



Dr. Ron Ehrlich: Hello and welcome to “Unstress” where each week we try to unpack another piece of the puzzle we call our modern life. I'm dr. Ron Ehrlich. Obesity, high fat, low carb, fasting, confusing health messages - Just a taste of what we're going to be talking about today. When it comes to public health messages who better to talk to than a professor of public health? My guest today is professor Grant Schofield from The Auckland University of Technology. He's director of the university's Human Potential Centre. His research and teaching interests are in well-being and chronic disease prevention, the theme I'm sure you can all relate to. His focus is on reducing the risk and eventual mortality and morbidity from obesity, cardiovascular disease and diabetes.

Grant's motto which I first heard about five years ago when I interviewed him on my old podcast is “Be the best you can be”. Now when I first heard that it really resonated with me and I've appropriated that for my own life ever since. I hope you enjoy this conversation I had with professor Grant Schofield.

Welcome to the show, Grant.

Professor Grant Schofield: Hi, Ron, thanks for having me.

Dr. Ron Ehrlich: That's a pleasure. Grant, there's so much I want to talk to you about but the first thing I wanted to know how does one grow up to be a professor of public health?

Professor Grant Schofield: That's a great question. I've often wondered that myself. In childhood everyone else is often aspiring to be policemen and firemen but not that I'll be a professor of public health. But I think just in the accidental since I was always a kid who was good at science and it was about all I was good at until I stopped trying at school and became mediocre. I enrolled in engineering which lasted about two weeks and then I just ended up doing a series of degrees in physiology and psychology because they seemed interesting. Then I couldn't think of a job so I thought well I should be a psychologist which turns out to be a hopeless profession at least for me because my tendency is to want to do the opposite of what you should do in psychology training which is “shut up and listen” and when the solution becomes obvious not to offer them or help people get to the solution. My natural tendency is to go straight for the solution which I think it's good in science but helpless for psychologists. That's how I ended up in this space and I've always enjoyed fitness and exercise and thinking about what we eat and in those just turned out to be the two major public health problems of our time. It was just lucky... Well not lucky, it's bad luck for humans but for me.

Dr. Ron Ehrlich: No, no, no. Let our listener be the judge of that at the end of this podcast. But the solution-driven approach, of course, does lend itself you would think to public health but it's not always as simple as that either isn't really?

Professor Grant Schofield: No because we're still stuck in this sort of old thinking which I think was never driven by science. It's just not about calories, nutrients affect us differently in such complex ways and calories aren't created equal and it may affect people differently because of insulin resistance and we all vary between ourselves on insulin resistance and then even within ourselves you have a stressful day, a poor night's sleep all of a sudden, the same meal has a profound and different effects. That's easy hypothesis that is shown to be true, yet to get that to change how we talk about food and think about the weight problems we have as a society and all the other down-spin diseases. It's more complicated than you'd think so then you have to sort of better not tell the whole truth about the science, better be moderate about it otherwise people won't take me seriously in a policy environment. This I find it ridiculous.

Dr. Ron Ehrlich: I think this does beg that very important question because people who listen to public health messages coming out of health organizations that you would respect and the government wouldn't be a small part of that you'd be excused for thinking that this was the latest and the greatest science put to our benefit but it's not as simple as that. Why are public health messages so confusing?

Professor Grant Schofield: I think there are three things going on. The first thing is medicine in public health no exception to this to all parts of medicine has always taken a long time to move between evidence and actual change. I think a classic is going back a long way when the British Navy was an actual randomized trial where they put limes on boats and they could reduce the death rate by scurvy by half of the sailors in the Navy and it only took them another hundred fifty years to get that into practice. We've always suffered pain points to take a long time to move.

The second thing is the problem of the public health is you are not telling the whole truth because the people you want to help the most might find that too hard to deal with. The physical activity guidelines I think is a great example of that. It's like 30 minutes of anything, just go grabbing a day as we need to get to for your health, it's absolutely true that will help you but, in my opinion, it bars wildly low for the extra benefits of being first and active can confer on you. We take ages to move, we set the bar low and then listed interests all over the place.

