

Dr Ron Ehrlich: Hello and welcome to Unstress. I'm Dr. Ron Ehrlich. Now, we are exploring fulfilling potential, and when it comes to sport, elite sportsmen and women are doing that in a very public way, and it's literally worth millions of dollars and often viewed by millions of people. Well, my guest today is one of the world's leaders in sports medicine, Dr. Peter Brukner. Now, I will let Peter give you his CV, and it's pretty impressive. He shares some great insights. Needless to say, when it comes to medical experts in Australia, or the world for that matter, Peter is up there with them. Now, when you think about public health messages over the last 40 years, you might be excused for feeling a little confused. And as you hear how unhealthy we are as a society, and how unhealthy we've become, you might wonder what has been going on, and as you will hear, you are not alone. Apart from the wonderful insights into the world of sport, Peter also underwent a personal epiphany. Some seven years ago, after many years at a very senior level in sports medicine, and at the age of 60, faced with some health challenges himself ... look, there is just so much in this episode. Let's get started. I hope you enjoy this conversation I had with Dr. Peter Brukner.

Dr Ron Ehrlich: Welcome to the show, Peter.

Dr Peter Brukner: My pleasure.

Dr Ron Ehrlich: Peter, you've had an amazing association with elite sporting teams, and I sense from having just having spoken to you a few times, you're a very modest man, but could you indulge us a little and give us a brief history of how you got into sports medicine and some of the teams and sports you've been associated with?

Dr Peter Brukner: Sure. Well, I guess sport's has always been my passion, for some reason, I don't really know why. My parents are quite normal, and they didn't have that obsession with sport that I did. But right from a kid I was always really interested in sport and loved either playing or watching or reading about sport and so on. So I guess no one was particularly surprised when I got into ... I finished my medical degree and finished up in sports medicine. And sports medicine was just sort of starting really in those days. I've been involved in establishing sports medicine as a recognized medical specialty over the last couple of decades and so on. So it's been quite an interesting journey.

Dr Peter Brukner: But along the way, I started off, probably the first professional team I got involved with is in the AFL, in Melbourne. You know, if you're a sports doctor in Melbourne it's hard to avoid the AFL. It was the VFL in those days, which dates me a little bit. But I was a club doctor at Melbourne for some years. The Melbourne supporters out there would realize when I say that it was a long time ago, when I say that every year I was there we were in the finals. And that's happened rarely for Melbourne the last 20 or so years, so that dates me a little bit.

Dr Peter Brukner: So, that was in the late 80s. And then around that time I got involved in a number of other national teams, swimming, and hockey. And then my first long association with Olympic teams was in athletics. I was the national athletics team doctor for 10 years, right through the 90s. And did a whole bunch of world championships and Olympic games. I went to two Olympic Games, to the Atlanta games in 1996, and I was fortunate enough to be involved in the Sydney Olympics. I was actually manager of the track and field team for the Sydney Olympics, [crosstalk 00:03:35] doctor and assistant manager in Atlanta.

Dr Peter Brukner: So, that was a great experience. Then I took a bit of a sabbatical from teams. It involved a lot of travel, these teams, and my kids were getting into teenage years, so I decided I'd have a few years off traveling, and to finish up doing a bit of media work, and being on the boundary line for AFL games on ABC radio and so on. So, that was good fun. And then I got sucked back into team sport with the Socceroos after their 2006 World Cup adventures, I took over after that and did the next World Cup cycle four years leading up to the 2010 World Cup. So I was the Socceroos team doctor in South Africa at that World Cup. And went straight from there to Liverpool in the Premier League.

Dr Ron Ehrlich: Wow.

Dr Peter Brukner: I was approached by them, just one of those random phone calls you get. You know, "would you be interested?" And I said it wasn't really the right time for me from a family point of view, but it was a fascinating job and it was a new job that Liverpool had established. The first time they'd ever had an overall Head of Sports Medicine and Sports Science. Up 'til then they just had, you know, a doctor and a physio and so on. And, so it was an opportunity to really make some changes and some innovations. And I'd always felt at the time that the Premier League, despite all the money and glamour and so on, was actually well behind the AFL and NRL in Australia. So, we introduced some of the things we did here to the Premier League.

Dr Peter Brukner: So that was a couple years at Liverpool, and then the last job I had was with the Australian cricket team. And that was from 2012-2017, well before their recent indiscretions. But-

Dr Ron Ehrlich: Mm-hmm, mm-hmm. Let's not go there.

Dr Peter Brukner: Clearly missing my moral guidance.

Dr Ron Ehrlich: Absolutely, yeah.

Dr Peter Brukner: Yeah, so that was really the last team job that I had, and now I just look after a couple of local teams that I've always been involved with here in Melbourne. But yeah, finished with the jet setting around the world with those [inaudible 00:05:49].

Dr Ron Ehrlich: What an amazing journey. AFL, Aussie Rules, athletics, soccer, football as they call it in England, and then on to cricket. I guess peak performance is something that clearly would be the goal of every athlete, and certainly every elite athlete. What, in your experience, what are the key elements at that level to peak performance?

Dr Peter Brukner: Well, I think basically you've got to have some talent. There's this business of anyone can make it to the top if they do 10,000 hours of work and so on. It's just not true, you've got to have some talent, there's no doubt about that. But having said that, that's only one element of the package, if you like, because I've seen so many talented people who haven't made it and people with less talent who have. But you've got to have a certain amount of talent.

