Ecological Medicine – The Antidote to Big Pharma

with Sarah Myhill

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TRANSCRIPT

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Steven Bruce
Good evening and welcome. It's great to have you with us. As always, I'm Steven Bruce. This is the Academy of Physical Medicine and we're in for some great CPD this evening if our last appearance by today's guests is anything to go by. With a little bit of a disclaimer before we start, I am rather selfishly seeing my wife for the first time in six months at the moment, and that means I've had to travel to France. And the French internet seems to have its own opinion about Brexit and was playing silly buggers with us a few minutes ago. I hope we'll survive for the rest of the show, because it's 90 minutes of great learning with others, as you know, but if there are problems, then please blame the French not the Academy of Physical Medicine. In the background here you can see Dr. Sarah Myhill, now, possibly you watched the last show, if you do a little bit of a catch up. Sarah was an NHS GP for 20 years. She's had 20 years as an independent practitioner, and she's now left the general medical register or medical register because, well, at the time when we spoke to her last, I think she said she was the most complained about GP on the register, I think there were 36 investigations into her and six still underway at the time. She hasn't lost any of those. I think the score was 36 nil to Sarah, as opposed to GMC. And she now practices independently as an ecological medical practitioner. Sarah, great to have you with us.

Sarah Myhill
Thank you for inviting me.

Steven Bruce
Did I get the tally right? Are there still six investigations outstanding? Can they investigate you?

Sarah Myhill
Well, the first point is, no patient has ever complained about me. This is all about other doctors who don't understand what I do and have concerns about my use of vitamins and nutritional supplements. The current score is Myhill 38 GMC nil. Since when they've launched another seven investigations because they don't like my recommendations for vitamin D, for vitamin C, for iodine and so on. It's an illustration of how conventional medicine has no grasp whatsoever on the important principles of ecological or naturopathic medicine. And there are very few doctors like myself who are trying to push forward these issues.

Steven Bruce
We shouldn't perhaps blame the GMC because of course, if someone complains about you, they have to look into it, don't they, but it perhaps does reflect badly on conventional medical training that other practitioners are doing this to you.

Sarah Myhill
But I emphasise nobody has ever complained about me. I have never had a complaint in my clinical practice. This is doctors who simply don't understand ecological medicine or naturopathic medicine.

Steven Bruce
But last time we spoke, we talked about your book on ecological medicine. I think since then I've seen a new appearance on your site, which is a book called The Energy Equation: From Naked Ape to...

Sarah Myhill
From the Naked Ape to the Knackered Ape.

Steven Bruce
To the knackered ape, thank you. It's such a catchy title, and I forgot the last part of it. How's that going? Like, when was that published? Was it May?

Sarah Myhill
That was published earlier this year. And I wrote it because I had, first of all, I had so many inquiries from patients of mine who got chronic fatigue or who got ME, who wanted the energy issues explained for their relatives, for their friends so that their families could better understand what was going on. But at the same time, fatigue, even non pathological fatigue, you know, fatigue is the commonest symptom that is brought to general practitioners. And it's also the worst treated symptom. And the fact of the matter is the energy equation, the issues that I deal with in that book, apply to everybody, not just the patients who have a chronic fatigue syndrome, but just normal people who think they could do with some more energy, and also for athletes who wish to improve their performance. So it's all the common techniques that we use, the dietary nutritional detox techniques that we use, that anybody can apply in order to improve their energy. And guess what, we could all do with more energy. I always think, you know, energy is like money, the more you've got, the more fun you can have. And, you know, my definition of energy is a little bit like money. It's jolly hard work earning it but it's great fun spending it. And it's the same with the energy equation. If you work hard on your diet, your sleep, your supplements, the detox regimes, bouncing up thyroid and adrenal issues, then you can have more energy. And if you've got more energy, you can have more fun.

Steven Bruce
Yeah, and we talked quite a lot about chronic fatigue syndrome or ME last time, didn't we? And we'll probably, I'm sure we will go into those again. And of course, we are going to look into your your nutritional recommendations this time. One of the things that I believe is still underway is that you have actually complained to the General Medical Council about advice for treating ME haven't you?

Sarah Myhill
Absolutely.

Steven Bruce
How does that stand at the moment?

Sarah Myhill
Well, this stand starts with the disgraceful PACE trial, which was published in 2011. And the upshot of that was a paper in The Lancet where the conclusion was that graded exercise therapy and cognitive behaviour treatment actually improves patients. Well, anybody who's working in the field knows that that is rubbish. Because a condition that is defined by exercise intolerance, you hardly can treat by exercising them. And we all, and again, patients that work in the field know, but one thing these patients must do is to pace their activities. Because if they push themselves, if they overdo things, they invariably relapse. If they didn't, then by definition, they don't have a chronic fatigue syndrome or ME. So the first tranche was

a group of patients, not myself, I'm ashamed, I wasn't involved at that point. I did a Freedom of Information Act search of the PACE authors and the PACE studies and asked for the raw data. Initially, that was refused. Freedom of Information Act request and they granted then that decision. So they then had the raw material. That was then sent to a central medical statistician who analysed it. And essentially, he said, this is a very poor study, the goalposts have been changed, the numbers have been fudged, the measures of fatigue ability are a nonsense, there are multiple criticisms of the study. And this then the battle was taken up by the Journal of Health Psychology, who took the PACE report, the criticism of it and the PACE author's response to that and sent it around to 40 different academics all over the world. And the upshot was the same. This was a poorly done study, and a waste of public money to the tune of 5 million pounds. So I reported the authors of the PACE study to the General Medical Council for scientific fraud and financial fraud. And but the GMC looked this and they refused to investigate. So I then asked the GMC for their evidence base. Why did they refuse to investigate? Because I had provided an extensive scientific reference evidence base for why it's a fraudulent study. And there's an awful lot of toing and froing. Eventually, it came to an information commission officer hearing, and there was a split decision, which unfortunately went against me. So we're now in a bit of a hiatus because the Information Commissioner has closed down the investigations and said, I'm not allowed to complain anymore. I'm not allowed to report anymore. So at the moment, I'm not sure where to go. But the fact of the matter is that NICE guidelines have changed. Now graded exercise is absolutely contraindicated for patients with chronic fatigue syndrome and ME. And now, of course, the most recent version of ME, we're now calling long COVID. And again, NICE guidelines: graded exercise is absolutely contraindicated for long COVID. So we have made some gains. But my view is that those who perpetuated this nonsense have not been punished, they should be punished, but they have not been. My guess is that part of the reason for this is that one of those involved is Professor Simon Wesley. He was a central part of designing the PACE trial, and he is a past president of the Royal College of Psychiatrists. Now, is the GMC going to sanction somebody like that? No, of course, they're not going to. So it's the old story, it's the peasants, like me against the big Jesus in the academics in their ivory towers. They're pretty untouchable, it's wrong. But that's the way it is.

Steven Bruce
It's very distressing, too, isn't it? I mean, I was reading recently, there was a report, it's a blog on the BMJ website, I think, about Professor Ian Roberts, who's an epidemiologist. And he is basically, he's done a study into the research which has been published in The Lancet and elsewhere. And I think the conclusions were that 20% of it was either fraudulent or could not be trusted, and it's possibly scratching the surface. And we're talking not just about people who've got the scientific processes wrong. We've got people who've actually got patients that didn't exist with research that was never conducted. And some of these papers are not even being retracted from the major journals when they're revealed either, which is a horrible way for any sort of medicine to form its policies.

Sarah Myhill
You're absolutely right. And of course, the pharmaceutical companies will generate an evidence base that suits their particular outcome. So what I say to people, whenever you look at a paper, follow the money, you know, look at who is bankrolling and financing that study, and then that will give you a pretty good idea of the veracity of that. I mean, even when I was at medical school and then after that a GP, it's well recognised that the standard policies, if a drug company has a new drug that he promotes, what it

does is, it sets up, you know, 10 trials of it and they're all around the world with different consultants. And then what you'll find is six of those trials will say, well, it's rubbish, it doesn't do anything at all, two of those trials will say, oh, it makes the patient much worse. And two of the trials will say, oh, yes, the patients are a bit better. Now, guess which ones get published? It's those two. And again, Richard Smith, who used to be editor of The Lancet, had a campaign saying that every study that is ever done, every trial, they should all be published. But guess what, you know, are drug companies going to publish negative studies? I don't think so. It's the old story, he who pays the piper calls the tune. And that is why we have such poor quality; general medicine being practised now. Because the evidence base isn't evidence at all.

Steven Bruce
There was a move, wasn't there? And I thought it was now policy that all studies had to be, their aims and methods had to be published in advance, and that they wouldn't be published if they hadn't been announced in advance. And that's clearly not happening if people can get away with concealing the data they don't like.

Sarah Myhill
Of course, I mean, yeah, it's very easy to say we are going to do the study. And then if they, the people organising it hear nothing more. Well, they hear nothing more, so it never gets to come to the surface.

Steven Bruce
Yeah. I'm interested to hear your opinion on omega three, because I was reading about that two days ago.

