movement, buggy, holding the baby very tight when you hold a baby with a force flexed position of the wrist. Maybe lack of sleep, hormonal changes in the mother and it could also come on nothing to do with postpartum. It can come on with repetitive movement, certain activities that cause this tendonitis. It's quite similar to trigger finger in that you get the sheath which the extensor pollicis brevis and the abductor pollicis brevis goes through becomes thickened and swollen and it can even get a nodule which feels rock hard like bone and they can get pain in there and the management of De Quervain's tenosynovitis, if it's painful which it often is, is like anything in hand surgery, like many conditions it's either conservative or surgical and conservative treatment will be therapy, rehabilitation, splintage for a period of time and if that doesn't work…when I talk about therapy, I'm including everything whether it be acupuncture, ultrasound treatment, I'm including everything. I want you to know that hand surgery, we have what's called a low hits rate. So unlike my hip and knee colleagues that want to operate on everyone, as hand surgeons, we try everything else first, OK? So it's a little bit different to a lot of orthopedic surgeons that many of the audience will be used to —

APM: But they all say that.

ES: Do they say that? We actually mean it and I was about to say something about…yeah, we work off the clinic. Basically, we earn off our clinic. It's a little bit different, I don't want to go into that, but the patients often do get better. Conservative treatment, let's be honest, it's better. It's better for the patient.

APM: You mentioned immobilization, splinting this. Is that sort of, you know…the standard sport acronym is RICE, isn't it? Rest comes first. So is splinting your first approach to tenosynovitis?

ES: If it's very painful and swollen and they've got a nodule there then yes.

APM: So how long?

ES: I'll try that certainly for 2 or 3 weeks, OK? Certainly —

APM: How much change would you expect to see in that time with something that's going to resolve?

ES: I'd like to see significant improvement. If they've got a nodule, if they're in pain which is affecting them particularly at night, I'd like to see a significant improvement and if that doesn't get better then my treatment will be a steroid injection. I personally only inject around tendons once with steroid and then nowadays, patients often initiate the contents of an ultrasound guided steroid injection, the idea having the steroid injection undertaken under ultrasound guidance by a radiologist and one of the possible complications of a steroid

injection around this area is rupture of the tendon which is unusual after one injection but certainly, after recurrent injections, that can occur. So I'll try a steroid injection, if the steroid injection doesn't work…it's unusual for a patient not to respond with De Quervain's good conservative treatment and a steroid injection. If not then there is an open release, an operation to release that. What I would like to say also, we don't talk about complications of steroid injections. Especially De Quervain's tenosynovitis and tennis elbow, around bony prominences, it's important for the patient to know that having steroid injection in this area has possible complications. One would be rupture of the tendon which is extremely unusual. The other one which is much more common would be skin depigmentation and particularly in dark skinned patients. They can actually get an area of postage stamp size which can be bright white and even in light skinned patients, they can get sort of purplish decoloration in the skin and this is…the patient needs to know this and, yeah, that's the important thing for a patient to be adequately consented and I actually make a patient…sorry, I actually go for a consent form with patients because the issue of complication, it's important for patients to know. It's not a totally benign method of treatment.

APM: And what's your hit rate with that?

ES: It's very successful, to be honest, yes. Steroids do work, yes.

APM: And is that just your hit rate or is that the hit rate in general? I mean are other people, not hand surgeons, doing steroid injections into the tendon?

ES: Well, the tendon sheath, I mean —

APM: Like could a GP do it for example?

ES: A GP, yeah. For trigger fingers, there has been studies actually showing that the success rate for injecting into the tendon sheath and for the…there was a study putting methylene blue with the steroid. I think it was from… I don't know if you would actually get ethical approval to do that now but anyway, this was an older study which a lot of patients…methylene blue with the steroid, injecting into the tendon sheath and then x-ray the patient afterwards to see whether there was a correlation between whether the steroid itself had gone into the tendon sheath or whether not because your x-ray —

APM: Well, that's where my question was going, of course.

ES: Yeah and the answer is that there was…it makes no difference, as long as it's in the area of a steroid. As long as it's in the neighbourhood, it seems to work is the answer to your question.

APM: Well, actually somebody sent in a question, asking if you know why the skin gets depigmented.

ES: The steroid, it would appear…what happens is when you inject it, you get a sort of backflow through your tract where you've injected, normally it's after

you withdraw the needle. So the steroid comes out through that tract and the steroid actually kills the fat, and you actually get a layer of subcutaneous fat disappears and you get a sort of bluish tinge to do with the vascularity which often actually does gets better but sometimes it can be permanent, yeah.

APM: There's another question on De Quervain's here. Someone asked why they found that patients with De Quervain's mostly get better just with splinting, in this person's experience.

ES: Yeah, I think…well, actually, that's a good question.

APM: Is it just the rest?

ES: I think it's the rest itself and I think it's the specific movement. Unlike trigger fingers, it's difficult to sort of splint a finger and avoid…I think it'll be problematic. There are many studies that do show success with splinting trigger fingers and splinting trigger thumb but you can splint someone's wrist and they're going to comply very well with that, having a splinted wrist. Firstly, they're in a lot of pain anyway, the splint actually…they like the splint a lot and they're going to comply very, very well with that. So the inflammatory issue and the swelling and the thickening actually basically heals. So that would be why. They can undertake all the activity of daily living with their wrist splinted whereas a trigger thumb, tenosynovitis of the flexor in the thumb, it's extremely difficult for someone to function with a splinted thumb. So yeah, I would say that the answer is first, the reason that the splint works is patients like the splint and it does calm it down. It actually works, yeah.

APM: But don't you have to immobilize the thumb?

ES: The base of the thumb you immobilize but the tip of the thumb…nowadays, the modern world we live in, we're only using the tip of our thumb is probably one of the most important. For many patients, it's more important than their legs, I would say.

APM: De Quervain's, as you said, has a preponderance to the…of women's disease. Going back to your sort of explanation how that might be the case, is that predominantly women of child rearing age?

ES: Not necessarily. First of all, I'd like to say, tendonitis trigger digits, I'm even seeing teenagers now with obsessive gaming and it's unusual but I'm actually seeing this. Also, you get congenital trigger thumbs and congenital trigger fingers even in children and that's unusual. De Quervain's disease is common in patients that undertake repetitive movement. We do see it in older patients. We also see De Quervain's disease co-existing with osteoarthritis at the base of the thumb and these two conditions do go together.