Dr Peter Brukner: Really, the next thing is just a commitment to the level of training that you've got to do. And that's a massive commitment to make it to the top of professional sport. You've really got to devote your life to it, and you've got to be very intent on making it, I guess. You can't be half-hearted about something like that. So, you've got to try incredibly hard, but you've also got to be smart about the way you train, and I think that's where we come in, that you need guidance to train the right way. It's not necessarily more is better, you've got to train smart. Sure you've got to do volume, but you've also got to do quality as well as quantity.

Dr Peter Brukner: And the next element I think is avoiding injury, and that can be partly genetic because I think there are some people who are very resilient and there are others who are not. Partly due to smart training, a lot of injuries are caused by what are called training errors, doing too much too quickly, increasing the amount of training too rapidly and so on, and also obviously good care of your injuries. And again, that's where the doctors and physios and other members of the sports medicine staff come in.

Dr Peter Brukner: And then, of course, there's last, but by no means least, is the psychological aspects of peak performance and that ability to perform under pressure, be that even at a local level for big games or at a professional level where there's a lot of scrutiny on ... People say it's great to be an AFL footballer or test cricketer, the glamorous life and. But with that comes a lot of pressure and expectation, and everything you do is examined under the microscope by the media who love to criticize. So there's that ability to cope with that pressure, and I think the best person I ever came across at doing that was Cathy Freeman.

Dr Ron Ehrlich: Oh, really? Okay.

Dr Peter Brukner: I don't think in the history of the Olympics there's ever been anyone under as much pressure as Cathy was in that Sydney Olympics. She was really the great hope of Australia in the major sport in the home Olympics, it was all about Cathy Freeman. You'll remember Ron, you and I can [inaudible 00:09:13], there was Freeman night. Everyone talked about it was Freeman night, did you have a ticket for Freeman night, or where were you going to be on Freeman night. There were parties all over the country and so on.

Dr Peter Brukner: And then just to cap it off, in case there was anyone in the country who didn't realize it was all about her, they make her light the flame at the opening ceremony. So there was incredible pressure on Cathy and the expectation that everyone expected her to win. And she just had this wonderful ability to sort of tune out really. Just to go into her own little world, and a lot of people mistook that for being a little bit vague, and maybe not that smart and so on. But it was actually, that was her way of coping with the pressure, and she did it incredibly well.

Dr Peter Brukner: As I said, I don't think there are too many people who could have coped with the pressure that. She was a great example of someone finding a way to cope with enormous pressure on ...

Dr Ron Ehrlich: Well, I still have this image as I'm sure every Australian does, it gave me a tingle down my spine when I visualize it with her and her green jumpsuit on, or whatever it was. And then, crossing that line in the 400 and wrapping that flag around her and ... oh jeez, I mean, Sydney Olympics was an amazing thing for the world, but for Australia, it was incredible, for Sydney it was incredible. But to have it capped off with her winning, you just couldn't have written a better story.

Dr Peter Brukner: As for me one of my roles was basically to look after her for the three or four hours after the win, and it was very interesting because never once did she say to me in that time, "Oh, I'm so happy. That was all I've ever dreamed of. It's the best night of my life." All she could say to me was, I think she must have said it 15 times, "Oh God doc, that's such a relief. Doc, I'm so relieved." I'm sure obviously since, and we've spoken since that she's obviously very proud of what she did, but at the time it was just enormous relief that she hadn't lost. She hadn't screwed up in front of the whole country.

Dr Ron Ehrlich: And from your perspective, you said, "I was looking after her for the three or four hours after the event." What sort of things were you looking for?

Dr Peter Brukner: Well, really just as her ... sort of managing the team, initially you take them through the media, and then I had to take her upstairs to get interviewed by Bruce. And then we caught up with her family and then we did drug testing and then we get ready for the ceremony and all that sort of stuff. So there's a bit of a rigmarole that goes on after you win.

Dr Peter Brukner: I remember thinking at the time, "This is just bizarre." We're sitting down there waiting for the drug test, and we're just chatting about where we're going to go on our holidays or something, after the Olympics. And I remember thinking, "This is pretty weird. The whole country is going crazy and celebrating this win. Here am I sitting down there with this lovely girl chatting about our holidays." It was quite-

Dr Ron Ehrlich: And waiting for her to urinate into a bottle.

Dr Peter Brukner: Exactly. Exactly

Dr Ron Ehrlich: You raised that issue about drugs in sport and there's clearly a spectrum, but it's also a big problem. Tell us a little bit about, what are the issues? Obviously, it's about improving performance, but it's not as simple as that is it?

Dr Peter Brukner: No, look it's a very complex issue Ron, and it's obviously one of the major issues and has been for 30 or 40 years, and will continue to be. Because I think it's just human nature unfortunately that people will always try and gain advantages and there'll always be some people who will try and take that to the limit. I don't believe that many people who actually take drugs actually want to take the drugs. I think nearly

everyone would rather there were no drugs, but I think a lot of belief and in some cases quite rightly that their opponents are taking stuff, so they feel as though they have to, to keep up.