Sarah Myhill
Well, omega three essential fatty acids are essential fatty acids. The key to them is don't overdo them. The correct proportion of omega six to omega three in the diet is about four to one. And that's why my favourite oil is hemp oil, because it is about 3.8 to one. But yes, of course, it's essential, but people are rather inclined to overdo it. They think the more fish oil they take the brainier they will become. As I say you can overdo that. So you just have to be a little bit careful about it. The other point to bear in mind about any fish oils, if you would choose to use them is that fish is one of the most polluted animals on the planet. Especially the carnivorous fish. They're at the top of the food chain, and it's in fish, you will find the highest concentration of mercury and pesticides. And one of the most toxic foods that you can eat in this country is Scottish farmed salmon. Why? Intensively kept, as soon as you keep them intensively, the fish get parasitised with lice, and they're using large doses organophosphate to control those lice population. So you might think smoked salmon or fresh salmon is a healthy meal, not so anymore.

Steven Bruce
That's my lunch options gone, now again. Every time I speak to you something else gets crossed off my food... So the reason I asked that question is because I read a blog by Sebastian Rushworth, who's going to come on his show in October actually. He's a GP is a Swedish doctor. And he said he'd been taking omega three for donkey's years because he'd always believe it was good for you. But he decided to test his own beliefs here. And he had gone through the database. He'd gone through the Cochrane studies into this, and he'd found that there's absolutely no evidence of any statistically significant effect of omega

three, whether from fish or whether from supplements on longevity or on cardiovascular disease, which are the things that the manufacturers, the producers say that it's good for. And he said, and the reason I brought it up is because he said that, if there's no statistically significant evidence, and you can bet your bottom dollar, they've hidden anything which didn't show a positive benefit at all. So it's probably absolutely... Not useless. I mean, I'm sure it's an essential acid, but taking it to improve your lifespan is not going to do you any good.

Sarah Myhill
Well, it's the old story, it's got to be taken in balance with everything else. I mean, if we had no omega threes in our body, we wouldn't survive very long. You know, they're essential for normal membrane function. And that is true for any micronutrients, the vitamin A, B, C, D, minerals, all the minerals, you've got to have them all in a balance and in the right proportion, and if you are absent of any one of them, then your life is going to be seriously curtailed. The way I explained it to my patients is, if you think of those essential fatty acids, vitamins and minerals as letters of the alphabet, then with those letters of the alphabet, you can make any word, you can make any paragraph, you can make any book play and the human body is a complex of those and the human body is like a Shakespeare play. But you couldn't write up a Shakespeare play without all 26 letters of the alphabet. And some are used more often than others. I mean, for example, x isn't very often used in normal speech, but without sex, a Shakespeare play would be awfully boring. So we've got to have the whole alphabet. And omega three is an essential letter of that alphabet.

Steven Bruce
Yeah. I suspect that you're preaching to the converted in the audience that you have today, because there is an instinctive dislike of Big Pharma and not conventional medicine. I don't think osteopaths and chiropractors who are the bulk of my audience, I don't think they dislike conventional medical practitioners. But I don't think, you talked last time about that the sort of the protocols that GPs are given to deal with a set of symptoms, which is not addressing the cause. And I know that resonates with everybody here. We have got somebody calling him or herself Mischief Maker who says that you're brilliant, and you've got your head screwed on, but whoever it is, wants to know your views on the efficacy of the various COVID vaccines. And what if any contra indications you know about? Always a popular topic, vaccines.

Sarah Myhill
Okay, well, we have to start off with the fact that if you are eating a healthy diet, which is low in carbohydrates and you're normal weight and you're taking vitamin C and vitamin D, then your chances of dying from COVID are zero. And if your chance to die from COVID are zero, then the vaccines become completely irrelevant. The next point you have to make is, you know, there has been no pandemic. And we've been led to believe that you know, 1000s of deaths over and above the norm have occurred, not so: if you tot up all the deaths that occurred every year over the last 20 years, we are ninth in that list, so no more people died during the pandemic than normally die. So and the third point to appreciate is that there's a difference in people dying with COVID. And a difference from people dying from COVID. And what we know is that 99% of death certificates have at least one other co morbidity. So yep, COVID might be on the death certificate, but they also have dementia, or diabetes, or cancer or whatever, whatever, whatever.

Steven Bruce
Interesting. One of your colleagues, we spoke about him last time, Malcolm Kendrick, he makes the point many times in his books that actually a death certificate is actually pretty much an educated guess at best. Because it's not going to be precise because you can't afford to do detailed studies on every person who dies, especially if they're in the 70s, 80s, because you kind of expect people to go around about then, don't you.

Sarah Myhill
There's been some very sloppy death certificate writing, which of course is why Harold Shipman was allowed to get away with all those people he murdered. But the point is, if you get the nutrition right, vaccines become completely irrelevant. Now we have to look at the vaccines themselves. And I'm sure as all listeners will agree these vaccines are entirely experimental. Now, Coronavirus vaccine research took off following the MERS epidemic in the SARS epidemic. And various vaccines were developed. Now they were tested on ferrets, they were tested on mice. And some trials were done on children. But the problem with those vaccines is, initially they were tolerated fairly well. But subsequently, when those animals, when those children got infected with another Coronavirus, death just took off, they developed something called antibody dependent enhancement. I think that it is super immunity because what kills people when they get COVID is not the COVID virus. It's the body's reaction to that, it's called a cytokine storm. And what the vaccination did was made that cytokine storm so much more likely. And in consequence, all research into Corona vaccines was terminated in 2012 because of this problem, because of antibody dependent enhancement. Now, these recent vaccines have been rolled out so quickly that there has been no time whatsoever to determine whether or not ADE is going to be an issue. And that is the big worry for the future. You know what's going to happen when these people who've been vaccinated, who got this super immunity, what's going to happen to them when they get another Coronavirus? And the fact of the matter, we've been affected by Coronaviruses for the last 100 million years and we will continue to be assailed by them and our immune system has learned brilliantly to cope with them. Give the immune system the raw materials and it can sort it, but if you upset the immune system with a vaccine which switches on antibody dependent enhancement then that potentially is a very big problem. So that's the first potential problem. We don't know if it's going to happen yet. But it is possible.

Steven Bruce
It's all very interesting. But Nancy in the background is yawning while you're speaking. And I don't think she's supporting you very well.

Sarah Myhill
Unfortunately, she's heard this several times before, and she can probably detail this more accurately than I can. And that's why she's looking rather bored. So the problem with the vaccines as they are, is the side effects are not being reported. Now, anybody who has a vaccine should be properly followed up, that's not happening. But there is a passive system of reporting back the side effects. In this country it's called the yellow card system, we have theirs, and we have the European database. And what we are seeing is that there are many people who are dying, within a few days of receiving the vaccine, and even more who have side effects. I think the most recent figures in this country is about 2000 deaths and about 15,000 with very severe side effects, and a lot more in the States and in Europe, of course. So this

vaccine is not guaranteed safe. Now. It's so important to remember with a vaccine that safety issues are preeminent because you are treating otherwise healthy people. If you're giving otherwise healthy people an intervention then there should be virtually no risks, virtually no incidence of death, virtually no instance of side effects. To do otherwise, it's completely unethical. But do we hear about these deaths on mainstream radio and television? No, we don't. It's just beginning to appear in the newspapers, some of the side effects and deaths from COVID vaccine, but that is all being suppressed and hushed up. But again, the bottom line is, if you have a low carbohydrate diet, you're basically healthy, you're taking vitamins, especially C and D, your risk of dying from COVID is zero.

Steven Bruce
Interesting, how do they distinguish deaths and side effects from a vaccine from deaths and side effects from the virus itself?

Sarah Myhill
Well, because if you die after a vaccine, then it's going to be the vaccine.

Steven Bruce
They might have just caught the virus.

Sarah Myhill
No. If you're going to die from COVID, it takes two or three weeks of flu like symptoms, hospital admission, ITU, falling oxygen saturations, da, da, da, da, da, and then you die. And this is again, where statistics are being fudged. Because COVID cases are being equated with positive tests for COVID. And they're two different things, you know, and again, we know that the testing is not reliable, we know it's throwing up false positives, and the less common COVID becomes, true COVID becomes. The worst is this business of false positives. So the definition of a COVID death is somebody who dies within a month of a positive COVID test. Well, that's nonsense, you know, if you want to catch COVID, where do you go? You go into hospital. What happens if you're seriously ill, and maybe on death's door, you go into hospital, and then you get tested with COVID. And sooner or later, you're going to throw up a positive test, because that's where you catch COVID. So the whole statistics of death rate is a nonsense, and that's why we have this ridiculous pandemic, which isn't a pandemic at all, as I detail. The annual death rate is almost unchanged over the last two decades.

Steven Bruce
We did seem to have an awful lot of people clogging up intensive care units at the, sort of in the middle of last year, though, who we were told were there because of COVID-19. I've never heard of that happening with the flu or with any other similar sort of disease.