Now I've been working for partially for the government in Wellington. You'll be just amazed that people are ashamed, my job was a professional lobbyist. I'm for hire and I just come and do my bidding. I can't imagine how you could deal with that as your job and sleep well at night, but people will seem to shamelessly do that. There's that influence and once you're taken to a big food and the drug companies in the source of people we will employ the most lobbyist. We're a long way from keeping things simple and a great example of that wonders in Australia, New Zealand looking at redoing this food labelling saying we had the star rating system which is really nonsense. One thing, in my opinion, could do is just chuck or you could avoid packaged food for a start but if you're going to look at a packaged food, the per cent of sugar in it not just added sugars but all sugar is displaying it on the front in teaspoons would be awesome. But then you've got lobbies going on and it's added sugars and every confusing permutation. There's groups out there that are deliberately trying to confuse you and so that's where science doesn't meet policy.

Dr. Ron Ehrlich: Yeah, it's a recurring theme on this podcast and it won't come as a surprise to our listeners because while it is a story that's easy to miss once you hear it it's difficult to ignore.

Professor Grant Schofield: Yeah, exactly.

Dr. Ron Ehrlich: But I find that empowering, don't you? I mean on a personal level and maybe not on a community level here but on a personal level when you hear that I just kind of think "Well, you've just got to take control of your own health, haven't you?"

Professor Grant Schofield: Absolutely and all the woes of social media and fake news it's allowed the internet and what it brings to the whole group of the community to do exactly that and do their own work and become the advocates. I'm still very positive about that and I see that just growing and growing and growing and I think in health, medicine will eventually catch up with a public get to and maybe this is where it's going to always happen. Maybe that's a good thing.

Dr. Ron Ehrlich: Okay, well, let's get on to some of these health issues because one of the things that have become another common theme that seems to have run through a lot depending doesn't matter what I'm talking to people about cancer, heart disease, autoimmune obvious diabetes, insulin seems to be the key. I mean the lower the better. What do you think?

Professor Grant Schofield: I think insurance is important but I think when you go just insulin it's actually I reckon is there are several hunger hormones that regulate our metabolism and they all may be affected by that and sometimes insulin is the main crucial one because if your insulin resistant and you over-secrete insulin no matter what you've got a problem. The idea of hyperinsulinemia is the sort of two decades worth of metabolic problems before you present in the doctor and the doctor says you're just pre-diabetes, we'll just keep it on you. Well that's nothing left at that point in my opinion and then you look across high insulin hyperinsulinemia and cancer, you are certainly going to pro-growth environment, you look at cardiovascular disease and an inflammatory environment there is obviously stroke as well and then the sort of vascular problems in the brain like dementia and they are all related but I think again it could probably possibly have a simplified problem is there's definitely there's a second hormone, glucagon which works in tandem with insulin.



Dr. Ron Ehrlich: Say that again glucagon.

Professor Grant Schofield: Glucagon. That gets into the liver and its sort of the opposite. When insulin is up glucagon should be down because you want to dispose of the sugar in your blood and glucagon will tell the liver to stop producing sugar and that works in a lot of people but we're seeing type 2 diabetic that's dysregulated as well so you've got high insulin and that's up so not only if you got insulin but you're pumping out glucose so there's a second hormone that you need to understand. I think the other two hormones that no one really talks about are called the incretin hormones and it's just an interesting effect called incretin effect.

Dr. Ron Ehrlich: Yeah, just spell it for me - incretin.

Professor Grant Schofield: I-N-C-R-E-T-I-N. Incretin. The incretin effect is I asked you, Ron, to drink 70 grams of glucose, glucose tolerance test and I measure obviously the glucose goes up in your blood and then the insulin goes right up in your blood. What's interesting though is if I intravenously feed that glucose into your blood obviously the same glucose goes going in, so the glucose goes up, but the insulin response is much, much different and that's called the incretin effect. What you see is that in the small intestine if carbohydrate goes in at the top of the small intestine which whereas we're processed acellular carbohydrate go in then you get the same response. You get high you get your glucose response and you get a high insulin response. If the carbohydrates go in further down where cellular plant fully particularly protected by plant cell carbohydrates going then you get the incretin effect, you don't get the insulin going up nearly as much even though it's the exact same amount of carbohydrate.

I think people keep going carbs, carbs, carbs but in their cellular form it's just worth thinking that there's another whole pattern of the way and we keep thinking it's just plant fibre, it's the fibre, it seemed adjustable fibre it's the microbes but actually just the cell structure being intact in the first places. There's just a whole swag of hormones that are related to and around insulin and you get different effects under different contexts and it's just the whole thing in science. We've said the calories out it's too simple, it's not describing the situation then you go on insulin.