**Dr Peter Brukner:** In a way I'm ... I won't say I'm sympathetic, but I can understand why in certain sports that have a culture of drug-taking that there's a big temptation to take it. I think people say, "Well, just give up and have open and so on." And I don't think you can do that. I think you've got to have rules, you've got to test, you've got to find ways of reducing or preventing drug taking if you possibly can. Otherwise, the whole fabric of sport is destroyed. But the reality is the chemists are always going to be a step ahead of the testers probably and-

**Dr Ron Ehrlich:** I guess it's also complicated in that these athletes are human beings, and they may have asthma, or they may have digestive issues, or they may have an autoimmune condition. And yet they still want to compete, but they need some kind of medication to ... this must be the gray area.

**Dr Peter Brukner:** This is a very difficult area, a very difficult area. And that's been the cause of a lot of controversies over the last few years about those things called TUEs, which is basically the athlete being given permission to take a banned drug for their medical conditions, and that's very controversial. And that's been abused, unfortunately, as those things tend to be. I think in theory it makes a lot of sense, if you need something for your blood pressure or for whatever, you should be able to take it. But unfortunately, this is a grey area where people are always going to abuse those privileges.

**Dr Peter Brukner:** It's very difficult, and we have to be honest and say that we still haven't won the battle against drugs and we're probably never going to completely win it, but that's not to say that we shouldn't be very vigilant and do everything we can to make sport as drug-free as we can.

**Dr Ron Ehrlich:** You mentioned you've been involved with some pretty high profile sporting people, and these team sports particularly reflect an incredible financial investment in individuals, I mean it's kind of mind-boggling really. And yet they could run out on to the field on their first outing and injure themselves, and that must be ... I mean, the dollar signs must go up, and how that recovery's handled is literally worth millions, not to mention the future of the person itself.

**Dr Ron Ehrlich:** You mentioned avoiding injury, well, yeah, okay. A bit too much too quickly. What are some other elements about the recovery of an athlete, particularly at that level, and do they differ ... they must differ from sport to sport.

**Dr Peter Brukner:** I think the basic principles of recovery are the same from sport to sport in that it's the athlete, and the team will do everything they can to recover as quickly as possible. Because the quicker you recover from a hard match or a hard competition or whatever, then the sooner you're ready to resume training or resume competition. So let's take, in a five-day cricket test match you've only got 12 hours or so to recover, you've got to play the next day, and that's tough. People say test cricket's a slow sport, and you don't have to be particularly athletic. And I must admit I probably thought that a little bit myself until I really became involved with test cricket. And test cricket is brutal. That's five days in a row, sometimes the bowlers have to bowl every day ...

**Dr Peter Brukner:** So obviously recovery is really important as to how well your muscles, and your body recovers from day to day. Some of the things that people do to help recovery is obviously the infamous ice baths and cool downs. They tend to, straight afterwards they'll do what they call a cool down. So, just a light exercise with some stretching, then they'll jump in an ice bath for instance, and then they'll have a massage. They'll have a drink with protein to replenish their supplies, probably some carbohydrates to fill their glycogen stores if they've been depleted and so on.

**Dr Peter Brukner:** So there's quite a rigmarole, it's not the old days you finish playing then have a few beers, and then that was about it as far as recovery. Things are very different these days. Cricket is one sport where you've got so little time to recover, it becomes very important. In the sports like the various football, and so on, where you might only play once a week, or in the case of English football it's often twice a week. Again,

people want to get in high quality training. So the sooner you can recover, you're not sore, you're recovered from your injuries, then the sooner the coach can get you doing some high quality training.

Dr Peter Brukner: They might play on a Saturday for instance, then Sunday's recovery day. They're going to come into the club, they'll do a pool session, that is swimming or walking in the water. They'll have their recovery meals, they'll have their massage and so on. And then Monday will often be another light day, so they're ready for Tuesday or Wednesday for a serious intensive training session. And then they're back off again towards the end of the week before the game.

Dr Peter Brukner: It's quite complex and scientific these days, but it's all about maximizing recovery, maximizing performance and so on. It's a fascinating challenge and honestly, some people do it better than others.

Dr Ron Ehrlich: And I imagine, management how it sets up that ... must be particularly important. You must, your insight in the dressing room of a team sport and see one manager or coach dealing with one situation, and you go into another team and see another one you think, "Wow, that guy is terrific." What are some of the things that make a manager, or a coach better?

Dr Peter Brukner: Well, I think one thing is having a good team around them, and trusting their ... having high-quality people. It's now become very scientific. They're always wearing GPS monitors, we know exactly, for instance, even halfway through a game, exactly how far someone's run, how much they've sprinted, how many ... all these sorts of-

Dr Ron Ehrlich: It's incredible the statistics are mind-boggling.

Dr Peter Brukner: It's amazing, yeah. They wear heart rate monitors, and you know ... we know an awful lot, and so I think the good coaches are the ones who work closely with their other coaches, the sports science team, the sports medicine team, and there's a lot of mutual trust and quality. So it's really a team effort, not just the team on the field, but it's the team off the field that is so important. And that team has obviously got to individually be all very good at what they do, but even more importantly is work closely together, and all know their roles and work together.

Dr Peter Brukner: Because, again, if you're planning ... after a game, or the day after a game we'll do various monitoring. So we might, as well as having monitored their loads and so on, we'll monitor heart rates, we'll monitor various aspects of their recovery. And the sports medicine, sports science team might say to the coach, "Look, there are some indications here that this player is struggling a bit with the load and recovery." So they might advise have a quiet training week and freshen them up for the following week, whereas someone else might need much harder work. So it's very individualized and very scientific. It's a fascinating challenge, it really is. It's very interesting.