Sarah Myhill
Well, well, that's because the flu isn't taken as serious as COVID. And many people who, if you go into hospital with the flu, and you've also got a terminal cancer, or severe heart disease, they may well choose not to send you into ICU and just treat you on the wards as per normal. And again, those people in ICU were badly treated. We know that positive pressure ventilation makes things a lot worse. And there's no doubt that some COVID-19 patients who went into ITU, they were killed by the treatment they were given.

Now at the time, of course those doctors thought they were doing the best possible thing. But now we know that's not the best possible thing. We've got lots of other very benign interventions that can be used like ivermectin, for example. Ivermectin is a brilliant drug. It works brilliantly well for treating COVID. That should be mainstream medicine. It isn't. If anybody wants to learn more about it, then Dr. Tess Lawrie has set up a brilliant website called Bird, British Ivermectin Research Development. And on that website, you can see the protocols that have been well established for the treatment of COVID using nutritional supplements as well as ivermectin, where anybody can access ivermectin without a prescription. And it's an extremely benign, safe drug. And if you really have any concerns, get yourself a little stock of ivermectin and hold that in store. So you've got it, should you need it or should a member of your family or a friend or relative or whatever need it. It's a fabulous drug, and this is going to be very helpful for not just this epidemic, but all other COVID epidemics that we will see in the future?

Steven Bruce
How readily available, is it?

Sarah Myhill
Anybody can get it. You don't need a prescription. It's widely used in the veterinary world. In India, in the subcontinent, anybody can buy it over the counter at the pharmacist because it's a standard treatment for intestinal parasites. So it's widely available, cheap, very safe, and anybody can get it without a prescription.

Steven Bruce
Okay, thank you. I guess, I mean, it's a very emotive subject COVID-19 and vaccines and so on, it wasn't primarily what we decided we were going to talk about this evening. So there are a lot of conditions that you deal with, given that you're a general practitioner, albeit now an ecological one. I know a lot of it is nutritional, as you've obviously implied already. Can we talk a little about cardiovascular problems?

Sarah Myhill
Of course, of course. But before we start talking about cardiovascular problems, or dementia, or cancer, we have to remember that the starting point to treat all Western disease is exactly the same. Now I call these regimes groundhog regimes. I call them groundhog because, like the film, the comedy where our hero comes back to the beginning of the day and relives it for another outcome. I call them groundhog regimes because I keep coming back to them over and over and over again. And the starting point of the groundhog regimes is the Paleo ketogenic diet. Now, coming back to cardiology, two cardiologists, both consultants, Dr. Stephen Sinatra in America, Dr. Gabriela Segura in Italy, both of them start off life, doing traditional cardiology, you know, the drugs, the pacemakers, the surgery, you know, all that sort of stuff. And both now simply practice nutritional medicine. Why? Because you can cure people with nutritional medicine in heart disease, whereas using the drugs and the pacemakers and surgery, all you're doing is postponing the inevitable. So, and the reason that this is so important is because the most overlooked aspect of heart disease are mitochondria, because obviously, the heart is a pump, it has to pump 24/7, and for that pump to work 24/7, it's got to have a lot of mitochondria and have a big engine, the mitochondria are common to all cells in the body, but the heart has got more mitochondria than all other tissues, because the heart cannot afford to run out of energy. And what mitochondria does, is it takes fuel and oxygen from the bloodstream. It converts that into energy. And with that energy, ATP, the heart

can contract. Now, for most cardiologists, you know, the major cause of heart disease is poor blood supply. And yes, I agree. Poor blood supply is central to that. But poor blood supply arises because the arteries have been damaged, and they've been narrowed. What damages arteries and narrows them? Sugar and blood pressure. So the ketogenic diet is a low sugar, low carbohydrate diet. Now, if you have ironed out your blood sugar levels, so you're no longer spiking them, then you also iron out your adrenalin levels. People running on sugars and carbohydrates, they're very easy to diagnose. You could just look in their supermarket trolley and you'd see the answer there or any sort of history would show that they have cereals, breakfast, cereals, muesli toast for breakfast, and then they have a snack mid-morning like a biscuit and at lunchtime it's sandwiches and then maybe another snack in the afternoon and then pasta in the evening, those are the carbohydrate addicts. And if you took a video of their blood sugar levels, you find they're up and down and up and down. And every time the blood sugar goes up, you pour out insulin that gets rid of the sugar by turning it into fat. So you put on weight. And every time the blood sugar comes down, the body panics, where's my fuel coming from and you pour out adrenaline and it's adrenaline that causes high blood pressure. So high blood pressure and arterial damage, the vast majority of that comes down to diet. So again, it's back to the Paleo ketogenic diet, A, to prevent arterial damage and B, because ketones are the preferred fuel of mitochondria. Mitochondria function much more efficiently with less damage, with less inflammation, with less free radical production when they're running on ketones. And there's a lovely study showing how athletes, the endurance of athletes we're talking about now can substantially improve their performance just by doing a ketogenic diet. A, it's the right fuel. But the other point here is that if you are an athlete, you run your body on carbohydrates. Those carbohydrates are stored in the liver and muscle as glycogen. Glycogen has an osmotic pressure, it holds water. As soon as you get into ketosis and do a ketogenic diet, you will lose maybe one or two kilogrammes of water straight away. Now, if you're an athlete and carrying an extra two kilogrammes of water that you don't need to carry, of course, you know, the power weight ratio is immediately disadvantaged. So for athletes: go keto, and you will function at a higher level. So the starting point to treat any cardiovascular disease, whether it's arterial disease or heart disease, is the Paleo ketogenic diet. Again, paleo is important because dairy products, a very dear friend of mine, David Freed, and Margaret Moss, they wrote a paper called The Cow and the Coronary. And they looked at dairy consumption throughout Europe, country by country, and of course, including this country, and the more dairy products that country ate, the greater their risk of cardiovascular disease. They then split it down to ask the question, which dairy product, which part of dairy is the problem. Now the safest dairy product you can eat his butter, because butter is pretty much all fat. And fat is the desirable fuel that is metabolised in the body to ketones, is the best fuel for our mitochondria to run on. The most dangerous food, dairy product of all, was skimmed milk. Why? Because it's high in protein, and protein makes for sticky blood. It's high in sugar, lactose, and lactose gets fermented in the gut, to cause all sorts of problems. And then it's still got its calcium and magnesium there. And the proportion of calcium to magnesium in dairy products is 10 parts calcium to one part magnesium, calcium and magnesium compete for absorption. So if you're having a lot of dairy products, you will induce a magnesium deficiency. Now, magnesium is absolutely essential for cardiac function. It's essential for at least two reasons. First of all, magnesium is essential for mitochondria to work. And if you think of mitochondria as an engine. I think magnesium is the spark plug of that engine. I know modern engines don't have spark plugs. But the engines I used to deal with did have spark plugs. So without that spark to make things work, the engine won't go. The second point here is that calcium is necessary for muscles to contract. But magnesium is necessary for muscles to relax. And so often patients with heart failure and heart disease have something called

diastolic dysfunction, i.e. the heart doesn't relax well. And that will impair heart function. In fact, there's another very lovely illustration of this. The Great Northern run is 13 miles, and they have 1000s of runners, and I think it was in about 2008 or 2009. They ran that race and it was a very hot day. Now, when it's hot, you sweat more. Sweat is blood minus the solid bits, minus the red cells, the white cells, the platelets, the proteins. And so everything that's in your serum will pour out in your sweat. So when you sweat, you lose all your minerals. And that includes magnesium. Now, magnesium deficiency is pandemic because there's not enough magnesium in the soil that we need. So everybody is a bit deficient in magnesium, but then when you sweat, you lose a lot more magnesium. Now in that particular year, four runners dropped dead, postmortem, nothing, no abnormalities found, I would put money on those athletes having magnesium deficiency, i.e. they're running along, their heart was contracting like that. And then all of a sudden, they didn't have the magnesium to relax, and their heart stopped in systoly. And they just went down as if poleaxe. Now, of course, you won't see that postmortem, because by the time the postmortems come, the heart has changed, relaxed. And also, they never measure magnesium levels routinely at postmortem. So that would have been missed as well. So magnesium is centrally important for heart function. Another very, very important nutrition intervention, which is again routinely missed because it's not looked for by general practitioners is homocysteine. Now a high homocysteine we know is a major risk factor for arterial disease, for dementia and for cancer. And I suspect the mechanism of this is that homocysteine is part of the methylation cycle and without methylation, you can't detox and you cannot heal and repair. Now, the reason I suspect why homocysteine is not routinely screened for to prevent heart disease is, well follow the money. How do you treat homocysteine - with B vitamins, with methylated B12, with methylated folic acid, with methylated B6, and you can bring the homocysteine down nicely. So, again, if there's any family history of heart disease, because high homocysteine runs very strongly in families, any family history of heart disease, so dad, well, he dropped dead of a heart attack in his 50s or 60s, and no, he didn't smoke and he didn't drink, you know, or whatever. Suspect homocysteine and get it measured. And there are labs where you can measure homocysteine yourself on a Do-It-Yourself kit. If you ask your GP, they probably have never even heard of homocysteine, it is possible for NHS hospitals to measure, but it's never asked for because the treatment is cheap nutritional supplements, it doesn't involve Big Pharma. So if you've got heart disease, or anything, those are probably the three most important things to pay attention to: diet, magnesium, and remember, for magnesium to be absorbed, you need vitamin D. So a good dose of vitamin D 10,000 IU daily would be a very reasonable base, nobody's ever had any side effects with 10,000 IU vitamin D, and check your homocysteine, that would be a very, very good start for anybody with any sort of cardiovascular disease.