Dr. Ron Ehrlich: Actually, too simple.

Professor Grant Schofield: It's hard to know when to stop with the biochemistry. It's an endless rabbit hole.

Dr. Ron Ehrlich: Yeah and we all say here about Leptin is being...

Professor Grant Schofield: Oh, yeah, Leptin of course being the really interesting idea that you would prepare ghrelin which is related to stomach stretch, it goes down when your stomach fills up and goes to the hypothalamus and says you're full and at the same time Leptin might be secreted by effect cells since food comes into the system and go to the same part of the hypothalamus and say you're full so they would work in tandem. But we know that Leptins very easily just regulated by high insulin itself and inflammation. In probably other things we don't quite understand so there's your other two.

Dr. Ron Ehrlich: I mean these public health messages that we've been hearing and again I know my listeners will be very familiar with this but the low-fat dumb idea kind of almost sets us up for a dysregulation in these hormones, doesn't it?

Professor Grant Schofield: Totally, totally, so the people most primed to benefit from a whole food low carbohydrate diet been told to do the opposite of it which I actually hope now even the most and low-fat supporter would go "Yeah, we got it wrong" because if you start feeding someone whose insulin resistant and had a lifelong battle then start feeding them process carbohydrate and low fat you're going to have that sorts of metabolic problems that horn countries. It's really no surprise in many ways, is it?

Dr. Ron Ehrlich: But I've often said that if we think that and you mentioned a long lag time between evidence and actually coming to reality and gee in 150 years to convince someone to eat a lemon, it's hardly a complex



idea and yet it took 150 years and there's an awful lot of money to be made from this low-fat, let's lower the cholesterol, let's get on statins as well. This is not going to be an argument that's going to roll over easily and go "Oh, gee, what? I was wrong? I really should have been telling you". It's not going to happen.

Professor Grant Schofield: It could in another sense because you can imagine the British sailors on those ships of the randomized trial all again. They said a couple of them started blogging about it and they put it on their Facebook. Now they tried to cover it up but put on Instagram as well and all of a sudden, a movement started about proton ships. The world is different and I'm optimistic.

The other thing in public health is that you're always asked to be optimistic. We can solve the obesity bit of years, we can do this when it's clearly obvious that at some point we can't but I'm optimistic that the public can drive a change here.

Dr. Ron Ehrlich: Yeah, no, I am too, and I think we were talking about this before we started in saying that very another popular theme I think is the acceptance that the change has to come from the ground up from individuals. That's what's happening, and I agree with you I'm an optimist as well, good on us let's hope everyone is too.

Now, here's another thing that I wanted to ask you because we've got very preoccupied with lessons from the past from a kind of ancestral diet what have we evolved to have to eat and how far have we strayed from it. But there was one aspect of our ancestral journey that I think we've kind of ignored and you've actually just written a book about it and that is this idea of not of scarcity, of embracing hunger, of fasting and you've written this book called...

Professor Grant Schofield: "What The Fast?"

Dr. Ron Ehrlich: "What The Fast?"

Professor Grant Schofield: I mean as a lover of eating food, it's a surprise to me that I've really gotten to it so much and embrace the idea of fasting I've learnt a lot and discovered that not eating occasionally for food lovers is possibly one of the best things you can do because it makes you enjoy your food even more. If you took me back even five years earlier and you talked about writing about fasting and being into this and I think I would have just laughed at you. I would have gone "What are you talking about?" But 'What the fast' has been a reality because when you have to start writing about this you do, at least I do. I get it to all the original research and think about the biology and it's really, I think the last five years talking about science catching up with the human condition. I think most religions have known that there is some form of fasting and I'm not sure it gets you any closer to God, but I think it probably makes you feel good. It's been an interesting thing and we've just recently discovered that actually if you don't eat then you drive a bunch of catabolic processes, non-growth tidying up spring cleaning that are incredibly useful for human health and longevity. I think the one thing that really convinces me is so there's a bunch of animal work on longevity in caloric restriction, not easy or severely reducing calories. They do these studies with animals and you can triple the life of very small animal like a nematode worm or get an increase in a mammal if it severely restricts calories. The trouble with that method is that you end up having an organism that's cold, constantly hungry, depressed and irritable, it has a low sex drive.

Dr. Ron Ehrlich: As a public health message, Grant, I don't think that's going to sell but I think we may have to reframe the benefits there somewhat.