APM: Is that just an inflammatory component that's just spreading into the tendon, do you think?

ES: There are those that say that De Quervain's disease is more common in patients that have more than two tendons, OK? That they don't have just the abductor pollicis longus and extensor pollicis brevis. They have extra slips, different extra tunnels and that's also more common in patients…that type, having an extra tendon there is a risk factor for osteoarthritis at the thumb base. So they kind of go together.

APM: Let's move on. Because you've mentioned trigger finger and trigger thumb a couple of times and it always puzzles me why it has this name because the last thing a trigger finger wants to do is to snap open. You want it to snap shut but that's one of the signs and symptoms of a trigger finger, isn't it? That it'll flex and it suddenly snaps —

ES: Exactly. We call that triggering but I agree with you, it's not like pulling a trigger but yeah, we call that triggering and that is when you do get swelling over the A1 pulley and we don't know —

APM: The A1 pulley.

ES: The A1 pulley. We don't know why it's this particular ring in the finger which traps the tendon and it's also peculiar why it would be the ring finger. Maybe that pulley is congenitally smaller, congenitally…we don't know why it's the ring finger which is affected more than other ones. We do see triggering of the A3 pulley as well but it's much, much rarer but what we do know is the —

APM: How many pulleys are there? I haven't heard these terms.

ES: If you imagine a fishing rod that has the string and there are rings on the fishing rod. It'll hold the strong on to the rod and likewise, your tendons, your flexor tendon has rings that stop it from bowstringing. You have rings that go out. So you have the A1, A2, A3, A4, A5. You have five annular pulleys, annular coming from the Latin word annulus meaning ring that go out the finger and the A1 pulley's the one which swells and becomes tight and causes the tendon to catch. We know it's more common in patients with diabetes. We know it's more common in patients with Dupuytren's disease. We know it's more common in patients that…manual work, repetitive golfers, tennis and it can also just happen for no reason at all. Another thing which I haven't mentioned is these conditions go together, tennis elbow, carpal tunnel, trigger finger. These kind of conditions is sort of all related to overuse and the world we live in.

APM: So this trigger finger is an overuse thing.

ES: It can be, yeah. I mean it's a philosophical thing. I mean all of these conditions in the upper limb…I mean I say to my patients…particularly with work related upper limb disorders, certain types of inflammations and tendonitis, I like to say to the patients that, you know, it's a philosophical…human body, we were designed to be standing up. We were designed to be running around a field or hunting and gathering and climbing trees and eating berries and whatever your belief system is, we were probably not designed to be sitting in

this chair with our spines flexed, our forearms pronated, our wrists flexed, staring at screens with repetitive…probably, the human body was…I think most of us would agree, we were not designed to be staring at these screens all day doing that and there is a constellation of symptoms where there would be tendonitis, carpal tunnel syndrome, trigger of digits, tennis elbow. These conditions are all exacerbated by the whole concept of ergonomics and posture and kind of life in general. So yes, sorry, I've diverged a little bit.

APM: No. That which made me think when was the first instance recorded of trigger finger then? I mean presumably, it preceded mobile phones but…

ES: Yeah. I mean we do…we used to call it BlackBerry thumb, the whole concept of…I think it's a multifactorial thing. I have no doubt that cavemen had trigger fingers as well but I think it's all related.

APM: The buttons were harder to press in those days, weren't they?

ES: Exactly.

APM: We just had a question come in actually, asking…because you mentioned earlier on about the number of tendons running down the forearm. Do you see a huge variation in anatomy in the hand?

ES: Most certainly, yes. So we're talking anatomy specifically, certain things happen. There are different tendons. Carpal tunnel syndrome. Sometimes you can open up the carpal tunnel and you can see an extra tendon within the carpal tunnel. You can see the Palmaris profundus tendon. You can see a tendon going through the median nerve. On the back of the hand, you can see extra…sometimes patients that present with swelling on the back of the wrist as a ganglion…it's not a ganglion. It's an extensor digitorum brevis and aberrant muscle. There are variations. Not all human beings are the same but the most common, I'd say certainly, a patient…the two tendons in the first extensive compartment that cause De Quervain's, there can be 2, 3, 4, 5, 6. There can be many different tendons, OK? There can be tendons all over the place.

APM: Many of them will be very small slips?

ES: Yes, many of them are not functional, not really doing much.

APM: Doing back to your trigger finger, I mean this is a thickening of the A3 pulley?

ES: The A1 pulley —

APM: A1 pulley, sorry. So what can we do about that before we let you get your knives out?

ES: Yeah. I mean I think if it's swollen and an inflammatory thing, certainly manipulation, massage.

APM: And are we looking to sort of stretch the…is it the retinaculum that —

ES: The sheath itself, that could also help. You do have…many patients nowadays are pretty clued up and they've already Googled the steroid injection. They've Googled the operation which is a good operation but the scar can certainly take a few months to settle and the honest truth is that many trigger digits can actually get better by themselves, OK? It depends, you know, how long it's been going for. If it's been left for too long, they do sometimes get a flexion contracture and it can be problematic but if it's early on, certainly. A patient that's just started triggering, there's no need to rush to do anything invasive.

APM: So is that flexion contracture fixable?

ES: No. Once the joint becomes rigid and if they've had it for years…and sometimes, it is. In children, it is. Patients with congenital trigger thumbs, they do tend to eventually loosen up. In adults, it can be permanent, yeah.

APM: Has there been any research into the causes? I mean you mentioned a whole range of things which might predispose people to this and obviously, it's very easy to say BlackBerry's or tablets, we're overusing our thumbs in texting. I mean is that just common sense, an instinct or has somebody done the research on that?

ES: Certain trigger digits, they do have like a sort of Dupuytren. They have different fibroblast, a different expression of more type 3 collagen. There is a relation. There is this whole concept of frozen shoulder, Dupuytren's disease, trigger finger. They are linked and there is an expression of certain types of fibromatosis but the answer is it can happen in patients with totally normal histopathology. So it's complicated.

APM: You mentioned this linked with frozen shoulder. Is that a link with frozen shoulder or does it come about because frozen shoulder is more common amongst diabetic patients who you've already said are predisposed to some of the things that you mentioned?