Dr Ron Ehrlich: Now Peter, in more recent years your views on health have evolved also, and I was wondering. I've heard your talks, and I've really been inspired by them. Can you share with us that evolution?

Dr Peter Brukner: Yeah, well I guess I've become particularly interested in the role of nutrition in health over the last few years. And it all started off really with my own experience. It's something that I always was actually ... it's the time just when I was finishing up at Liverpool. I guess I considered myself quite healthy and so on, I'd always had what I thought was a good diet, and I'd exercise regularly, and I didn't have any major health issues.

Dr Peter Brukner: The reality was I probably wasn't quite as healthy as I thought. I'd just turned 60, my father had developed type 2 diabetes at that age, so I was pretty aware I didn't want to go down that track, that was for sure. And I was overweight, probably borderline obese, and like many middle-aged men I just steadily put on probably half a kilo a year for 30 years or something like that I just gradually got heavier to the point where I was probably 12-15 kilograms overweight. My kids are starting to poke me in the belly and say, "Come

on Dad. What about it?" And I'd just shrug my shoulders and say, "Well, hang on a minute. I'm on a low-fat diet and I'm exercising. It's not my fault."

Dr Peter Brukner: And I'd also had a few other issues. Some of my bloods were not that great, I had a high triglyceride level, had high insulin level, and I had a fatty liver. That's fat infiltration of the liver as indicated by some abnormal blood tests, and I probably had that for the previous 10 years. I had a bunch of blood tests over the years, and like a typical doctor I'd completely ignored it and pretended it would go away. Figured I was on a low-fat diet and I really understand what a fatty liver was to be honest and I just pushed it out of my mind and ignored it. Very responsible-

Dr Ron Ehrlich: Yes, inspiring.

Dr Peter Brukner: Around that time, one of my colleagues in South Africa, Tim Noakes, is a very eminent sports scientist, and an old friend of mine. He started to publicize the fact that he thought we'd actually got it all wrong, and that our obsession with fat over the years and it was actually sugar and carbohydrates that have been the problem. And he advocated this low-carb high-fat diet and said it had completely changed his life, and he'd reversed his type 2 diabetes and lost weight, and he was running much better than he was before, and all sorts of stuff.

Dr Peter Brukner: And normally I don't take too much notice of fads and so on, but I have enormous respect for Tim and I thought, "Ooh, that's interesting. I should look into that." And so I started reading, and I read a book by Gary Taubes called Good Calories, Bad Calories, and that really was probably the book that changed my life in some ways. Because it was a book that talked about the relative merits of carbohydrates and fats and so on, but more actually than that it talked about the politics of how back in the '50s and '60s there were these two movements. One that thought sugar was the problem and one that thought fat was the problem. And basically the fat people won out if you like, and on the basis of no science at all, just really political connections and strength and the US Agriculture Department and so on.

Dr Peter Brukner: And this book was really disturbing, I'd put it down at night and said, "Surely we couldn't have got something as basic as what we should be eating wrong for the last 30 or 40 years." But the more I read and then I read a whole lot of other stuff and I really started to question this whole mantra of low-fat. Because when we took the fat out of our diet on the basis of those dietary guidelines back in 1980 all around the Western world really, we took the fat out, but we replaced that ... you have to replace it with something. We replaced it with sugar basically.

Dr Peter Brukner: So really we went on to, the whole world went on to a low-fat, high-sugar diet, and the results have been disastrous. We just got fat and sick for 30 or 40 years. So the more I read the more disturbed I got, and I thought, "Well, it's time for some research." And you would know Ron, of course, research where the n equals one is a waste of time, except where the one is you. In which case it becomes a very important research project. I decided it was time for an n equals one experiment.

Dr Peter Brukner: So I went put myself on this low-carb high-fat diet as was described to ... I thought I'd, "Let's do this for three months and see what happens." So I did all the bloods on day one and then went ... so I stopped eating all sorts of things that we've all been encouraged to eat. So rice and pasta and bread and potatoes and cereals and soft drinks and fruit juice and swapped back from margarine to butter and so on. I went back to eating the way that probably my parents and grandparents had eaten. Just real food and meat and fish and veggies, and nuts and seeds and dairy. And started eating eggs again, because we've been told for ages eggs were.

Dr Peter Brukner: I really went back to that old-fashioned way of eating real food rather than processed food. I threw out all the packets and cans and went back to eating real food. So I did that for three months and it was very interesting. The first thing that happened was I stopped being hungry, so instead of having my cereal for breakfast and two or three hours later being starving, I'll have now eggs and bacon for breakfast and wouldn't need to eat for the rest of the day. So I went from eating three meals and three snacks a day to eating two meals a day. So, that was the first thing.

Dr Peter Brukner: And then I started losing weight. Every week I'd get on the scales, and I'd just lose weight. I was eating a lot, so I was never hungry, I was having these lovely meals all the time, and I kept losing weight. I thought it was fantastic. The more fat I ate the more fat I lost, it was just bizarre. Some interesting things happened, I started feeling a lot more energetic. I didn't have that sleepiness in the afternoon that I used to get. I slept better at night, I stopped snoring, all sorts of things started happening. My exercise capacity got better, and anyway I felt a whole lot better.