Professor Grant Schofield: Yeah, yeah, but you can hack this system and get the exact same biological processes with this compressed anyone does and an occasional fast rather than just long-term calorie restriction which much more appealing to me. Let's really want to thank Victor Longo and these sorts of scientists in San Diego have animal models is that restricted eating windows and driving yourself into a state of nutritional ketosis on a regular but not always basis as highly beneficial to the human conditions. He talks about fasting mimicking diets, what we prefer to go "Hey, look here's some behavioural techniques that I think would work to drive you into a bit of nutritional ketosis every week and allow you to drop out of it as the sort of blips and flow on the seven-day week comes and goes". This sort of ended up going well look, we played around with us but now in

our lab and with other people, eat a low-carb good healthy diet on your Sunday on Monday Tuesday, miss breakfast, miss lunch if you can have a wholesome low carbohydrate dinner to eat until you're full and do the same thing on Tuesday. If you do that then no matter where you start on a Sunday morning you end up and quite deep nutritional ketosis. Your hunger goes, you're feeling good, the brains operating well and then keep it going the rest of the week with your normal meal frequency but keep it low carb. If it comes to Friday and Saturday and life and the socialism of life means that you have a few more carbs and you drop out of its nutritional ketosis. But I think there's a more sustainable way to cycle between growth and the anabolic effects of carbohydrate and fasting and the catabolic effects of not eating. In my view, you are mimicking probably how humans have lived most of the time they have been on the planet which is food was never stable.

Dr. Ron Ehrlich: Yes, I know it's a novel idea, isn't it? There was a time in human history when people were hungry, and we should embrace it.

Professor Grant Schofield: Absolutely. The whole ketogenic nutritional ketosis system to may if you get to the local shopping mall and you go okay no one here has ever used that part of the energy system that has been a remarkable survival of vanish for humans over the years and it seems just on the basis of pure of curiosity it'd be interesting to try and figure out how that works and how you feel on it. Even if you weren't planning on staying a long time I think that's an interesting thing to do.

Dr. Ron Ehrlich: Because there are different approaches to this who has been popularised, haven't they? Tell us some of the different forms because this one you've come up with is kind of a more perhaps user-friendly and common-sense one. What are some of the other ones that are out there? 5-2 ones?

Professor Grant Schofield: I actually quite like 5-2 but what I don't like about it is and I think its improved in the latest version as he says on your fasting day and goes seek five hundred calories of anything whatever timing you like. I actually don't think that's a good idea and if you look to doing it by calories you're more likely just because you get more bulk to go for carbs, so I think on the fasting days you've got to get the carbs way down and limit the timing to compress the eating window.

I do like the idea of cycling back but just eating whatever you like on the end of days its nonsense. But the structure of two days we try really hard the other days you might not be trying quite as. I don't mind that. Strangely the stuff in the literature shown that the most well-published is alternate day fasting and we've tried that in our lab. I know it's hard and in some of these trials people do it for a year frankly.

Dr. Ron Ehrlich: What about 16-8 or 18-6? Where for 16 or 18 hours a day you don't eat, and you have a window of eating and you keep the carbs low. What do you think of that?

Professor Grant Schofield: I don't mind that. I think the idea of compressing eating windows is a good one and it seems to suit a lot of people quite well. With all these things I think it's a matter of finding your ground. I like some days of the week to severely restricting staff and really pushing the nutritional ketosis and other days is just going back to normal frequency of any because at the end of the day what's much more important is eating as you will because you're a human, you will fall off the horse and if you just go well bugger this and you let yourself go and do whatever you want. That's the worst possible outcome. The best possible outcome is that you just climb straight there and carry on. Whatever tool is going to help you do that is important. Alternate day fasting, I couldn't do it. Every day restricting windows doesn't appeal to me and me when I do trials when if you were going to do quite as well but some people do awesome on that.

Dr. Ron Ehrlich: You've used the term a few times now "low-carb". Let's define that for our listener because like when you look at the recommended daily intakes from the dieticians Association it's up around 300 - 350 grams of carbohydrates a day. What's low carb?