ES: Yeah. I mean that's another good question. Could you say that all of the patients that aren't diabetic that have frozen shoulder and Dupuytren's are pre-diabetic? That'll be an interesting study. Yes.

APM: We'll think about that.

ES: We can think about that, yeah.

APM: But you mentioned Dupuytren's several times now and it's one of your major focuses in clinic, I think.

ES: Yes, it is.

APM: Talk us through that one then.

ES: OK. So Dupuytren's disease is an interesting condition where…so if you go to certain parts of the world, if you go to Norway, Sweden or the North of England or Scotland, a lot of patients, sort of over 90% of patients after the age of 50 will have little nodules and lumps and bumps in their hand and they don't know any different. Underneath the skin, you have the palmar fascia which you can't really feel. It's the sheath of tissue that holds the skin down to the structures underneath. In certain patients, they have a different expression of collagen. They have their fibroblast become myofibroblast and they can get these little lumps and bumps which often don't problem the patients at all and something can trigger these lumps and bumps to cause the nodules of Dupuytren's disease to cause contractures and bend the finger down.

APM: And the nodule appears where?

ES: The nodule could appear anywhere. The most common, once again, is the ring finger which we don't really understand why and in some studies show the little finger's more common in Dupuytren's but normally, the ring finger. The nodules will appear in the palm or they could appear anywhere. It's more common in the ring and little finger but it could also appear in the radial side of the hand. They can also develop Garrett's pads over the dorsal and the proximal interphalangeal joints but these nodules could turn into a cord and actually bend the fingers down. This can actually often be confused with trigger digits or even around the nerve palsy but if you've got a palpable cord or a nodule in the palm and it can cause contracture…once it's a contracture, the patient can't get their hand down flat on the table and they're starting to poke themselves in the eye every time they wash their face. Often, they'll seek treatment. Now, the interesting thing about Dupuytren's disease, whatever you do to Dupuytren's disease, it does not affect the natural history. In fact, quite the opposite. So you can have a patient with Dupuytren's disease and remove every piece of Dupuytren's tissue in their palm and three weeks later, they can be worse than they were beforehand. So you only ever treat a patient when you're prepared to take the risk of them getting worse which has…and because the rehabilitation after a surgery for Dupuytren's disease…if a patient has a contracture, the surgery involves opening the finger up and removing, dissecting out the nerves and the blood vessels and removing this Dupuytren's tissue. The hand's very swollen afterwards. It can take a number of months to recover from it and if the patient…it takes them six months to recover from it and then a few weeks later, they're exactly where they were beforehand, patients often seek a less invasive method of treatment for Dupuytren's disease and this has led to more minimal operations to needling to try and break the cord to —

APM: Needling meaning acupuncture —

ES: No, needling meaning fasciotomy, literally taking a needle and actually scraping the cord to break it or Xiapex treatment and Xiapex treatment is collagenase which is a method treatment which I employ a great deal and that's to inject an enzyme into the Dupuytren's cause and to cause the finger…afterwards, you undertake manipulation to strengthen the finger and that can be as effective as surgery although the recurrence rate is the same as

surgery. You have to bear that in mind.

APM: Is it more often the dominant hand or non-dominant hand or is there no pattern to this? Is it more often just one finger or could it be more than one?

ES: Yes. So there are no rules but normally, it is the ring finger and it's a funny one because often it can…I think it's as common in the dominant hand as the non-dominant hand and we see this also with base of thumb arthritis which is a peculiar one as why often it presents in the non-dominant hand. Maybe it's to do with what you do with your non-dominant hand with respect to supporting other things Very interesting, that is but Dupuytren's disease normally affects more than one finger. It can just affect one finger. You can just get a solitary nodule, a solitary cord but normally, it affects more than one finger and normally, it's pretty relentless.

APM: And your example just now, all your fingers were completely flexed.

ES: Yeah. Normally, classically it would be the ring finger and the little finger but in more aggressive patterns where it's more genetic and it's coming on at an earlier age, it can certainly affect a number of fingers and it can progress to extremely severe contractures. I went to the London clinic where I've been doing practice for years and I suddenly looked up and I didn't even realize that the statue at the entrance of the London clinic shows a hand in the sign of Benediction and in fact, basically, it's a hand with Dupuytren's disease, yeah and there are those who say Dupuytren's also linked to smoking and alcohol and there are those who believe that in certain types-.

APM: But they say that everything's linked to smoking and alcohol —

ES: Exactly.

APM: It's probably very easy to find that result. Typically, as you'd expect, I mean the question that's come in is, "Well, what can we do about Dupuytren's before our patients get to you?" Is there any proven benefit in soft tissue therapy to the nodules?

ES: In Dupuytren's, I don't know if there's any proof. What I do know is possibly increasing the blood supply to the area could in fact even make it worse. I do know that therapy after any treatment is of utmost importance to regain mobilization. The hand can get aggressive stiffness after Dupuytren's disease, got a high chance of complex regional pain syndrome and stiffness after Dupuytren's surgery or Xiapex or whatever you do for a patient with Dupuytren's disease. So it's of utmost importance to mobilize the hand as soon as possible.

APM: Xiapex is getting quite good reviews, isn't it? I don't know whether NICE have recommended that as the first course —

ES: Well, they have that traditionally although they're kind of backing out of that now because of the cost but I'm not that up to date with that. Xiapex, if we

look at Green's Operative Hand Surgery, the sort of bible of hand surgery, Xiapex is the first line treatment and basically, in my experience…I was the first in London to do it and I do a lot of it. However, it is an injection followed by manipulation. It is not without possible complications. In the American literature, there's a 1% flexor tendon rupture complication rate which is significant. Patients need to be consented and explained that it's not without possible problems. If something is too good to be true, it means it is too good to be true.

APM: But if you get a tendon rupture…I mean it is a complication, obviously but presumably, that's fixable and you aren't left with anything worse than the contracture that you had in the first place.