Dr Peter Brukner: And then by the end of that three months I lost thirteen kilograms in thirteen weeks without trying. Almost felt guilty, it was just too easy. And my bloods improved, my fatty liver completely just disappeared. So, I'd had it for 10 years, completely gone at the end of that three months. My blood test got absolutely normal. And my other blood, my triglycerides came down and so on. So I just ... it was amazing. There was one drawback though, I had to buy a new wardrobe because all my clothes didn't fit me.

Dr Ron Ehrlich: What a great thing to do in your 60s.

Dr Peter Brukner: No, I figured that was a small price to pay for that-

Dr Ron Ehrlich: And your family stopped poking you in the stomach?

Dr Peter Brukner: They did, in fact, there's one stage they told me, "You're too skinny." I said, "Oh, that's nice to hear," but ... so yeah, and I've backed off a little bit, but I've basically kept to that diet for the last seven years and stayed pretty much the same weight, and I think reasonably healthy. And I was clearly pre-diabetic in those days, with the fatty liver and all these blood tests and so on, and I've not developed type 2 diabetes. And I'm quite sure in retrospect I would already be a type 2 diabetic had I not changed my diet.

Dr Peter Brukner: So you can probably understand why, because of my own experience and what I read, I've become a passionate advocate of those dietary changes. And in particular reducing sugar and starches and processed foods and so on. And try to encourage people to get back to eating real food, because we're really in a terrible way. We've just got fatter and sicker every year for the last 30 or 40 years and we need to ... I think if any business their results got worse every year, you'd sort of at some stage in that 30 or 40 years, wouldn't you say to yourself, "Well, hang on a minute. Maybe we're doing something wrong here. Maybe we need to look at it." But we've just accepted the mantra and just continued on the same way, and it's been a disaster.

Dr Peter Brukner: I think it's time to completely relook at the way we eat, and the guidelines on what we should be eating. And now there are so many people who are jumping on this low-carb real food bandwagon, and the results are very encouraging. Even with type 2 diabetes, we're seeing people reversing their type 2 diabetes. But we've always been told to tell our patients that it's a lifelong disease and there's nothing you can do about it and you're stuck with it for life. But now we're seeing people who can reverse their type 2 diabetes. So it's very exciting, I'm very excited.

Dr Ron Ehrlich: But you now being a little more tuned in to the politics of it all would probably realize too that this low-fat dogma and all that has been invested in it, and I'm not just talking about billions of dollars, but I'm talking about reputations, egos. This is something that I believe is not going to be surrendered lightly. What do you think? I mean, there's pushback isn't there?

Dr Peter Brukner: Yeah, of course it is. No, I mean-

Dr Ron Ehrlich: And I think that's confusing for people. I wonder if you might share ... what do you think of that? And what are you seeing out there?

Dr Peter Brukner: Well, I think people are confused. There's no doubt about that, people are confused. For start there's lots of variations of this low-carb diet. There's paleo, there's Mediterranean, there's the Atkins and there all these sorts of things. And everyone seems to think this is the one and only diet, which is not the case. There's no one diet for everyone. So there's that confusion. And then of course as you say there are many

people who have their careers invested in the low-fat movement. Dieticians and doctors and so on who've been preaching this mantra for 30 or 40 years. It's very hard to suddenly ... you know, some wackos come along and say, "well, actually you're wrong." And so you tend to respond to that by being aggressively defensive and so on. So people get very uptight about it.

Dr Peter Brukner: And then of course this industry, it's a massive industry. The processed food industry and the pharmaceutical industry all benefit from this current dietary process. Where processed food and junk food is everywhere, and so it's massively profitable because you can put all the cheap grains and vegetable oils and call them food. They shouldn't even be called food really, some of things. They're just chemical concoctions really. And they make a lot of money out of it. And similarly with the pharmaceutical industry. The most profitable drugs in the world are the ones that treat high cholesterol, the statins, and the ones that treat diabetes, insulin and things.

Dr Peter Brukner: There's huge amounts of money and of course they're not going to take this lying down. They're going to fight tooth and nail, and they're incredibly powerful and influential on governments, on the medical profession. Most doctors get their medical education from their drug reps, or from specialists whose business if you like, is to give out drugs. Because that's what they know. As doctors, I don't know about your training, but I don't think I got a single lecture on nutrition and [crosstalk 00:32:53]-

Dr Ron Ehrlich: Very rudimentary. I think-

Dr Peter Brukner: ... a bit of biochemistry, but no actual food, nutrition or practical nutrition. Same with exercise, I don't think we ever got told about the benefits of exercise and so on. So, what we're trying to do as doctors is we're trying to give medication, and to do surgery. So you go and see a doctor and that's what you're going to get.

Dr Peter Brukner: So, it requires a whole change, but the problem is it's just not sustainable for a start. Even financially, we're basically making people sick and then throwing drugs and surgery at them, which is very ... it's a stupid way to act, plus a very expensive way to act. So if we can go back a step and actually get people eating properly and exercising regularly, we can prevent the majority of these diseases that are requiring the drugs and the surgery and massively reduce the cost of medicine, which is getting out of control in this and other countries.

Dr Peter Brukner: It requires a whole paradigm shift. At the moment we have an ill-health system, not a health system. We wait 'til people get sick and it's so much easier and more sensible to prevent people from getting sick, but there's no money in that, that's the trouble. There's a lot of money in the other thing, so it's a real battle.