Professor Grant Schofield: I think it's restricting carbohydrates to a point that this takes it back, the brain doesn't need insulin to get glucose into the neurons in the brain so the first 100 or so grams you eat will just go straight to the brain and then if there's enough to run the brain 100% on glucose you won't have any pressure on the body to set to produce ketones and be better at feeling fed. It's the amount of restriction you need to not have the

brain round hundred per cent on glucose. For some people, they're a hundred grams, for some people maybe 150 grams so some people get 200 grams depends on having their activity level. It's in a practical sense that means ditching pass the rice, potatoes and bread because as soon as you start eating those and any quantities you'll be straight over that threshold and no sort of low carb diet. This is the thing that is actually on pit things at the moment just as slightly Chevron is there's been a state of low carb diets are going to reduce your lifespan and kill you and none of those papers that they actually studied low carb diets. They have been talking about 40 odd per cent of energy coming from carbohydrates as the lowest group. In my mind, that's not sensible.

Dr. Ron Ehrlich: I actually recently went on to the USDA site a guide for health practitioners so that you can work out what to advise your patients and I put in my height and my weight and my activity level and the recommended level of carbohydrate intake were 400 to 525 grams of carb per day. The USDA is still out there trying to sell grains.

Professor Grant Schofield: We did that for a bit of a laugh on the American College of Sports Medicine site when we had some really active person and he was recommending there they had 900 grams a day.

Dr. Ron Ehrlich: It's incredible, isn't it?

Professor Grant Schofield: Yes.

Dr. Ron Ehrlich: But getting back to what we started to talk about in this and that is that for you or for I who are aware of this going on we kind of can laugh about it and go "Well, yes, of course, the USDA is going to do that. They're trying to sell grains". But to an ordinary citizen who's looking for some advice that's part of the confusion, isn't it?

Professor Grant Schofield: I think the most perverse form of that is that I was just over in Queensland and did some talks and I meet a woman over there who's about my age so she's 58 a bit younger and types one diabetic. She wasn't driving because she lost sight of one eye. She's got kidney disease and neuropathy and she's got this by following to the letter exactly what her endocrinologist and dietitians have told her to eat since she was diagnosed with type 1 diabetes when she was 8. There's no differentiation. If you have type 1 diabetes, then the same basic guidelines apply to you. You eat 300 plus grams of carbohydrate a day. Of course, you can't control your blood glucose because you never know exactly how much you actually have eaten, and you miss a bit and it tends to run a bit high. She runs high blood sugar her whole life. She's going to take two dickheads off of her life. You go back to your endocrinologist and they go "Yeah, you can't be doing what we told you because your numbers are too high". But they're going to be higher. Type one diabetics are just a good example, it's just a more obvious example of how it's going to end the standard dietary advice for everyone else. If you do what you're told there, good luck.

Dr. Ron Ehrlich: Yes, I know that I was on the Australian diabetes council site when they were celebrating their 75th anniversary and they had a 10-step plan for living your life and I think this was the keyword "with diabetes" - Living your life with diabetes. Step number one was - Eat carbohydrates with every meal and stay on a low-fat diet. You didn't have to read any other step along the way because you kind of knew if you followed step one you would be living your life with diabetes even whether you wanted to or not.

Professor Grant Schofield: Absolutely and so for type 2 diabetes which it's good even is it is fully reversible now at least you go into a remission, so you haven't got any of the symptoms or markers of it, we turn it in a modern medicine. We treat it palliatively.

Dr. Ron Ehrlich: You are part of a university though and there are medicine and nutrition taught at your University?

Professor Grant Schofield: We don't have a medical school, but we teach nutrition, yeah.



Dr. Ron Ehrlich: Yeah, and have you been able to change the curriculum? I mean you're in the Department of Public Health.

Professor Grant Schofield: Yeah, I changed my own curriculum. Of course, I'd change my own curriculum.

Dr. Ron Ehrlich: Yeah, you're teaching, of course. No, no I know you would. I know you would but is that having an impact throughout the university what your view of this nutrition is based on the science?

Professor Grant Schofield: I think you come and go with it. Like on some point you sort of go I'm heading back here no difference here whatsoever and then someone to walk up to you and go we've done this and then this department we're now doing this and we're doing our diabetes clients and we're doing like low carbs what's that they are the only community clinic which is like low carb so I guess you sort of go maybe that probably wouldn't have happened myself and Karen's, here's a dietician who works with me when we're there.

Dr. Ron Ehrlich: Now listen if people wanting to get started and I mean this is the beauty of fasting it's hardly an expensive exercise is it?

Professor Grant Schofield: Yeah.

Dr. Ron Ehrlich: What would be your five tips? People saying I'm going to give this thing a go. What do you say five tips to people?