ES: Well, if you rupture both tendons, it is problematic and it can be a severe problem but once again, in my hands, it's less than 1% but certainly, patients need to be adequately informed that Xiapex itself whilst it is specific to dissolve collagen within the Dupuytren's tissue. It can also dissolve tendon tissue and it can cause skin tears. In my mind, I explain to the patient that the results, I believe, are similar to surgery. The recurrence rates are similar to surgery. The rehabilitation period is often much, much less. It could be days instead of weeks or months. However, it is not a totally benign method of treatment. I think it's a good method of treatment. It is my first line.

APM: It sounds, from what you're saying, as though…when we get somebody in our clinics who is showing signs that they've got Dupuytren's, we should send them straight to an orthopedic surgeon. We shouldn't try and solve it ourselves?

ES: Not necessarily. If they've got a…I want you to realize that a Dupuytren's nodule in certain areas, as I've said, in the North of England and in…it's normality, having the Dupuytren's nodule. It's normal and having thickenings and…if a patient can put their hand flat on the table and they're totally asymptomatic then that can certainly be observed and if they're getting stiffness then certainly, general management of the limb. They don't have to rush to see a surgeon but I'd say once it's a functional problem then yes.

APM: Some more questions from our audience, what's the recurrence rate of Dupuytren's after surgery?

ES: Between 30% and 50% in five years.

APM: And you would then —

ES: Depends which study you're looking at but yes, that's the honest answer.

APM: Which is quite high.

ES: That doesn't necessarily mean it's recurred as bad as it was beforehand or that it needs more treatment.

APM: And what's your approach then, more surgery and…?

ES: If it's a small recurrence, I can leave it alone but if it's a significant recurrence, once again, I can retreat with Xiapex or I could…I've been doing Xiapex long enough that now, I'm treating my own recurrences, yes, over for five years but yes, it can be treated again with Xiapex. It doesn't necessarily mean it has to be operated.

APM: The next question is does having had Dupuytren's predispose the patient to hand, wrist or other osteoarthritis? Is there a linkage there somewhere?

ES: If you're going to fix flexion contracture of PIP joint then most certainly that joint can become very stiff and can become arthritic by definition because it hasn't moved and it can become ankylotic. Dupuytren's disease, per se, is linked to trigger digits and carpal tunnel syndrome but not necessarily to osteoarthritis to the thumb base, no. That's what we know.

APM: I suppose we're gradually working our way up the arms and now we're starting to talk about carpal tunnel syndrome. The questions on the mind of our audience will be what do you think is the most successful approach? Should it be soft tissue therapy first of all, try to stretch the retinaculum? Should it be just send them to…one of our guests is called Mr. Chop-a-lot in the past and…

ES: Carpal tunnel syndrome, if it's mild carpal tunnel syndrome and if the patient is symptomatic, they don't have wasting of their thenar eminence, they don't have significant muscle wasting and it's early on, then certainly. Once again, mile carpal tunnel syndrome can resolve by itself. It might come back 20 years later but carpal tunnel syndrome can be related to pregnancy and even carpal tunnel syndrome of a mild to moderate level can certainly respond to a splint. It can respond to conservative treatment, can respond to mobilization, respond to soft tissue management. It can respond to a steroid injection. Not everyone with carpal tunnel syndrome needs an operation, certainly. I would go as far as to say that carpal tunnel syndrome, patients that…activity modification. Patients that sleep with their wrist in a very flexed position, patients that are often holding a mobile phone, patients that drive for long periods of time, it can be related to their posture. It can resolve by itself. I would say that it's normal probably for everyone to gets a bit of pins and needles now and then.

APM: It's hard to get people to change their posture though, isn't it?

ES: It's extremely —

APM: And if your job is long distance driving, you're going to be driving long distances and if you sleep in a flexed position then it's a hard to change that because that's what you do when you're unconscious.

ES: I agree with you but giving a splint…a splint in that can be useful although that's also controversial because they've measured the retinacular pressures and whether the wrist is also extended, quite similar but yeah, ideally, you'd

splint them sort of in a totally neutral position which is a bit uncomfortable but yeah, you're right. You can have ergonomic changes at work. You can't stop patients gaming and playing computer games or working for hours on end. I mean I'm not encouraging patients to smoke but ironically, patients that smoke tend to get less work related upper limb issues because they'll have a break from the keyboard because they have to walk out the building to smoke a cigarette but that's…I don't want to go there.

APM: No, that's probably the wrong reason to take up smoking.

ES: No, smoking is very, very bad, OK? It's evil.

APM: Another question, what about laser therapy and ultrasound? I mean what's the role of those in these conditions and what are we actually trying to achieve with either of these?

ES: I think it works for many conditions. Once again, going back to what I was saying, I think we try everything else first, particularly for these types of trigger fingers, tendonitis, carpal tunnel syndrome. Until you have damage of a structure then we will…particularly for overuse syndromes, what we call tendonitis, tennis elbow which actually isn't really an inflammatory condition, sort of degeneration within the tendon, these posture related overuse conditions then I think particularly it has a great role.

APM: What would you say we're actually doing with the ultrasound? I mean how is it resolving the problem? How is the laser resolving the problem?

ES: I believe it can be —

APM: Just changing cell permeability?

ES: It can be a change in the blood supply to the area. I don't know how much I believe it is taking away sort of, you know, evil inflammatory tissue but once again, we're talking about poorly understood conditions. Tennis elbow, there have been many pathological studies of tennis elbow. There is no tendonitis there. There is no inflammation going on there. It's not an inflammatory process. It's a tendinosis. The tendon is degenerating which we do not really understand why. So I want you to know that the evidence base for a lot of conservative treatment is no better or worse than the evidence for a lot of the operations that we do. So —

APM: So what is your approach then to tennis elbow or golfer's elbow?

ES: Well, firstly, I'd like to say until I actually had tennis elbow myself, I possibly did not respect this condition as much as I should've done because it's actually pretty painful but my response to tennis elbow or golfer's elbow would be explaining to the patient that it is a condition which is a variant of normality and they're getting lateral elbow pain, tennis elbow. Most people get it at one time in their life. Often, there can be a precifitive..it's actually often not related to sport at all, related to moving, half lifting a lot of boxes, doing some kind of

unaccustomed activity which has developed this and basically, rest, muscle stretching, that can be extremely useful. Wearing a clasp can be very useful. Massage can be very useful but with respect to everything else, it's important for the audience to know, particularly with things like tennis elbow…I know there'll be people in the audience with extremely strong opinions about tennis elbow and I want you to know that I respect everyone's opinion on tennis elbow because no one really knows but whether you inject steroid, saline, if you just needle it and don't inject anything, platelet rich plasma, all of the results comparing a lot of injections are very, very similar, likewise surgery, likewise shockwave treatment. It's an extremely controversial condition and there is no right answer certainly with tennis elbow and I would certainly say surgery for tennis elbow has to be the last resort. I very rarely operate on tennis elbow. I do not —

APM: What would you be doing?