Steven Bruce
So interestingly, if I or any of my members went along to a conventional medical forum and stood up and said the things that you've been saying, we'd be accused of being hippies with no evidence for what we are saying. Because, of course, as you rightly point out, there's no money in doing research into whether vitamins work and things like that. Is there any, I mean, you've mentioned a couple of studies, but is there any good quality evidence out there for all this stuff? Is anybody doing it? I imagine a lot of yours is just clinical outcomes.

Sarah Myhill
There are endless studies, there are lots of studies showing the benefit of these, they just don't find their way into conventional medicine. A very useful site for all this information is the Orthomolecular Medicine

Group, the Journal of Molecular Medicine, now Orthomolecular is a terrible title. It just means the right molecule, i.e. the right molecule to correct the underlying biochemistry, whatever that may be. And there are 1000s, I mean, if you google magnesium and heart disease, my guess is you will find millions of references within a millisecond. Same with coenzyme Q10. If you google coenzyme Q10 and heart disease you would find millions of references within milliseconds. So what I'm saying is, oh well, references, well evidence base, and don't ever be accused that oh, this is just clinical. This is just anecdotal. There's no evidence base. Rubbish. I can give you 1000s, millions.

Steven Bruce
Yes. And I suspect that the one of the responses previously would have been, well, if it isn't in a mainstream and a high-powered journal, then it can't possibly be serious research. But we now understand that none of those journals are reporting good quality evidence, either. So we had a question from Simon ages ago about high blood pressure and whether fresh grapefruit is good for dealing with high blood pressure.

Sarah Myhill
Well, people have got used to the idea. They have one symptom, and then they will have one drug and it will all go away. I mean, grapefruit juice, the tropic grapefruit is, you know, they are so sweet. They've been bred and bred for extra sweetness. I mean, when I was a child, you know, our big treat at Christmas breakfast was we had half a grapefruit, but it's so tart, you can hardly eat it. Nowadays, modern grapes, you know, and of course, the fruit growers know this. They know that sugar is addictive. And so they've been breeding fruits, which are higher and higher in sugar content. And so now modern grapefruits are very sweet. So grapefruit on its own, ain't gonna do it. It's the whole business. It's all the sugars and carbohydrates. We've got to cut those out, in order to iron out blood sugar levels, and as soon as you iron out blood sugar levels, you stop spiking adrenaline and you stop damage your arteries and arteries are very good at healing and repairing. Once they're healed and repaired and you're not spiking sugar, I beg you pardon, you're not spiking sugar and you're not spiking adrenaline, then they will stabilise.

Steven Bruce
Well, I mean, I don't want to spend too long on this because I know this could be a whole big rabbit hole to go down. But the business of cholesterol monitoring, where do you stand on that?

Sarah Myhill
Okay, well, the key point to remember about cholesterol, is cholesterol does not cause arterial disease. It's a symptom of arterial disease. It's downstream. So the key we want to measure is your HDL, because HDL, the high density lipoprotein, is responsible for healing and repairing arteries and if your HDL is low compared to the total cholesterol, then it means you're using up all your HDL in the business of healing, repairing, i.e. those arteries are damaged. If your HDL is a good percentage, then you're not using it up in the business of healing and repair and your arteries are in good shape. Now on this very subject, I collected lots of, my patients who were eating normal Western diets, and then going up paleo ketogenic, and measuring their total cholesterol and their HDL. Now what was interesting is the total cholesterol stayed the same or often went up. And that's good. I can show you studies where a high total cholesterol is protective against heart disease and dementia. But the important thing is the proportion of HDL came up from 20%, maybe to often 40 or 50%. And the two centenarians or the two near centenarians I have

in my practice, they both have an HDL percentage, which is nearly 60%. So the point is, cholesterol does not cause arterial disease, it's a symptom of. Now, if you have a high total cholesterol, a high total cholesterol, maybe eight or eight or nine, then there are two possible causes for that. One is, you may be vitamin D deficient. And the reason for that is the body makes vitamin D from sunshine through the actual cholesterol in the skin. So if you're deficient in vitamin D, the liver pushes out more cholesterol. And remember, 80% of cholesterol comes from the liver, not from the diet, it pushes out more cholesterol. So there's lots around, available to make vitamin D very quickly when the sunshine does land on the skin. And the other cause of a high cholesterol is hypothyroidism, an underactive thyroid, and that is often, again, an underactive thyroid is one of the worst diagnosed and worst managed conditions in this country. But high cholesterol would certainly be a clue that the thyroid is an issue here.

Steven Bruce
I'm really interested to hear you say all that, because I was kind of feeding you the line there, because Malcolm Kendrick, who I've followed for a long time is very hot on that whole business of cholesterol not being a cause, simply being a symptom. But of course, one of the things that I've always assumed is that the main objection to statins, to cholesterol lowering drugs is not that they reduce the cholesterol, but they actually cause adverse side effects. You're actually saying if they reduce the cholesterol, then they're also reducing one of the components in healing the arteries.

Sarah Myhill
Absolutely. I mean, again, statins are one of my top hated drugs. Now, there's a very interesting story behind statins, because interestingly, they do have a mild anti-inflammatory action, and it's the anti-inflammatory action that seems to be helpful for heart disease. But we have to ask, what's that all about? And it just so happens that statins biochemically look exactly like vitamin D. It's a vitamin D mimic. It does many of the anti-inflammatory things that vitamin D does. But the real problem with statins is it stops the body making coenzyme Q10. And coenzyme Q10 is an essential part of mitochondrial function. So the mitochondria go slow. And what I do know from my clinical experience is that my chronic fatigue syndrome patients are almost invariably made much worse by statins. So that because, they can't make the Q10 for their mitochondria to work. Now, interestingly, even the drug companies accepted that this was a real problem. So they all got their heads together to say, well, what can we do to prevent this and the drug companies all agreed, what we will do is when we market a statin, we will automatically put coenzyme Q10, 100 milligrammes in there to protect against this destructive side effect. But guess what? One company refused. One company realised that by not putting Co Q10 in, it can undercut all its competitors. And win. So, guess what? That didn't happen. No Co Q10 was packaged in with the statins. That idea just disappeared. A similar story interestingly with paracetamol. Now if paracetamol came onto the market today, there was no way it would pass drug safety testing. It's an extremely toxic brand, because the toxic dose is very close to the therapeutic dose. If you take 20 times the therapeutic dose of paracetamol you can kill yourself. Again the drug is recognised that this was a problem. And they decided that what they would do is that for every paracetamol tablet, they were putting a dollop of glutathione. 250 milligrammes of glutathione. Why? Or maybe methanine? Why? Because that allows paracetamol to be effectively detoxified in the liver before it causes terrible kidney troubles. Again, one company refused, one company realised, no we can undercut all the others by selling cheap paracetamol and that idea went but if that became law, if that was a, that all paracetamol had to have glutathione and methanine with them, you would get rid of all the serious sides from paracetamol like that.

Steven Bruce
I'm interested there because I'm sure that, I am, I'm sure most of my colleagues are very keen to make sure that our patients are not overdosing on paracetamol because they just assume it's a painkiller. But 20 times the therapeutic dose sounds like a very high ratio. Would people, unless intentionally committing suicide, would anyone accidentally take that much?

Sarah Myhill
Well, that's just part of the story. It is also a cumulative toxin. And in Australia, I think it was the 1970s when paracetamol sort of first came onto the market, lots of people thought it was a jolly good thing to take, it was a jolly good health thing to take and they were taking maybe half or one gramme a day. And then kidney disease suddenly started to skyrocket, and people woke up to the fact that it's not a good thing to be taken on a regular basis.

Steven Bruce
Right? Okay. That's very useful. You actually preempted somebody with your information about coenzyme Q10. Trump1999. I don't know his name, but or her name, but they're calling themselves Trump1999 was talking about Co Q10 being leached by statins, which I think is is where...

Sarah Myhill
Leached is an accurate word. That suggests that we're excreting it. It blocks the body's enzyme system that allows it to make Co Q10. And if your levels of Co Q10 fall that's a major risk factor for heart failure and dementia. And guess what, we're seeing epidemics of those two conditions. The commonest cause of death in this country is now dementia. And what's one of the commonest drugs we're dishing out, bloomin statins. I'm quite sure there was a causal link between prescribing of statins and dementia.

Steven Bruce
Isn't, quite apart from that, isn't it now the case that prescription medication is very high up on the list of causes of death?

Sarah Myhill
Absolutely.

Steven Bruce
I think it's third or fourth or something, which is astonishing.