Professor Grant Schofield: Number one is if you're not fat adapted in other words you haven't tried some sort of low carbohydrate eating then fasting will hurt. You can do it, but I think you need an uncommon amount of willpower and it will hurt in an uncommon way. I'd be at least having a few weeks on reducing the carbs down because then you'll be twice as good fat burning and when you're not eating using fat. That's number one.

Number two is I think there's some preparation here involved. If you decide the fasting days when you're doing you're 8 yr olds birthday party then good luck with that because I prefer Mondays and Tuesdays for my major fasting days simply because those are the days when I'm not as exposed to the sight smell taste look of random foods and I'm busy at work and I can just carry on. I think that's been prepared.

Number three then translate to be busy on the days that you're fasting because you actually will have extra time. Anyways if your listeners have done a longer fast like a three day fast then you're not having any meals on a day sort of the whole world of time market opens up in front of you and you're like well I'm not going to work for 17 hours, I better go and do something else. Get something else to do. There's some number three.

Number four to me if you've got normal blood pressure or you tend to be sort on the low side you could get hypotension, in other words, low blood pressure, so you'll stand up quickly and start to feel faint and the remedy for that is extra salt. If you're on any hypertensives, then your blood pressure could plummet because of the insulin. This is the funniest thing, isn't it? That doctor going, or don't people fast because your blood pressure could plummet.

Insulin is such a big controller of sodium balance and blood pressure that there's something to be very careful with. People probably had to go oh I have to eat salt now they've been told salt is going to give them high blood pressure and heart disease but it's something to consider.

The fifth thing is when you are eating, the great benefit of fasting as I mentioned earlier is that the food tastes really good so be sure to enjoy those meals when you are eating. Don't behave like a complete lunatic but I actually buy expensive food like fresh salmon and lots of vegetables and sort of mix it all up into a nice sort of thing because I really want to savour it.

Dr. Ron Ehrlich: People are hearing a lot about three-day water fasts? What's the rationale behind that?

Professor Grant Schofield: I guess that just you really put the system down to... My view of the rationale as the reason I would recommend it if I were to as we talked about earlier when especially if you're insulin resistant you get the signalling between insulin and glucagon that's gone awol and one way to resolve that is to completely empty the liver and muscles out of glycogen glucose and it seems to sometimes resolve that signalling because this is a problem. You're on a low-carb diet, you're a type 2 diabetic, you're trying so hard and you're taking blood glucose you haven't been eating any carbs the whole day and it's sitting at 8.9. You are like "How is that even possible? What sort of body have I got here?" And you've got one we're going through on insulin on that I on a 10, and I think one of the rationales for a longer fast is to help those two almost work in tandem a bit.

I think the second thing is one to just give you a bit of a research and a restart. I don't go much longer than three days myself once or twice a year because I find that it is a stress on the body fasting and you do release a lot of cortisol, your sympathetic nervous system gets jacked up. I actually have trouble sleeping after about three days and quality goes right down and there may be evolutionary reasons for that. Maybe if any foods going to walk past and you're ready to grab it.

Interesting for people as well. Also, I think that people have a sort of food addiction issue, sugar cravings. It would actually completely solve those. You could do that in three days in my opinion.

Dr. Ron Ehrlich: You mentioned salt, you touched on it just for a moment and I just got a little bit of a butterfly moment where I thought, can I ask you what about this we would talk about low salt, low salt, low salt. What do you think of that as a public health message?

Professor Grant Schofield: I think it's potentially dangerous and there's a lot of debate around this at the moment when you look at cause of mortality and sort of serum low levels of sodium but people with the lowest certainly didn't affect the ones that the American Heart Association recommended below if twice decorated everyone else. There is an effect of higher sodium on mortality that's known there as strong.

I think the reality is that humans are quite well designed as are all other animals to get to a homeostatic level of sodium in the body and the only thing that dysregulates that is chronically high insulin. The solutions for sodium assertions and sugar and the refined carbs in my opinion.

It's so interesting just back on the fasting and salt and blood pressure and that sort of thing, it was long known by the Germans that you put people with severe hypertension non-responsive to medications just put them on a 10-day hospital supervised fast and you'd sorted out for good. I don't know that says its strain but at least it sorts out an extremely dangerous problem.

Dr. Ron Ehrlich: And are all salts created equally?

Professor Grant Schofield: Yeah, what's the sort of iodised table salt in it and well whatever's in Australia but only about one person a year gets goitre and then people go the salts from the Himalayas and it's got minerals in it. Well, I'm not sure if the Himalayas are going to looking good to deal with it.