ES: Exactly. What's one of the…what would you be doing with tennis elbow? I tend to release the diseased tissue off the lateral epicondyle and I will always send the piece off to histopathology and the reason is that…because when I get the result back showing a degeneration of the tendon, it reinforces the patient that I remove the diseased tissue but the answer is we don't really…those who lengthen the tendon that would…release it and then repair it back on to the bone…it's an extremely poorly understood condition and the reason why you…because you've just asked what were you actually doing is the question I ask myself when I'm operating on a patient with tennis elbow and that's the reason why and I do believe that most patients do get better before surgery.

APM: Living in the evidence based world that we do, that must put you under a lot of pressure, actually, because yours is a very invasive procedure and when you're having to ask yourself, "What's the point of this?" you must be hoping that nobody complains when it doesn't go as they'd expect.

ES: Yeah. I mean it's all about informed consent and it's all about…there's a BMJ article that I've got about tennis elbow which I actually printed a number of them which I give to the patient and it's one of the few conditions why…I am very, very open with… I tell the patient that we don't really have much idea about this condition, that I'm extremely open and I put myself a little bit out there by saying that this is a condition which there are many, many, many ways of treating and the way I treated my own tennis elbow was most certainly non-surgically. I mean I had an injection.

APM: Now, increasing the blood supply must be helpful. So soft tissue techniques presumably —

ES: Exactly, I mean soft tissue technique…the whole concept of an injection is increasing the blood supply to the area. Needling, by definition, dry needling which has…there's been some recent papers, extremely…now, people are saying steroids are bad for tennis elbow. There are —

APM: Because there's no inflammation, again, you're asking what the role is

ES: Exactly and there's a view that needling it…by definition, you're sticking a needle into the periosteum and you're revascularizing. The same principle of what you're saying which…yeah.

APM: You do needling, dry needling yourself or —

ES: Well, I refer normally dry needling under ultrasound guidance. That's the way I tend to have it done. Extremely high placebo effect for the patient to have an Ultrasound.

APM: And I have one note while you were talking just then from our floor manager who said that our audience figures had plummeted when you said it was OK to smoke because they've all gone out for a fag.

ES: I see —

APM: But I think they're all coming back online now so…what they are saying is it's great to know that you're so open to manual therapies. Now, I'm reading here, so, about the business of removing a diseased tissue, one of our viewers wants to know what you actually see when you open up the area or…what does it look like? How do you know it's the diseased tissue?

ES: Well, it just doesn't look like a normal tendon. A normal tendon is nice and shiny and white and if you remember from your anatomical pictures, you got the sort of red flesh muscle which is like a piece of steak and the normal tendon is sort of fanned down, attached on to the bone. It looks quite pleasing to the eye and in tendinosis, it's kind of like jelly like and a bit grey and sort of swollen, yeah.

APM: Could you feel a difference of the tissue?

ES: Yeah, it's like a block of…it's edematous. It's like a piece of aubergine with mayonnaise. Yeah, it's kind of…it doesn't look like a tendon.

APM: So if any of our clinicians find someone who feels like aubergine with mayonnaise then they could suspect —

ES: Yeah. It's kind of…yeah.

APM: It does actually make me yet again, I recommend yet again at the section courses that we run because particularly when we're dissecting animals, of course, you're getting fresh tissue. So you do get a better feel for what the tissue should look like which we won't see in clinic but also what they feel like and I can't promise we'll end up with too many horses with tennis elbow but the dissections that we're planning to run in the future are going to be human at one part of the anatomy suite and an animal at the other end so that you can compare the anatomy of one with the other and see these tissue changes and so on, but that's digressing. I have another question. Well, the

question is, “Is it a mistake to think a tennis elbow is an -itis of the lateral epicondyle?” Because it’s not, is it? There’s no inflammation going on there.

ES: Yeah, it would appear it is a mistake, to be honest, yes. It’s not an inflammatory condition. We don’t have the signs of inflammation. We don’t have the pathological signs of inflammation. We don’t have local heat, redness, swelling. Yeah, it’s not an inflammatory condition.

APM: It’s interesting what you said though about, you know, the variety of treatments that can be applied to this because you told a story before we went on air about patient’s irritating habits of getting better regardless of what you do which is…for somebody going into surgery I think. Are you allowed to repeat that story or is that controversial?

ES: Sorry?

APM: You told a story about taking someone…or one of your colleagues, taking someone into surgery, knocking him out and bringing him back out again and they got better.

ES: Yes. Listen —

APM: The effect of the placebo.

ES: I get back to the statement which is what I said before though. When you got a hammer, everything looks like a nail. So for a surgeon, when I see a patient, whatever way you’re looking, I’m thinking in the back of my mind about an operation. I can’t help it. I’m a surgeon, OK? A physiotherapist is thinking of physiotherapy. An osteopath is thinking about osteopathy. An occupational therapist, thinking about splintage. A rheumatologist is thinking about medication and it’s like one of these Venn diagrams with all of these circles and the truth is obviously somewhere in between by definition and we…the truth is somewhere in between and we have to tailor that to the patient. We have to be open-minded and think about these things. A classic example, yeah, is a patient with osteoarthritis at the base of their thumbs. So I can look an x-ray and see a severely arthritic thumb base and I’m thinking about operating on this and what fancy operation I can do to replace a part of that joint whereas the options of therapy, manipulation, splintage, even putting a patient on medication, rheumatologist…everyone is right. We all have a place. It’s all about teamwork and it’s all about having a more sort of open view of the patient.

APM: There must be a great deal of job satisfaction on your part just from having…taking a nasty joint and done something to it to make it function better.

ES: Yes.

APM: And for you, that’s very tangible, isn’t it? Because you can look at the joint, you can chop bits off or add bits on and you can immediately see the

difference afterwards.