Sarah Myhill
Correct. I mean, prescription medication, doctors' mistakes, hospital blunders, drug side effects, poor delivery of. Yes, it's a very common cause of death. I mean, if the statistics were the other way around, if it was vitamins and minerals that did that, then there would be banned overnight like that. But again, there's a lovely paper in the Journal for Moleculare Medicine where all deaths or side effects from nutritional supplements were reviewed over the last 30 years, not a single death, not one. Why? Because nutritional supplements, the body's well used to dealing with them. They're a part of our normal biochemistry. If we take too much off, you know, most of them they're readily excreted or got rid of, it's

very, very difficult to overdose with nutritional supplements. But there are lots of scare stories out there about vitamin A or vitamin C, which are nonsense, but promulgated by guess who, Big Pharma.

Steven Bruce
Yes. So I guess the worst that I remember being told about vitamins, if we overdosed on them was that you might end up with a case of diarrhea or something like that. Well, I mean, it's hardly the worst side effect in the world.

Sarah Myhill
Well, that is the, I say side effects and effects of taking vitamin C. And it's actually a very useful side effect of taking vitamin C, you've got to take a lot of vitamin C to achieve bowel tolerance, because that's what it's called. But in the event of an acute infection, I love all my patients to take vitamin C to bowel tolerance. Why? Because 90% infections come in through the gut. And if at the first hint of any infection, you take a big dose of vitamin C, A you contact kill any microbe in the gut, whether that's a virus or bacteria, a parasite or whatever. And secondly, in achieving bowel tolerance and having diarrhea, you physically wash it out, you physically remove it. So okay, it's not very pleasant, you know, rushing to the loo and having diarrhea, but on the other hand, it's a darn sight better than being in bed with flu for two weeks, and of course, risking a post viral syndrome. So, side effects, in the case of vitamin C, it's really an inconvenience. It's not really a side effect. It's actually a very desirable therapeutic effect of vitamin C, you know, should the need arise.

Steven Bruce
That's interesting. I hadn't thought of it that way. Just a few comments on paleo ketogenic diets before we move on, Pip has said if protein makes for sticky blood, doesn't that mean it's also a big issue for paleo ketogenic dieters?

Sarah Myhill
You misheard me: milk protein. There is the world of difference between milk protein and protein. Now, the Paleo ketogenic diet is not a high protein diet. You eat a normal amount of protein. The key to paleo ketogenic is you get your fuel from fats, and you get your fuel from fibre. Because fibre is fermented in the large bowel to form short chain fatty acids and that is what fuels the lining of the large bowel and further protects us from bowel disease. So it's high fat and high in fibre, normal amounts of protein, and then sufficiently small amounts of carbohydrate that you are in ketosis. Now you don't have been ketosis, 24/7, you just have to be in ketosis for most of the time. And a very useful thing to do is the measure that, you can either measure, we get three types of ketones. The best test for ketones is a blood test, which measures the beta hydroxybutyric acid, and you can do that yourself. The trouble with that is the testing sticks cost a pound each, only have to prick yourself to get a drop of blood. And guess what? I'm mean and I'm a wimp, so I don't do that.

Steven Bruce
Since I spoke to you last time, I started doing it and I found I was so far off ketosis, I got very depressed and stopped.

Sarah Myhill
Well, in that case, you're not thinking, it's very easy you can get into ketosis very quickly by not eating and fasting is a very, very useful therapeutic tool.

Steven Bruce
And you can also buy somebody's paleo ketogenic cookbook, which I did when I found I wasn't getting into ketosis. Just in case you weren't aware that is one of Sarah's several books.

Sarah Myhill
Bless you, that's very nice. Thank you for mentioning that. I'm not here to promote my books, but I mean, I write things because, and all my stuff is on my website. So if you don't want to buy the books, go to my website, and you'll find most of the stuff there. But I write things because I just feel very strongly that the information should be out there. So that those people who have got the intelligence to work it out, and the determination to put it all in place will be the survivors.

Steven Bruce
Interestingly, here, Corrine has asked, how you do a paleo ketogenic diet without losing weight. I'd never thought of it as being a problem losing weight, but I suppose it could be.

Sarah Myhill
Well, I mean, you just have to eat enough fat and fibre, it is not a low calorie diet. It's rich in calories, it's rich in fat, it's rich in fibre. And what most people find when they do a paleo ketogenic diet, is they lose weight and then stabilise out at a much lower weight. Now, the problem is, is the Western world, we live in a world of carbohydrates, and everybody is overweight. And people look at me and say, oh, you're skinny. I don't think I am. I think I'm the right weight. If you look at the the old soap operas on the telly, like the Zed cars, they're all skinny little men running around, you know, you look at a modern one like Line of Duty, and they all got apple shaped tummies and round faces and they're all overweight. So what the keto diet often does, is say, yes, you lose weight, because remember, some of that is fluid. You don't feel hungry, because you're not dropping your blood sugar and spiking adrenaline. You don't feel hungry, and you just eat when you need to. And an important part of the Paleo ketogenic diet is fasting. It's a very useful tool, it reverses many pathologies. What's the evolutionary basis for that? Well, did primitive men get three meals a day? I don't think so. He fasted. And what's so interesting about fasting is you improve your physical performance, and you improve your mental performance, the brain gets sharper, fasting rats are better at solving mazes. Now, this assumes that you are able to get into ketosis very easily. And the trouble with modern diets is nobody gets into ketosis anymore because they're eating carbohydrates all the time. So when you do the Paleo ketogenic diet for the first time, and your body is learning ketosis, it's a struggle. And you often feel as if you've got low blood sugars, you've got no energy, if you've got a foggy brain, you've just got to get through that, I describe it as the metabolic hinterland, you just got to get through that sticky patch. And to come out the other side in ketosis, brain sharp, body full of energy.

Steven Bruce
So when you talk about fasting, I don't know we discussed this in our last show, but when you talk about fasting, are you talking about intermittent fasting, which personally I think of as just as I said last time, a late breakfast? Or are you talking about going for a day or longer without food?

Sarah Myhill
Well, both. I mean, yes, you know, as a basis, it's a good idea to eat your food within a certain eight- or 10-hour window of time. So obviously, you've done that. But if you are loaded up with glycogen, if your liver is saturated and your muscles are saturated, you won't burn all that in 18 hours and you won't get into ketosis. If you are doing a true ketogenic diet, then obviously you're in ketosis all the time. But yes, I think windows of fasting are very helpful and desirable and good for our health. Because, well, there are lots of possible reasons. The first reason is, it switches on autophagy. Now, i.e. self eating. Now let's just ask the question, what is that all about? Now the one thing the body cannot store is protein. It can store energy as fat, it can store vitamins and minerals to a certain extent, but it cannot store protein, we have to have a protein input every day on a daily basis. And I used to think that one way that the body puts in place something to help us store protein is it doesn't get rid of old geriatric cells when it should, it hangs on to them. Because those old geriatric cells, they're swirling around, they're getting in the way of things, they're not doing a lot of good, but they are a protein source. And when we fast, we switch on autophagy, self-eating, and what happens is the white cells go out and they gobble up those old senescant cells. And I think that acts as a protein source when we are fasting, because the interesting thing is when you're fasting, as long as it is not a long fast, you don't lose any muscle mass, you stay strong. So, and of course, all senescant cells that are getting in the way, well they may be cancer cells, they may be immune cells that just aren't functioning very well. And this whole business then switches on our stem cells, and we all have stem cells, and allow us to make healthy younger cells. So fasting has a juvenating effect. And that's got to be very desirable when you turn into an old crone like me. So what I tend to do, the way I run it is, I just eat two meals a day. So I have my breakfast, which is a good one. And then I don't eat at all in the day. Because I find if I snack on something, I want a bit more, and I want a bit more, I want a bit more. But if I tell my brain, that's it, nothing till supper, then the brain stops worrying about food, it stops pestering me and I find I function better in the day as a result of that. And then in the evening, yes, I do have a jolly good meal. This evening, I had a starter which was my PK bread with react, which is my port paté. And the main course was a lump of pork with salad, green beans, beetroot, and then pudding was raspberries from the garden, lots of coconut cream. And I feel completely satisfied. And I know I sleep like a log and not be hungry in the morning. And then I do a 24 hour fast.

Steven Bruce
Sorry, I thought beetroots were full of carbohydrates.

Sarah Myhill
Well, they've got some, not as much as a potato. But what I do know is I'm still blowing ketones after that meal. So I haven't had so much that it switches me out of ketosis. You see, sugars are an essential food, sugars are essential for our metabolism, we need sugar to make our DNA and RNA which is a five-carbon sugar. And we need sugars to make D ribose which is the precursor to ATP and of course DNA and RNA. So sugars are a central part of the diet, the body knows that. And it can actually make sugar out of proteins called gluconeogenesis. So if we really do find ourselves in Tory times where we've got no carbohydrates or vegetable available, the body can survive, and the body can survive perfectly well on a carnivore diet. But we need enough sugar as a building block, but not so much sugar that we start to damage our arteries. And that is why, if there's any sugar around, the first thing the body does, it burns it as a fuel. So we get out of ketosis, we're burning sugar as a fuel to get rid of it. It's such dangerous stuff. And then as soon as you got rid of sugar, then we're back in ketosis again. So it's not a zero sugar

diet. I mean, for example, this evening, I then had four squares of dark chocolate, absolutely delicious. But you know, it's not going to knock me out of ketosis. So it's a case of measuring. And if you measure it, you know where you're at. And all is well. And guess what, I'm not a paragon of virtue. At the weekend, my friends come, and you know, I have a couple of glasses of wine or a gin and tonic or something like that, and I thoroughly enjoy that. And I'm probably not in ketosis, but it doesn't matter. I'm back on the wagon next day, so the occasional falling off the wagon doesn't matter, so long as you're on it most of the time.