Dr Peter Brukner: Pretty similar, I think a lot of parallels with the tobacco campaign if you like. The tobacco industry fought tooth and nail to prevent people understanding that tobacco was hurtful, and I think the sugar industry and the processed food industry are doing the same, and we need to combat that and hopefully it'll take less time than the 30 years with tobacco, but I suspect it will be something similar.

Dr Ron Ehrlich: No, no, I often reflect on the fact that dentistry like medicine did physiology and biochemistry in its first years or second years, and it was one of the early subjects, which as a student you just couldn't wait to get out of. "God, once I've passed this exam, I never have to think about it again." And what a shame biochemistry wasn't taught with nutrition and what a shame physiology wasn't taught with exercise, and it would have been immediately applicable to the student sitting in the lecture theatre going, "Wow, this is powerful." But it wasn't like that, was it?

Dr Peter Brukner: No. No, no. I have exactly those feelings I hated biochemistry and physiology because it just didn't seem to mean anything. It wasn't in context and so on. Hopefully these days things are a bit better, but [inaudible 00:35:31] there's a lot of challenges, but we can't just shrug our shoulders and give up, I think we have to keep plugging away.



Dr Ron Ehrlich: Now, Peter you've written a new book or a book, A Fat Lot of Good, and you share in it your five golden rules for a healthy lifestyle, and you may have covered some of those already, but could you give us a brief overview of those five golden rules?

Dr Peter Brukner: Yeah, sure. There are some very basic things I think that you can do to improve your health. The first is cut back on sugar, so we all have way too much sugar. The average Australian has probably 14 teaspoons of sugar a day, I suspect it's probably more than that, but that's what we admit to. And the World Health Organization recommends that we should have no more than six for our ideal health. So we're well ... the average Australian probably has more sugar by nine o'clock in the morning than the World Health Organization recommends. If you have a bowl of cereal, and a glass of orange juice, and a bit of fruit yogurt or something, you're up to about 22 spoons of sugar already, [inaudible 00:36:42].

Dr Peter Brukner: That's not good. The second one is to cut back on vegetable oils. They're not vegetable oils at all, they're seed oils, but vegetable sounds healthier so they call them vegetable oils. But things like sunflower and canola and soy bean and corn oil and so on, they're basically used now for all cooking because they're cheap. They're not conducive to good health at all. You heat those oils, and they give off a whole lot of aldehydes and other nasty things. And they completely change your omega 6 omega 3 ratio, which is a ratio of your polyunsaturated fats and so on.

Dr Peter Brukner: We've really become skewed in that our grandparents used to cook with butter and lard and things like that. I cook in butter and maybe some coconut oil or avocado oil or olive oil. Olive oil is an exception, it's monounsaturated fat, so it's much healthier. So they're important.

Dr Peter Brukner: The third rule, I say just eat real food. Just meat and fish and eggs and dairy, and fruit and vegetables, it's real food. You don't need labels on real food. Look at the labels, it's pretty obvious what they are. I think if we can ... there's a great thing called JERF, Just Eat Real Food, and [inaudible 00:38:06] good motto.

Dr Peter Brukner: The fourth golden rule is similar really, it's to avoid processed foods. And most processed foods are as I said, they're processed, they're cheap. They consist of some type of sugar, some type of vegetable oils and some grains, that combination. And you can argue that none of them is good for you. I think even things that we think are good for you like muesli bars or fruit yogurt or something like that, are actually full of sugar and vegetable oils and so on, so they're not great for you. So avoid processed foods.

Dr Peter Brukner: And the fifth one is to drink when you're thirsty, preferably water. I think, certainly avoiding sugar-sweetened beverages, soft drinks, fruit juice. People think fruit juice is healthy and in fact there's as much sugar in fruit juice as there is in soft drinks. You're better off having a piece of fruit, and a glass of water than actual fruit juice because they take all the good stuff out of the fruit and just leave you the sugar and the water. And I think this obsession with having to be constantly drinking, there's no real evidence for that. I just think for thousands of years people have drunk when they're thirsty and that seems to have worked pretty well, so that's what I recommend.

Dr Peter Brukner: So there are my five golden rules, and yeah-

Dr Ron Ehrlich: How has that ... I know in, back into the world of sports, how has that kind of advice translated into performance? Is that something you're taking into, in the sports advice that you would give people now?

Dr Peter Brukner: Yeah. Look, I think this -

Dr Ron Ehrlich: Because carb loading is a big part of-

Dr Peter Brukner: Yeah, carb loading is always a big part of especially endurance sport, but I think people have now are beginning to realize that actually fat is a pretty good fuel. And it's probably not good for

really high intensity sport, but for most people exercising, they can burn fat rather than carbohydrate. And the advantage of burning fat is, one, that you've got plenty of it. Even the skinniest person has lots of fat, so you don't have to replenish your fuel supplies while you're exercising the way you do with carbohydrates. And secondly is that you're actually breaking down body fat to use as fuel, which is a good thing.

**Dr Peter Brukner:** So more and more people now are realizing that we can use fat as fuel. At the elite level, it's still largely carbohydrate although a lot of the teams now are adopting the philosophy where during the week, during training they'll be pretty low in carbohydrates, low in sugars and high in fats. And then they might just top up on their carbohydrates on match day. So it's called train low, compete for high philosophy, which is becoming popular with football teams and high-level athletes.