ES: That's correct.

APM: So what do you do for an arthritic thumb?

ES: Well, just to get back to that, there are patients that come to me with severely arthritic thumb bases on their x-ray who are in no pain at all and it's crunching away. So, you know, we always like to mix…so we like to fit our clinical…the history of the patient with our investigations. So I get just as much satisfaction with a very arthritic thumb if a patient has been in a splint for a few weeks and feels better or who's had ultrasound treatment and feels better or has had a steroid injection and feels better. I'm beyond the stage where I need to see an x-ray with a piece of metalwork and I do love…don't get me wrong. I'm an orthopedic surgeon. I still love the metalwork but I want my patients to be happy and…but yeah, when you remove an arthritic…or I get satisfaction from making my patients better, my patients being happy but with respect to osteoarthritis, it doesn't change. An arthritic thumb, even if the x-ray is a severely arthritic thumb, I still go through the patient, with me anyway but with most hand surgeons, has to earn their operation, OK? So I'm not saying I want them to suffer but the patient…we have to try conservative treatment first. We have to try…offer the patient an injection and then once that has been exhausted then there will be the operation to replace the base of the thumb and whilst the operation, there are many beautiful operations to reconstruct the base of their thumb and the x-rays are particularly attractive —

APM: Are these ceramic joint replacements?

ES: Well, there are sili- that you can…another condition, I'd say, when you have 100 operations for something, it means they're all either very good or very bad. So in the situation of base of thumb arthritis, there a 100 oper- they're all very good. So you can just take the trapezium, you could put in a piece of tendon, a piece of silicon, a piece of metal, a piece of ceramic. The results are similar in all of these. So let's get that into perspective. Whatever you do, patients are happy. Sometimes it can take longer to recover from a certain procedure but patients one year down the line after surgery for the base of thumb do seem to all have similar results. The important thing is, however, that base of the thumb surgery can take quite a long time to rehabilitate and they do sometimes have to be in a splint or —

APM: And do they get better range of motion or just less pain or both?

ES: The important thing is with arthritis surgery on the hand and wrist, the patient has the operation for pain relief. I never guarantee more increased range of movement, particularly this is very relevant for PIP joint arthritis. If a patient has a very arthritic PIP joint, the operation is to get rid of the pain. I would never promise the patient more movement. However, often you do get more movement but that's not saying, "I promise." Base of thumb, because they're in less pain, by definition, they often do get a stronger grip and do get more movement because they're in less pain but the operation…it's all about pain.

This transcript will shortly be replaced by a concise text summary.

APM: What about other joint replacements? How's the elbow coming on in that regard?

ES: Right, yeah, elbow replacement. So elbow replacement, that's a classic example of patients that often do have extremely stiff elbows and a stiff elbow is a very problematic challenge. Often, they will be sent for joint replacement with a stiff elbow and I will often say to the patient, "Listen, an elbow replacement is a classic operation which I undertake to get rid of pain." I cannot promise the patient more movement. I do sometimes get more movement. That can't be promised. The elbow replacement is not…we have to all be honest and the hip replacement that Sir John Charnley in the '60s in his shed in Wigan with a piece of plastic and metal invented the hip replacement. No joint to this day has matched the figures which he got from that shed but he's. Even though we have many, many joint replacement, no joint is as good as the hip, whether it be the knee or the ankle or the shoulder. No joint and no hip replacement in fact has achieved the results that Charnley had with his piece of plastic. Yeah, so it's problematic. We have to put it into perspective with joint replacements. It's an extremely complex issue and the job…particularly an elbow replacement, they can loosen and revising an elbow replacement can be an extremely challenging problem.

APM: I speak from experience of my own patients. As you say, it's a really challenging problem to have because it stops people from doing their makeup or from shaving or washing their hair and things like that. Probably more so than any sort of OA in the hands might. And one of the questions which has just come in is why the hell don't you get an increase in range of motion? Is that just because that the tendons, the ligaments have all contracted and they are stopping the movement? Because one would expect you sticking a new joint, it's bound to move properly.

ES: Yes, you would. Well, the answer is often, they do tend to stiffen up afterwards and often, the nature of the elbow replacement, it's often a more constrained joint. It's a hinge basically, OK? And when you…the wonderful thing about the hip replacement is the degrees of freedom and the range of movement which you can have in a hip replacement. It's phenomenal whereas in an elbow…the native elbow itself is pretty constrained and in fact, with respect to it being a ball and a socket covering the trochlea and your elbow replacement can nowhere near manage to be…an elbow replacement cannot…it's nowhere near really what the native elbow is.

APM: But the elbow you're replacing is not a native elbow, is it? It's a diseased and restricted —

ES: It is the diseased elbow but unfortunately, it's more than just the articular surface that is stiffening up. It's the capsule around the joint and often, when you do a joint replacement, you're going to be removing a lot of the capsule and that will reform and stiffen up and it's an extremely complicated thing. As you say, the muscles and tendons themselves shorten. It's problematic.

This transcript will shortly be replaced by a concise text summary.

APM: And to what extent can physical therapy and rehab help to minimize that restriction?

ES: Well, it's the most important thing after a joint replacement, really. It's —

APM: What do you have your physios doing then?

ES: If I'm going to do a wrist replacement, for example, the whole idea of a joint…or the PIP joint replacement in the finger, the whole concept is to…you want your operation to be good enough to mobilize straight away and this isn't just about joint replacement. It's also about fracture fixation. I can do the most beautiful joint replacement but if that wrist is not going to get moving, it's going to stiffen up. It's going to stiffen up. I can have a beautiful x-ray with my metal and my ceramic but it has to be moved as early as possible.

APM: One of the questions that's come in is physically, which bit are you replacing in the elbow?

ES: Well, the elbow, what you're actually replacing normally in an elbow replacement is you're removing the radial head. You're replacing the olecranon fossa, right? The proximal ulna and you're replacing the hole of the distal humerus in effect. You're replacing the articular surface of the distal —

APM: You're not replacing radial head.