Steven Bruce
It's fascinating this, because a lot of this modern approach to diet changes the advice or turns the advice on its head that we've been given for so many years, doesn't it? The whole business of fats being bad for you, and we've got to get away from meats and eat more vegetables. We had a lot of comments in about this. I mean, I like this one from Elizabeth who says she has been sugar free for four months and has lost 17 pounds and has no pain, in brackets she says she has three disc prolapses, which she'd always assumed was the cause of her pain. But that seems quite a success. But I've got some questions on practicality.

Sarah Myhill
Let's look at the mechanics of this, because what she's saying it makes a very, very good point. You have to ask, what's going on there. Now, if you're eating a lot of sugar, you overwhelm the body's ability to deal with it. And that means instead of having a sterile, acidic upper gut for digesting fat and protein, you have a fermenting gut. And those sugars will be fermented by yeast, and they will be fermented by bacteria. Now, we are taught at medical school. Yes, the gut is for the bacteria and there they stay - wrong. We now know those microbes get into the bloodstream very easily, that is called bacterial translocation or fungal translocation. And if they are friendly bacteria, for the large bowel that the immune system has been dealing with for millions of years, no problem. But if they are unfriendly bacteria, and if they're fermenting sugar, they will be unfriendly bacteria, they get into the bloodstream and they get stuck in our joints, stuck in our muscles, stuck in our skin, and there they drive inflammation. And many cases of arthritis are driven by this process. Many inflammatory arthritides like rheumatoid arthritis, psoriatic arthritis, reiter's syndrome, driven by this mechanism, ditto polymyalgia, rheumatica and temporal arteritis, ditto intrinsic asthma, ditto urticaria, ditto chronic venous ulcers. So that's a lovely point that I've got the lady's name mentioned. It makes the point that the fermenting gut is driven by sugar. And that's more reason to go keto.

Steven Bruce
It also takes me back to a discussion I had with another guest on one occasion, who was saying that we often say to people, you must lose weight to take the pressure off your joints because that wear and tear is exacerbated by the weight. But actually, the research showed that the extra weight helped to regenerate the tissues in those joints. But people of course, are still in pain. And you've just explained to us why they might be in pain, which is, which is very useful. But I've got a couple questions on practicality for you. The first is a social effect. How do you get rid of what's commonly called the keto breath, which is pretty unpleasant.

Sarah Myhill
That's only in the early stages of, because obviously exhaling ketones and peeing out ketones is very wasteful. you're exhaling energy and you're peeing out energy. The body doesn't like doing that. And so in the early stages of learning the keto diet, then you can, when the body hasn't adjusted things up, then yes, you can exhale ketones and get keto breath. But that passes. That's doesn't last for long.

Steven Bruce
Okay, thank you. And the second one, a more important one is a question of communication. And somebody, I forget who's asked this, I haven't got a name for the person who asked this question. I had a patient in clinic the other day who came in for something that was not weight related, but she was clearly unhappy with her weight. And I would have described her as obese, possibly bordering on morbidly obese. But I mentioned the idea of a keto diet or a paleo keto diet. And she clearly, the shutters came down immediately. So how is it? How do you communicate that this is a good idea to your patients and get them to take it on board or other patients who come to you already on board with this?

Sarah Myhill
Okay, the main point that those people have to grasp is the fact that sugars and carbohydrates are an addiction. Now, as you probably know, the addicts are the best people in the world rationalising their addiction. I once had a guy who came to see me, it was an anesthetist, and before I could even open my mouth, he said, I just like you to know that when I die, I want to take a cow to heaven with me. Why? It was his way of saying I love dairy products. I can't do without them. Guess what, his chronic sinusitis and phlegm was due to dairy allergy. We get addicted to our allergens and are kind of allergic to our addictions, there are two sides of the same coin. But that patient who you saw, has obviously worked out she cannot manage her life without the calming effect of sugars and carbohydrates, because in the short term, they are calming. They're like a valine tablet. They're like a tranquilliser. They're like a glass of wine. They calm things out and we call them our comfort foods. I mean, when I worked in Nottinghamshire, the typical comfort food was a chip butty, so chips between a couple of slices of white bread. My sister worked up in Scotland and the Scottish equivalent was a cucumber sugar sandwich. So white bread, cucumber and sugar. I think the cucumber was just a kind of a sock to help. But people know. Certainly subconsciously, and often not consciously that they need carbohydrates to control their stress in their life. And in fact, that's what addictions are all about. We use addictions to control the stress in our life, whether it's alcohol, nicotine, caffeine, sugar, we have uppers and we have downers to use to control our mood. I go into it in some detail in the Energy Equation. There's a very useful questionnaire early on in there that you can work through to determine whether or not you are an addict. And believe you me, I am an addict. I know I could happily be alcoholic, both my parents died of alcohol related diseases. Thankfully, I've never tried smoking. I love coffee. I have to ration it carefully. But the worst of all is sugar. And I know the only way I can deal with sugar and carbohydrates is just not have them at all. Because if I have one little bit, I want more and more and more. So, you know, I'm ashamed to say my secretaries are not keto adapted, the wretches. But they know not to offer me a biscuit because I'll always say no. Why, because if I have one biscuit, I won't be happy until I've searched out that packet and had another and it's all gone. What you have to spell out to your patient or getting to understand is that sugar is an addiction. Now, you may not do that at the first consultation, but they will go away, and they will think about it. And think about it when they're having their sweet tea in the morning. Their fruit juice, their sticky biscuit or whatever, whatever or their chocolate. And when they realise that, yes, they're craving it, they're

eating it, they're satisfying a need, they're feeling a bit calm, then they will twig that it's addictive. And just like if you are advising a smoker to give up cigarettes, would you tell them, and it's okay to have one or two a day? No. Why? It switches on the craving. It's obvious, isn't it? So as soon as you recognise that sugars and carbohydrates are addictive and you crave them, then that starts the whole rethink of the whole matter.

Steven Bruce
But that said, you already said that you need you do need sugar in some form. So they're going to get their sugar one way or another in small quantities.

Sarah Myhill
There's plenty in vegetables. I mean, what do I have for my supper last night, I had some runner beans, some salad, there's a bit of carbohydrate in all those foods. Okay, not much, but sufficient to provide the sugar as a building block. And so the body can always compensate by making up sugar from protein if required.

Steven Bruce
Yeah. Just following on from what Elizabeth said a minute ago. Gemma has just said that she used to be a sufferer of severe migraines for many years and hasn't had a single one since she started a paleo ketogenic diet and fasting daily, says her head feels clearer, joint aches and pains have disappeared, and hot flashes stopped, and she'd done it a damm site sooner if she'd known. Interestingly, and we've had people on the show talking about headaches, but I've not really heard anybody talk about paleo keto as being an answer. They talk about foods which spike headaches and so on, which prompts them, but not a diet that might relieve them completely.

Sarah Myhill
Well, let's look at migraine, which is a very recognisable clinical picture. And there are three common causes of migraine. The first is straight allergy and the commonest food that causes migraines is probably the dairy products, but then it's gluten grains and there's yeast. And that's an issue. Secondly, the next one is what we call vasoactive amines, some foods have got amines in them that will trigger a headache, classically broad beans, port, pickled herrings, it's a funny old bag of things. But usually that's obvious because those are foods that people eat infrequently, and so recognise a connection. Next is magnesium deficiency. There used to be a clinic in New York that anybody could walk into any time with a migraine, have an intravenous magnesium bolus, and get rid of their migraine like that. And the third one is all about energy delivery mechanisms. I know when energy delivery mechanisms go down, for whatever reason, you know, insufficient sleep, burning the candle at both ends, you know, that can trigger a migraine, but that history you've just described almost certainly is an allergy issue. It may be allergy to food, it may be allergy to microbes in the fermenting gut. And the other key point to remember here is that if you're eating carbohydrates, and you've got a fermenting gut, you will not absorb the goodness from food and you will not get the goodness from vitamins and minerals. Why? Because those fermenters in the gut, those bacteria or those yeasts, they are equally hungry for B vitamins, for minerals, for coenzyme Q10, for D ribose or whatever, because they too have mitochondria. They too have needs, they too are growing and spending energy. So the upper fermenting gut makes you mal absorb and it's upsetting because lots of people come to see me and they have spent a fortune on supplements. They

bought all the right supplements, and they haven't got a result. Why? They're still fermenting and they're mal absorbing. So again, this lovely lady who you mentioned, as soon as she stops herself fermenting by doing the ketogenic diet, she will start to absorb magnesium. So she will improve her magnesium status, and that will improve her energy delivery mechanisms. So there are multiple mechanisms within a paleo ketogenic diet that improve our health in all sorts of different ways. So that is the absolute starting point, so well done for doing the diet.