**Dr Peter Brukner:** What concerns me is that we've had a whole generation of athletes who've had massive amounts of sugars and carbohydrates, especially liquid forms and sports drinks and gels and so on. And I really have concerns about the long-term effect of that on their hormonal system and their insulin resistance and ultimately their propensity to have diabetes and cardiovascular disease. I think cutting back on that and using a hybrid fuel system if you like, both fats and carbohydrates are actually going to be better both for performance and for long-term health.

**Dr Ron Ehrlich:** Because I imagine another issue in recovery and training actually, just recovery from training and injury, is inflammation. And diets that promote inflammation or suppress inflammation or fats that promote inflammation or suppress inflammation, would be quite an important and nuanced part of sports medicine now.

**Dr Peter Brukner:** Yeah, absolutely. I think people are ... we're now becoming aware that certain foods and activities, different things are inflammatory. Leaving aside nutrition for the moment, but we know that sedentary behavior, stress, smoking, alcohol, lack of sun and so on all promote inflammation. And we now know that inflammation is really a key factor in not just obvious inflammatory diseases like arthritis, but in things like cardiovascular disease and so on that believe the initiating factor is probably inflammation.

**Dr Peter Brukner:** So it's really important to reduce inflammation, and we know as you mentioned that there are certain foods that are inflammatory in nature, and they are exactly the things that I've been talking about. The vegetable oils, the processed foods and so on have been shown to increase inflammation. And I had dramatic effects on athletes both at the elite level and at the local level, who've radically changed their diet to reduce those inflammatory components to it and have had remarkable responses in their arthritis and a different problem that they have.

**Dr Peter Brukner:** That old expression of food is medicine, it's not as silly as it sounds. And that we're really looking at what we call an anti-inflammatory diet. People call it low-carb high-fat or paleo or whatever and so on, but I think probably the way that it really helps your health is that anti-inflammatory component as you mentioned.

**Dr Ron Ehrlich:** Because this, we've mentioned sugars, and we've just kind of skirted on that word carb because going back to our undergraduate biochemistry, one thing I do remember is that some of those carbohydrates get broken down into sugar very quickly, don't they?

**Dr Peter Brukner:** Well, all carbohydrates basically consist of sugars. They're all sugar stuck together, and some are broken down to the sugar quicker than others. Obviously the simple sugars, the soft drinks instance, they're just pure sugar really, and so they go straight into your bloodstream as sugar. Whereas something like starch like potatoes for instance, or starches are broken down more slowly, but ultimately they're still glucose molecules. And when they hit the bloodstream, it might take a little bit longer together, slower uptake, but it's still sugar.

**Dr Peter Brukner:** The body doesn't say, "You're a sugar from a Coca Cola and you're a sugar from a potato, so you're okay," it's all just sugar. So I think, I mean obviously the complex carbohydrates are not as bad as the sugars, but they're still all sugar, and I think if you ... we don't all need to stop eating carbohydrates by

any means, but I think if you do have a chronic health issue, you're morbidly obese, or you're type 2 diabetic or metabolic syndrome or got one of those chronic diseases, then cutting back on carbohydrates can be a very effective mechanism.

**Dr Peter Brukner:** But I think everyone has their ideal amount of carbohydrates if you like, and as I said, I think if you have those chronic diseases then that's probably a really low amount. On the other hand, if you're young and fit and skinny and healthy and so on, then yeah sure you can have some carbohydrates without too many problems, but I'd be avoiding the obvious soft drinks and obvious sources of sugar.

**Dr Ron Ehrlich:** Now, the word low-carb means different things to different people. I know I went on to the USDA site recently, anybody can go on there and go "USDA advice for health practitioners", and I put in my age, I'm 63 and put in my weight, my height, and my activity levels, and then it comes up with the recommendations. Now, this is 2019 USDA. My recommended carbohydrate level was between 375 and 450 grams of carbohydrate a day, and also as an aside, it advised me to remain on low-fat and avoid all foods that contain cholesterol. This is 2019.

**Dr Ron Ehrlich:** Then you go on to the recommended daily intake of carbohydrates, and they'll put it at 310. And I don't think people need to go through their whole lives measuring things out, but I think as an exercise for a week or two, it's good to benchmark. What do you think is low-carb.

**Dr Peter Brukner:** Well, certainly not that, that's for sure. [crosstalk 00:47:02], that will guarantee you, if you've got diabetes you will have it for life, that's for sure. And you're probably going to get it if you continue on with that.

**Dr Peter Brukner:** The definition of low-carb is not that clear. Some people say under 100, some people under 120, 150 grams of carbohydrate. I tend to look at it under a hundred. So, I don't think anyone should be having more than a 100-120 grams of carbohydrates a day on a regular basis. The odd splurge I'm fine with, but generally I think you should be sticking to ... and if you stick to real food, you do. You don't even have to think about it or measure it. I don't even measure carbohydrates anymore because I just stick to the foods I know are low in sugar and low in carbohydrates and basically it's real food, and I'm happy with that.

**Dr Peter Brukner:** I think the extreme version of low-carb, which is the ketogenic or keto diet that you keep hearing about from those medical experts, Dr Kardashians and all that sort of that we take all our medical advice from. That's probably under 30 grams, under 30-50 grams of carbohydrate, and that's really when ... what keto means is that you start becoming a fat burner and that you, instead of using glucose for fuel, you use ketone bodies which are the form of fat that we use as fuel. Hence the term ketogenic or keto diet. And does everyone need to be on a keto diet, no of course not? It's difficult, it's not impossible, I didn't find it that hard, but some people find it hard to give up bread and things like that.