ES: No. Normally not. With a totally elbow replacement, normally, we would actually remove the radial head itself. Radial head replacement is something else which we often do after a trauma and the reason we will replace the radial head after a trauma is often, we have an interruption to the interrosseous membrane and if you don't replace the radial head then that can cause what's called an Essex-Lopresti, when the hole of the radius migrates proximately. That's a different problem. With an elbow replacement, classically, for an arthritic process, we're actually removing off…removing the radial head, replacing the articular surface of the olecranon, the proximal ulna itself and we're replacing the distal humerus and the trochlea and the capit-…however, there are now replacements hemiarphraplastal... This is controversial, just to replace the lateral side of the elbow which I don't have much experience in that.

APM: Does anybody?

ES: No.

APM: Is this too new?

ES: Is the short answer to your question..

APM: Why is nobody bothered about replacing the radial head? Is that just because the demography of patients is such that they are elderly or they're at certain stage —

ES: No, it's not. It's not that. If you have a functioning interosseous membrane, if your relations between your radius and your ulna are maintained, if the structures holding your two forearm bones together are intact then without a radial head…you don't need a radial head, in short, OK. You don't need a radial head in a traumatic situation where you have intact structures holding your forearm bones together. The most common reason I would replace a radial head, a shattered radial head where they've got wrist pain as well and where I'm concerned, they may have interrupted the relations between the radius and the ulna. Then I will replace the radial head as a spacer to stop proximal migration of the radius which is called an Essex-Lopresti type of situation which can be a disaster, cause a lot of stiffness on the elbow and the wrist. That's the reason I…classic indication to replace a radial head.

APM: Now, earlier on, you talked about patients with cerebral palsy and I noticed that you also treat musician's hand which is a dystonia, yes? Both of which are thought primarily neurological conditions. How does that fit with your orthopedic super specialization?

ES: OK, with cerebral palsy, most of the patients I treat with cerebral palsy are children or young adults and I do a lot of volunteer work in India. A lot of the children I treat there are for spasticity and that's primarily with tendon transfer surgery. Needless to say, that will be in India because they…unfortunately, where I work in India, it's a very rural place, cut off from a lot of facilities in an urban situation. In United Kingdom, the primary treatment for cerebral palsy would be non-operative and would be physiotherapy, manipulation, the splintage and lengthening and manipulation of joints but unfortunately, in a situation where you don't have any access to that, with a spastic hand…the reason I operate so much in India is because they don't have the access to…when you're 20 hours by bus to the nearest city, it's a problem. So that's cerebral palsy. With respect to the musician, with respect to dystonia, that's an extremely complex issue and primarily, management of that is non-operative. I will rule out neurological, peripheral nerve entrapment. Anything higher up, I do nerve conduction studies. I do have experience in managing certain patients with dystonia. I've got a neurophysiologist that I work with who undertakes EMG, botox injections. That can be very effective also with patients, needless to say, as an adjunct to physiotherapy with cerebral palsy.

APM: How do you recognize musician's hand? I know that's sort of —

ES: Listen. Sorry, yeah. Musician's hand. Musicians are human beings like anyone else, OK? And certain musical instruments have certain issues but classically, musicians…the important thing is to know that they are not different organisms from the rest of us. They develop tendonitis. They develop overuse syndromes. They develop trigger fingers. They develop carpal tunnel syndrome. So it's managing them primarily as a normal patient. There are different ways to do with the instrument they're managing and how long the rehabilitation are often has to be tailored to what they do but the important thing, particularly with musicians and also professional sports people is to remember to manage them primarily as a patient and if you have to adapt,

tweak a certain part of your management according to their lifestyle. That's OK but it's not…once you start, you can be…it can be problematic to start managing them completely differently because of their profession. Yeah.

APM: I'm asking you this because we interviewed an osteopath some time ago who was talking about focal dystonia in musicians and the case he used to illustrate this was that wind instrument player who…every time he brought the mouthpiece up to his lips, his head turned away. Now in the hand, how's this manifesting in your musicians? What do they see? What's the symptom?

ES: Well, they can get dystonia. They can get kind of form.1 and even, as you say, involuntary movement, kind of sort of spasticity but you have to remember this is…certain musicians, particularly younger musicians and who are practicing and preparing for hours and hours on end, it really goes back to overuse and repetitive movement of…the human body was not designed to undertake such intricate fine motor function repetitively, straining certain joints and tendon and muscle. In a way, it's kind of…I know musicians would disagree with me saying this but it's kind of dysfunctional to a lot of what they're doing. They're pushing the extremes of the human body and hence, they're getting this. I know it may sound simple just to say to, you know…rest modify- I know musicians often don't list-. They can be challenging as a patient. I'm not going to say that they don't listen- but they can be challenging and likewise, professional sports people and athletes but basically, just taking a break, just massage, rest, just breaking the loop of these repetitive movements can have a great deal of effect and sometimes, it has to be…sometimes if it's particularly painful then you talk about medication or even a steroid injection but we try to avoid that, most certainly.

APM: But for those people who've got sort of either that reflex motion that I was talking about…or I've read somewhere that in guitarists, it can be this inability to strike their strings properly instead of…the hand won't do what they're trying to do. Do you know what the neurological process is? I mean I somehow imagine that it's not very well understood but I mean what's the neurological process that's stopping them doing that?

ES: It's habitual and it's…you start doing it involuntarily…I'd imagine it's the same thing as my getting in the car in the morning. My car, I start driving to St. John's Wood even when it's the weekend. I would imagine it's the same sort of thing. Once you're a musician, you become kind of a machine in effect. Your fingers become an extension of your brain and it's all one…it all becomes one organ. That's why certain musicians are so good because it starts becoming involuntary motion. You're asking a philosophical thing here. It's a difficult one but yeah, it's…their instrument becomes part of their body, becomes an extension of their hand and it becomes…yeah, it can cause problems as well as good.

APM: Well, we've got 7 or 8 minutes left. So I mean do get the questions coming in because we've got a limited amount of time left with Elliot here. What's your advice to us? What are the sort of things that you see in physical therapists that we miss that should be sent on to a consultant or that we wait too long for —

ES: Well, listen, you know, as I said, physical therapists tend to actually…I tend to get better referrals and better letters although it may sound politically incorrect than even my general orthopedic colleagues, my hip and knee colleagues will just write me a letter and say, “Hand problem. Please see.”