Steven Bruce
Following on from what you just said there, there's one clinic with such stunning results from administering magnesium for migraines, why are there not more clinics doing it.

Sarah Myhill
Follow the money.

Steven Bruce
I kind of thought you were going to say that. Simona has asked, should we then take daily up to 10,000 IU vitamin D, magnesium, calcium, vitamin C and coenzyme Q10 daily? If so, could you recommend the most reliable companies to get them from? But I also would like to say, well, what are what are the levels that you need to take of the other vitamins, because obviously, we didn't want to go to bowel tolerance on vitamin C every day of the month.

Sarah Myhill
What we're talking about is my basic package of supplements. And as you rightly point out, this is all rather expensive. So the basic package we should all be taking is a good multivitamin. Now, there are lots on the market. There are lots of decent multivitamins. There's Biocare, would be a good one, Lamberts, Quest, Solgar, these are all reputable companies that produce a good multivitamin. The problem comes with the minerals. And although they might say they're a multivitamin mineral, the doses of mineral in there are invariably far too low or inadequate. And so to adjust for this, I've made up a preparation called sunshine salt. Now I call it sunshine salt, because it's got a big dose of vitamin D in it, as well as all the minerals. So it's 80% sea salt, so it tastes salty. And that's important if you're doing a keto diet because your need for salt will increase. But it's also got all the calcium, magnesium, potassium, zinc, copper, selenium, boron, chromium, molybdenum, etc., all the minerals that I'm allowed to put in there, and they're in there in the correct proportion. And they're in there in a form that is soluble, because so often you see calcium phosphate in a preparation, which just goes straight through, so it's in the form of calcium chloride, which is very soluble. And together with all those minerals, I put a big dose of methyl B12, methylcobalamin five milligrammes because, again, everybody's B12 deficient. And I put 5000 IU vitamin D, why? Because everybody's vitamin D deficient. And that is very cheap and inexpensive. And the other good thing about that is you can dose the family, if you think they should have a dose of, because it can go in the cooking, I put it in my in my PK bread that I make, I sprinkle it on my vegetables I sprinkle it on my meat, and everybody sitting around the table gets a nice dose fit, whether they like it or not. So that's on my website. It's at Doctor Myhill and it's, I think it's 15 quid for a pot, and that last a good three months. So it's a real good all-rounder to start off with.

Steven Bruce
Yeah, 15 quid for three months, I think the stuff I get from biocare costs about 100 quid for far less time than that. But maybe I should cut down on theirs and subscribe to yours. And I wonder if we could perhaps move on a little bit. Somebody who remains nameless says we've had so much talked in other programmes that I've run but elsewhere, about women's health and hormones, but there's very little about men's health and hormones. She recently, he or she recently saw two men, both on testosterone replacement therapy due to hypogonadism. Is there any way to increase their testosterone without actually going for a pharmaceutical, pharmacological intervention?

Sarah Myhill
Okay, well, the first thing you have to ask the question is, why do they have low testosterone? Now, low testosterone and manboobs are part of metabolic syndrome. So the starting point would be to do a paleo ketogenic diet. The first thing, the second point is, testosterone is all about procreation. And if you are unwell, with no energy, that is not a good time to procreate. And so nature will drop your testosterone to stop you spending energy on sexual activity. And because you don't have the energy for the business of rearing children. So always ask the question, why does that person have low testosterone? And that should be the starting point. Not, oh, let's give them some testosterone. That's not a good starting point.

Steven Bruce
Okay. So it'd be interesting, I didn't know who the person who asked that question is, but would be interesting to hear back if they can suggest that to those two patients and see what happens actually. I've had some questions about carbohydrates and what sorts of carbohydrates you tell us we should avoid. Simona says, do you do you mean to avoid only the starchy type? Somebody said something similar.

Sarah Myhill
Well, I mean, the worst carbohydrate of all is sugar, of course and fruit sugar, because that gives you such a fast hit, it's particularly addictive. But yes, I do eat other carbohydrate-based foods. And the answer is, you eat whatever you can get away with and remain in ketosis. So sometimes I will have chips, but my deal of chips is one potato, cut in small pieces and cooked in lots of saturated fat to give a very crisp, so it's like a big crisp if you like, and about five or six of those, they're absolutely delicious, crunchy, crispy, a bit of carbohydrate there, but mainly fat, not enough to knock me out of ketosis. At the moment, I've got loads of beetroot in the garden, so you know, I will have a beetroot with my evening meal and absolutely delicious, but not enough to knock me out of ketosis. And if there is a little bit too much, you know, sugar in there, then the body will immediately switch into sugar burning, burn it off, get rid of it, and then you'll be back in ketosis maybe an hour or two later.

Steven Bruce
How about the whole apple a day thing, then?

Sarah Myhill
Well, that's rubbish, isn't it? Because what primitive man's idea of an apple was a crab apple. You know? Have you ever tried chewing your way through one of those things? I don't think so. No. Again, as aforementioned, the fruit growing industry know that if you want to get somebody to eat your product,

make it an addiction. What are the big industries in this world, the big industry in this world, they're all addictions, aren't they? Drugs, you know, weapons, money, oil, and tobacco. These are all addictions and fruit is another one. And so if you're a producer and you want to sell, make your product an addiction and people come back and back and back, so fruits getting sweeter and sweeter, sweeter, I mean, just give me an example. You know, I have a horse. If I offered her, you know, a supermarket apple, she wouldn't eat it, she'd take one sniff of it and reject it. But if I've got one of my russets from my trees, she'll have that, thank you very much. So, animals are much more discerning and more sensible in some ways, but modern fruits, modern apples, far too sweet. Don't go there. You just get addicted.

Steven Bruce
I guess, Shani has asked a question, which is probably on many people's lips and must be occur criticism that you've heard of the Paleo diet on many occasions, and that is that, as far as we know, Palaeolithic men, primitive men died very young. And we probably want to avoid that if we possibly can. So what's great about his diet, or her diet?

Sarah Myhill
Well, he didn't die of heart disease or cancer or dementia. These are modern diseases. What he died of is starvation, cold, disease. Now we've conquered those things, thankfully. Do I want to run around in a rabbit skin loincloth, living in a freezing cold cave, I don't think so. You know, I'm a wimp, I want my nice warm house, I do get out in the cold, but I put lots of layers on, I want food security, especially in the winter primitive men certainly didn't have that. And with cold and food insecurity, he got disease, you know, if I have babies, I want to go into a hospital and have them in a nice, comfortable situation where my babies can be delivered safely. I don't want to have my babies out in the plough field with some old hag, you know, hacking the placenta, the umbilical cord off with the dirty old stone, no, we have modern standards of hygiene, warmth, food security, which are highly desirable, primitive men didn't have those. A very common cause of death in primitive men was murder. So that's what primitive man died from, it wasn't his diet that killed him. When food was plentiful he was a picture of health. Again, on my picture, the front of The Energy Equation, I don't know if you can see that, but there's a progression there from the bent over ape to, and a primitive man was this guy in the middle here. Upright, fit, slim. What's modern man? Slumped in an armchair, overweight, unhealthy. And we need to go back a couple of stages. So we're upright, slim, fit, energised and enjoying life.

Steven Bruce
That primitive man in the middle of the cover of your book appears to be wearing a suit.

Sarah Myhill
Okay. Not a very good drawing then, is it?

Steven Bruce
We won't hold it against you. We had a number of people on the show talking about plant-based diet. What's your opinion on a plant-based diet? Does it depend on the plant?

Sarah Myhill
Well, of course. But the key to the Paleo ketogenic diet it's got to be high in fat, it's got be high in fibre. And you can achieve that with a plant-based diet. But so often plant based diets are high in carbohydrate. And that's a problem.

Steven Bruce
Why and of course, I think we did ask this question last time is, that if you're not a meat eater, how can you successfully follow a paleo keto diet?

Sarah Myhill
Well, it is possible, but it's not easy. I've actually just rewritten the Paleo ketogenic cookbook, and that's due out again in the autumn, but I say if you're eating eggs, that's fine. Eggs are a perfect, great source of protein and nourishment, so vegetarians, much easier. Vegans is more of a problem. But what I do know is that being vegetarian, or vegan is a major risk factor for chronic fatigue syndrome. And to ME. I've got figures that demonstrate that that is the case. So I'm not a fan of vegetarian, vegan diets. And again, you know, we have to ask what happened over the last 100 million years of evolution, primitive man evolved eating an omnivorous diet which was paleo and ketogenic. That's what our gut, our brain, our whole body is evolved to cope with. So just seems artificial to eat a vegan diet or a vegetarian diet. Now, I know that the vegans or vegetarians are going to turn around and say, well, we can't feed the world unless we eat like this. But that's not my job. My job is not to feed the world, my job is to advise the very best art that I can see that is perfect for that person sitting in front of me, my job is to get that person well, not to save the world. That's a job for the politicians. Okay, there are lots of other possibilities for that. But I'm not a fan of vegetarianism. I'm not a fan of veganism. And again, I'm absolutely behind you guys when it comes to animal welfare issues. And of course, I'm in a very privileged position. I've got my own ducks, I've got my own chickens, I've got my own pigs, and they all live lovely, happy lives in the social groups. And when the moment comes, that they're ready for deep freeze, you know, they have no idea what's coming to them. They are slaughtered humanely.