**Dr Peter Brukner:** The keto diet, I think if you're, as I said, if you've got a chronic disease, or you're type 2 diabetic or grossly overweight and so on, a shortish period of keto diet can be very helpful. And some people find with those chronic inflammatory diseases that you were talking about, staying on a keto diet for life is the best way to manage their symptoms. Now, everyone doesn't have to be on that, but it really depends on ... there's a concept called insulin resistance, and I think it depends on your level of insulin resistance. In other words how responsive your body is to insulin. If you're very insulin resistant as the diabetics are and as I probably was when I started, you need to be pretty strict with your carbohydrates because the body doesn't tolerate.

**Dr Peter Brukner:** Diabetes and those things are diseases of carbohydrate intolerance. So your body doesn't cope with carbohydrates, and yet for crazy reasons the recommended diet for a type 2 diabetic is a low-fat high carbohydrate diet, which is guaranteed to [crosstalk 00:49:52].

**Dr Ron Ehrlich:** Yeah, I remember the diabetes council was celebrating its 75th anniversary in 2000 ... a few years ago anyway, and they had a 10-step program to living life, and here's the keyword, with diabetes. And the first step was included carbohydrates in every meal and avoid fat, and you didn't even have to read on to the next nine because if you follow step one, you would indeed live your life with diabetes.



Dr Peter Brukner: Exactly, yes.

Dr Ron Ehrlich: And I think this is interesting, this level, and I think ... we talked about people aren't going to surrender this low-fat concept very easily because I know when some research is done they all go, "Well, low-carb diet has shown to be no more effective than X, Y or Z." And you then read the fine print, and their idea of a low-carb diet is 200 grams because the recommended dose is 300-450, so for them 200 is low and that's not low at all. Knowing what that is, but as you say you don't have to go through life measuring, you just need to benchmark for a week or two, I reckon, or maybe a month just to get your head around what you're eating.

Dr Ron Ehrlich: Listen, we've covered some great territory here Peter and I just wanted to finish off now, taking a step back from your role in sports medicine. We're all on this health journey through life together. What do you think the biggest challenge is for people on that journey through life in our modern world?

Dr Peter Brukner: Well, I think the great challenge that we ... you ask anyone what's the most important thing in their life, and everyone says it's health, it's good health. That's really the key to good health, and to me, there are two basic tenets of good health. One is good nutrition and one is regular exercise. And I think if you get those two things right then you're really; I won't say it's certain, there are no guarantees in life, but you've got a very good chance of leading a long healthy life. And it's not just the length of life, it's also the quality of the life because while we're living longer, it seems that our last 10-15 years are blighted by chronic disease, in particular, diabetes, and not that enjoyable.

Dr Peter Brukner: So, it's pretty important to have a quality of life as well as quantity, and I think if we get nutrition and exercise right, then that's certainly the two most important elements, along with your genetics. Choose your parents well. But two most important things to leading a healthy life and unfortunately, tragically really, we've been giving the wrong nutrition advice for the last 40 years. And that advice was not based on science, it was based on politics and egos and so on. And we've all assumed, as I did for many years, it was based on science, and in fact, the science says the opposite.

Dr Peter Brukner: So we need to change our whole mantra away from fat is evil, saying that there are some fats that are not good, but probably not the fats that we've been avoiding all this time. And that it's actually sugar and processed foods that are the problem. And if we get back to eating real food with regular exercise, that gives us our best chance of a healthier life.

Dr Ron Ehrlich: Peter, what a note to finish on. Thank you so much for joining us today, it's been great to talk. We're going to have links to your website and that book, and thank you very much.

Dr Peter Brukner: Oh, it was my pleasure, Ron.

Dr Ron Ehrlich: Now, if you are a regular listener of this podcast, keeping sugar, carbs that quickly convert to sugar low, will not come as a surprise to you. But to hear it from someone of Peter's background and reputation in the world is reassuring, if indeed you needed any reassurance. The low-fat message will not be surrendered lightly. Far too much money and far too many reputations and egos are at stake. You will see research, which shows that low-carb is not effective, but read the detail. What one researcher calls low-carb doesn't necessarily mean it is low-carb. Peter mentioned less than 100 grams per day, and I agree. I think that's achievable and sustainable. And as I said you don't have to spend the rest of your life measuring carbs, but it is a worthwhile thing to do for a week or two and just benchmark yourself. You've got to get around what it means.

Dr Ron Ehrlich: I'm also sure you will hear about lots of new and wonderful things that statins do, incidentally statins do lower cholesterol, but at very low doses also lower inflammation. So you can see, and that's really important for a lot of conditions. So you can see the marketing departments of drug companies having a field day keeping us engaged with this low-fat story.

Dr Ron Ehrlich: I'll have links to Peter's site, and his books in the show notes. Don't forget to download the Unstress app, and there are some free webinars where I explore our current state of health, why



health messages are confusing and often contradictory and why taking control of your own health is the best alternative. Peter used that term, that we seem to have an ill-health system, rather than a healthcare system. And I know which one I would rather be part of, although it's good to know when things do go wrong, there are some amazing people out there to save our lives. So, until next time, this is Dr. Ron Ehrlich. Be well.

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