APM: That’s because we’re all desperately keen to impress because we’re worried that you’ll think that we’re not —

ES: Well, no. I don’t. I think it’s because you guys generally actually speak to the patients more than we do and examine the patients more than we do, to be frank. So really, I would say it would be…yeah, the scaphoid fractures, the wrist fractures are often missed. Degenerative problems are often a little bit overlooked. I would say that…

APM: Degenerative such as Kienbock’s disease —

ES: I do see patients who’ve…the classic example would be a patient who’s had a carpal tunnel decompression and then afterwards, they’ll say, “It’s not getting any better,” and they’ll keep on being treated and basically, they’ve got arthritis at the base of their thumb and once you speak to the patient, you’ll say to them, “It’s not the physical therapist who missed this but this is often a lot of my colleagues,” and you can even see this patient could have had a few carpal tunnel decompressions and the patient will be saying, “Listen, it still hurts. It still hurts.” And when you examine them, you can see that actually they’ve got base of thumb arthritis but they think that pain is from their carpal tunnel and I say to them, “Don’t you get any pins and needles?” And they say, “No, that went away after the first operation,” then you realize that…but basically, you know, you don’t see that much Kienbock’s disease. A scaphoid fracture is the classic thing which is missed, OK? And that’s not just…even in professional sports people could often be missed, I want you to realise that Premier League football players, often they could have what’s been interpreted as a wrist sprain and they can have a scaphoid fracture which can be overlooked. So it’s not…I’d say yeah. What have we got there?

APM: We’ve got a few more questions. I mean they always do. You get to the last few minutes then we get a lot of questions coming.

ES: Bring it on!

APM: This one is, “Do you do Tine’s and Phalen’s tests?” And I guess I would broaden that to say, you know, what is the value of the orthopedic test that we’re all taught?

ES: OK, carpal tunnel syndrome, the best is the history. If a patient says, “I’m waking up at night, shaking my hand,” they say, “I get it when I’m holding my mobile phone, when I’m holding the steering wheel,” and yes, Tinel…if you tap anyone hard enough on any nerve, they’re going to get pins and needles. So that’s a little bit…it can be quite satisfying to tap them very gently and they get a Tinel’s sign. What I like is the hand raising test which is useful for when

sitting opposite, saying hold your hands in the air. After awhile, they'll say, "I'm getting pins and needles," and classically, it'll be in the middle, in the ring finger. That's a pleasurable one to do for…but that's not me that described that, but hands up is a good one for carpal tunnel syndrome. Yeah.

APM: For how long?

ES: You just get them to hold it a bit. They hold it in the air, you hold it in the air and it has to be normally about a minute to be honest before, yeah, they'll notice but they do. They do, yeah.

APM: Somebody wants to know if you could offer any guidance about the treatment of CRPS in the hand and forearm.

ES: Yeah. I mean CRPS, if you've got a rigid hand which is a sweating, hairy hand of somebody who has had a wrist sprain, and they come to you like that, I'd say, "First, don't panic." If it really is that bad then that needs to be managed. As I've said, that's a multi-disciplinary thing. If it's a bad CRPS then you're talking…you need to refer on to a surgeon. You need to…they need pain…pain specialist. Obviously, physical therapy is the most important thing but, you know, spread the love with respect to CRPS. Don't do it all by by yourself, yeah? That needs to be managed by a number of people and be aggressive. Not ridiculously aggressive but yeah, you need to really move it as much as possible but I'd say CRPS…the most important thing with CRPS is not to panic and to…yeah, I'd say don't panic and spread it around to a number of colleagues. Yeah.

APM: On the assumption that from time to time, we are going to have to refer our patients on to either yourself or to one of your colleagues, what's the sort of interaction we can expect with you? I mean do you welcome a physio from outside or an osteopath from outside your own organization, calling in and saying, "Well, what should I do with this patient?" or, "Should I send them to you?" or, "How's Mrs. Smith getting on?"

ES: Right. In this day and age, the way I work is all by referral and I guess it's email nowadays and email, "What's up?" whatever, yes. I do welcome that, most certainly and especially…the way I do is I have to speak to them. If I don't speak to the patient, it's not good, you know. Therapists have saved my life on many, many occasions by ringing me up and saying, "Listen, the guy you saw yesterday, the wound's gone off," and they'll take a picture of it and send it to me by…we're all on the same side here, OK? Or a therapist will say, "Listen, you had a patient you operated on pilon fracture of the PIP joint," some nightmare fracture on a rugby player and they'll suddenly say, "Listen, I've been seeing the patient. You know what? You can't extend the end of his finger. He's got a mallett OK? It's not, "I want to know that straight away." It's all about…everything has to be a media. I don't want the audience to think that I miss a lot of injuries but yeah, we're all on the same side. We all are on the same side and likewise, sometimes I can say to my therapist, "Listen, I think maybe you should be doing it this way." It has to be a team. Particularly with hand surgery, it's all about…as a surgeon, if you think you're the man

and you're going to solve all your problems with a knife, you're not going to be a good hand surgeon, to be honest. It's not going to work, not in hand surgery.

APM: And when it comes to rehabilitation, I mean is it just a straightforward list of exercises that people should be doing or are you more concerned that it should be specific to the type of surgery that —

ES: It has to be specific to the surgery, to the patient —

APM: How do you get them to comply? How do you make it interesting for a patient so that they will do these things and not come back six months later and say, "Well, you know, I can't bend my wrist anymore"?

ES: Most patients want to get better. If a patient doesn't want to get better, they're not going to get…that's the problem. That's another problem. Most patients generally want to move their hands and do the…there are issues sometimes with pain. There are issues with the fear factor particularly if they've had a fracture fixed or a joint replacement. They're worried. It's all about, really…as I've said, doing an operation where the therapist can work straight away, OK? If I haven't fixed the fracture stable enough for it to be moved, there's no problem, OK? It's not the therapist's problem. It's also my problem and the patient's problem. It's all about starting off from a good position and once you start off from a good position, you do all right. The patients do…they do comply.

APM: And it would come to the end of our allotted time. It's been a fantastic evening this evening. I mean it's great, as somebody's already said, to have somebody who's so open to what the manual therapy professions are offering but also to learn about so many, actually, intricate procedures and conditions that maybe we're a bit less familiar than we'd like to be. Wish you the very best of luck particularly with the charity in India because it sounds as though it's a really worthwhile project but thank you very much for coming and talking to us this evening.