Steven Bruce
Like you, I mean, I understand that there are people with ethical moral or whatever principles which lead them to adopt a vegetarian or vegan diet. But the nice thing is that, although they're going to have to work significantly harder, is it still possible to follow a paleo keto regime if they wanted to. So that's encouraging. And we are, as always, we are close to the end of our time. And I have loads, I have probably more questions on my list here that I've had on any other speaker's forum. I'll try and get through a few of them. Victoria was asking about keto diet without eating meat, we just dealt with that one. Dee's asked about the recommended daily dose of vitamin D for children under 12 in particular.

Sarah Myhill
Well, I mean, for adults, it's 10,000 IU and maybe reduce the dose according to weight. So if a child was half an hour away, then 5000 would be plenty.

Steven Bruce
Okay, Sarah has said she's missed this, but how is it you said you should test yourself if to find out whether you're in ketosis.

Sarah Myhill
Oh, you can either do a blood test, which is painful and rather expensive. You can do a urine test, which is cheap, but sometimes not very accurate after a while, or you can do a breath test. I prefer breath test monitoring, because it's very quick and very easy. You can take it yourself after every meal.

Steven Bruce
Would you do it immediately after a meal or do you have to leave a pause? My blood testing kit says don't test yourself for a couple of hours after you've eaten.

Sarah Myhill
Blood testing. Okay, well, yes, is that the blood testing kit for ketones. I'm not quite sure of the logic of that. But the point about the breath test is it is a very sensitive meter, it's easily upset. And so for example, if you'd had a glass of alcohol, you know, some hours before that will give you a false positive because the mechanism for measuring ketones is the same as the mechanism for measuring alcohol. Again, if you've got someone who's got a fermenting gut, the fermenting is also called the auto brewery syndrome, you generate alcohol, and that can be sufficient to give you a false positive on the key term breath meter. And the other point is that sometimes eating or drinking something recently will give you a false negative. So for example, if I have a sip of coffee, and then blow my ketone breath meter, it will measure negative. So you have to use the keto temporarily to with some respect, you have to be a little bit careful. And I usually say nothing to eat or drink for proceeding 20 minutes, and then blow gently into it. And make sure no alcohol, no alcohol wipes, for example, no fermenting gut, my guess is that other alcohol-based solvents will give it a false positive. Once that's all in place, then you should get an accurate reading. But you'll get a feel for the meter, once you start to use it on a regular basis. You'll know instinctively, if you're in ketosis or not. And the ketone breath meter is just a check really.

Steven Bruce
Right. Okay. Somebody has asked whether you know of any studies which might link statin use with increasing depression. And similarly, we had a sorry, it was a different question. But this one about Parkinson and the keto diet.

Sarah Myhill
Well, as for statin and depression, I don't know I'd have to google that. But it's very logical, it's biologically plausible that statins would cause depression, because they impair energy delivery to the brain. And I think depression and anxiety, they're one of the symptoms that the brain gives you to stop you spending energy. So if you haven't got the energy for the brain to be powered, then the brain has to shut down energy expenditure. And of course, depression is one way of doing that. Because guess what, if I've got lots of energy, I want to get out. I want to be sociable; I want to have a giggle with my friends, but I've got to have energy to do that. What does depression do? It makes you anti-social. So I'm not sure about the answer to that but it's certainly plausible. And then coming up to Parkinson's disease. Parkinson's disease is difficult, because Parkinson's is...

Steven Bruce
For Parkinson's disease, is the keto diet likely to have any effect on it? It wasn't to do with statins.

Sarah Myhill
Well, it's the starting point to treat all degenerative conditions. Now, a keto diet will not cure Parkinson's. The best we can do with Parkinson's at the moment is to slow down the progression with diet, supplements, nutrition, co Q10, and all that stuff. Because one day stem cell therapy will become a reality for Parkinson's. Parkinson's is a prime disorder, I think it's a protein cancer. And once you've got that Prime material in the brain replicating itself, I don't know of any mechanism to stop that. But we slow it down as much as we possibly can with good diet, good health, good interventions, and say, and one day, we will have stem cell therapy, the interesting thing about stem cells, and this has already been done for some patients. The interesting thing about stem cells is first of all, we all have them. So they can be harvested from your own fat very easily. So you can use your own stem cells, but they seem to know where they are in three dimensional space. So if you put stem cells in the kidney, they will develop into kidney cells, if you put stem cells in the liver, they will evolve into liver cells. If you put stem cells in the substantial nigra of the brain, then they will evolve into dopamine producing cells. And there have been some trials done that shows that this is effective, but the technique is far from perfect, but it's coming. It's in the pipeline.

Steven Bruce
Sarah, thank you so much. I'm just, as you're talking, I'm reading the questions as they're coming in. And we just can't cope with them all. And that's just, it's just evidence of how popular what you have to say is.

Sarah Myhill
We'll have to have another jolly evening then, won't we?

Steven Bruce
Well, I'd love to, I'd love to and I'm sure the audience would. But yeah, Katie, Kim, Simon Rosemary, Vlad, Tracy, I'm really sorry. I haven't had time to answer all your questions or ask all your questions. But maybe we'll get another chance to talk to Sarah at a later date. If you're willing, Sarah.

Sarah Myhill
Of course, I'm gobby and I love yapping away.

Steven Bruce
Well, it's interesting, isn't it, I did do quite a lot of reading before we came on air, but I was pretty confident that we didn't have to do much preparation to know that we were going to get a good 90 minute CPD out of you here. We've got lots of thank yous coming in, and lots of requests for you to come back. Somebody says I could listen to her for hours, tell Sarah she's a superstar, which is very, very nice.

Sarah Myhill
What I do run, which might be useful, is I run workshops, where I do zoom sessions, and I talk all day from 9:30 in the morning to four in the afternoon. And we have up to 20 at a time, and anybody can join, you can buy tickets at my site Doctor Myhill. So if you go to my website, it leads you to it. And then anybody can ask any question. And I talk many about chronic fatigue syndrome and ME which of course it comes as many other conditions. But anybody can ask any question anytime. And it's always a good, fun day.

Steven Bruce
Don't tell them that because they'll desert me. That is all the time we've got for this evening. Thank you, Sarah. I don't have to say I hope you enjoyed that. I'm sure you enjoyed that discussion. Just a few notices for you. One, I mean, this one is I'm going to read this out mostly verbatim. It's a message from Melanie Darby. And many of you will be aware that Melanie's husband died, I think at the age of 40 in a scuba diving incident recently. And Claire, my wife, partner, fellow director of APM set up a crowdfunding page, which has raised I think, at the moment, something like 10,000 pounds to help Mel out because right at the moment, she can't treat patients. And you can imagine, Mel has said that she can't thank you all enough for everything that you've done for her. There just aren't words to express her gratitude. She says she's truly so very lucky to have such wonderful colleagues. And she's sending all her gratitude and love to everybody. And I will send out another link because there's no compulsion on this. But if you feel you would like to help Mel get through a very, very difficult time, I'll send out a link to the crowdfunding page and you can have a think about that. But Mel, I'm sure I can speak for everybody who's watching that we just can't imagine how you're feeling and we have huge, huge sympathy for you and hope you pull through it okay. Looking ahead to our own programme. We're having a bit of a break. I hope you don't mind. I know I don't expect any sympathy for the fact that I finally managed to get out to see my wife after six months. But we're having a bit of a breakthrough August. And, where are we, on the 16th of September we've got Tim Allardyce back in talking about rehabbing patients, and in particular using software to do that. On the fourth of October, Russ Rosen, The Science of Yes Care Versus Scare and Neuroscience of Communications. Basically, how we get patients to do what we would like them to do, what we think is good for them. And on the sixth of October, I have Tim Watson coming back in, the professor of electrotherapy, who has been so popular on numerous occasions in the past, and I've forgotten the date, but as I mentioned earlier on, I have Sebastian Rushworth coming to talk to us about the statistics behind the many things that we do on the basis of supposed evidence. He talks about vaccinations. He talks about omega three, as I mentioned earlier on, he talks about the wearing of face mask, all that sort of stuff, which is a hot topic at the moment. So there is still lots to look forward to, APM is still open throughout the whole of August. It's not just that, we're not shutting up shop. It's just that we're not doing any programmed broadcasts during the month, we will be finalising the CPD for all our chiropractic members and helping them get through to the end of year. And of course, we'll be putting together the portfolios for the osteopathic CPD for those who are approaching the end of their three year cycle. So we will be very busy. The phones, however, will still be answered. And we'll be still there, hoping to help you out whenever you need it. That's it for this evening. Have a great week. Hope you enjoyed it. I hope to see you again soon. Good night.