Dr. Ron Ehrlich: Okay. Now listen just finally Grant, I want to ask you taking a step back from your position as a professor of Public Health what do you think the biggest challenge is for people for you as an individual on your health journey through life in our modern world? What do you think that might be?

Professor Grant Schofield: I just think you're constantly challenged with stuff that's good fun but not very good for you. For me personally, I really love salt and vinegar chips and beer. I like drinking cold beer out of bottles and salt and vinegar potato chips. I like doing that, but you can't keep doing that all the time because it's not that good for you. How do you balance what keeps appearing right in front of your nose and what's good for you? Look, I just imagine like I'm really into this stuff and I go into the supermarket and I see it there three king-sized bars of chocolate, five bucks and you are like "Well, that would just be madness not to buy those. I should buy \$10 worth because it's just good value". It's not that what I always do but...



Dr. Ron Ehrlich: I mean you are human.

Professor Grant Schofield: I'm fighting those demons. It's my mission in life to sort the stuff here that I fight those demons, so I imagine everyone else does and I think that's our challenge is that which created a world that's quite good fun but it's actually not good for us.

Dr. Ron Ehrlich: That's great. Grant thank you so much for joining me today. I have so enjoyed talking to you. Thanks, mate.

There it is from a professor of Public Health himself – Why are messages so confusing? Public health messages? Medicines slow to take on new information 150 years for the limes, 10 years to wash your hands I mean really. That's a theme that Alan Savory talked about actually in an episode we did with him a few months ago on holistic management of well, everything. He said, “Don't expect the change to come from above. It has to come from the ground up. From you and me”.

Another factor in public health messages, they set the bar very low and finally the vested interest. The role of the food chemical and pharmaceutical industries in all levels of healthcare from government policies regulatory bodies, scientific research and journals on to professional health organisations. I cover that in part one of my book and we're going to be doing some webinars on this very subject in the near future.

Grant mentioned several hunger hormones and it just reminded me of how complex the balance of hormones in the body is. I was familiar with insulin, leptin, cortisol, ghrelin and I remembered glucagon. It's a hormone formed in the pancreas which promotes the breakdown of glycogen to glucose in the liver. But uncertain was one I needed to do more reading about. Look I know I've said this before, but I'd learned so much on this podcast. I hope you do too. Incretin is a hormone that stimulates insulin secretion in response to meals. The two most important incretin hormones are called GLP-1 and GIP. I'm not going to give you what that stands for. Let's not get too bogged down in detail but there are other hormones, there's a lot of other hormones going on.

Fasting is another big one or calorie restriction. As Grant mentioned working out what for you is the key as well as if you're just starting to go on a low-carb diet first for a few weeks just to prepare.

My wife and I have been doing 16-8 or 18-6. That is, we don't eat for 16 to 18 hours a day and then eat in the window of the six to eight hours left. Now for us, it's meant usually skipping breakfast and like Grant, if you'd said to me five years ago this would be part of my life I don't think I would have believed you. I, like Grant and probably many of you, I love food but the more I research it and actually the more you think about it it's just so obvious. When in human history did we eat as much as we do now? Never! Being able to cope with scarcity go for periods regularly where there was less food available meant our bodies had to adapt and they did for millions of years.

Our modern overabundance of seemingly cheap food and never really being hungry, not really is something that needs work. It needs to be a regular part of our lives and the research is certainly bearing that out. We're going to be doing other shows on this very subject and we have done with Cliff Harvey a few weeks ago. We've touched on in our series with Thomas Seyfried and metabolic cancer is a metabolic disease and with Dom D'Agostino.

I'm amazed as is my wife as for how well we feel on this protocol. It's not a religion, we're not dogmatic about it. We do have breakfast two mornings a week sometimes but less on those days we have both lost weight made much more time in the morning for exercise and thankfully for meditation. Give it a go. So much to think about. We'll have links of course to Grant's web page and his terrific books “What The Fat?” and his more recent offering “What The Fast?”

Incidentally, people look out on my web page, we've got some exciting things coming up. An e-book series which will be a guide to “Unstress and simply be well”. There'll also be some short webinars on the very subject of confusing health messages and what a holistic approach to health care is all about. We're going to be starting



a new five-week online course soon exploring the five pillars of health and wellness. So, until next time this is Dr. Ron Ehrlich. Be well.

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