

## VIDEO - Diet Doctor Podcast with Dr David Unwin (Episode 33)

**Dr. Bret Scher:** Welcome to the Diet Doctor podcast with Dr. Bret Scher. Today I am joined by Dr. David Unwin. Dr. Unwin is a general practitioner in northern England. And what's interesting is when I usually do these introductions, I am going to tell you about their website and their books and all their products... Dr. Unwin is completely different.

He is a general practitioner taking care of patients and that's what he does and that's what he loves. And during this discussion you're going to see his journey, the journey he took from being sort of the standard general practitioner to noticing and implementing a low-carb lifestyle and the joy that brought back to him in his practice because he was seeing the improvement in his patients. It is a wonderful journey and I hope you can pick up on his joy and how this process led him to see medicine in a different light.

And how not only has he been helping the patient he sees, but now he has been taking on leadership roles and advisory roles to try and help others implement this. And it's a lesson we can all learn and hopefully you will take away from this the type of physician you should be looking for, but also how to interact with your physician if he or she is not of the caliber of Dr. Unwin.

It's a wonderful journey and I hope you will enjoy this discussion. For the transcripts please go to [DietDoctor.com](http://DietDoctor.com) and you can also see all our past podcast episodes there as well. Thank you very much and enjoy this interview with Dr. David Unwin. Dr. David Unwin thank you so much for joining me on the DietDoctor podcast.

**Dr. David Unwin:** Hi, here I am.

**Bret:** So as we can tell by your accent, you are from England, correct?

**David:** That's right, the North of England.

**Bret:** And you are a general practitioner and you have been for how long?

**David:** I started in partnership in 1986.

**Bret:** And from 1986 to 2012 you practiced in a particular manner.

**David:** Yeah, well I was doing my best. I think I was pretty average really, but I was so disappointed with the results I was achieving.

**Bret:** And what do you mean by that? What were the results you were achieving that were not up to what you wanted?

**David:** When I look back now it's neat upon me really. I didn't notice for the first few years and after a while you start to realize that nobody looks really very much better... I'm talking mainly about people with obesity and type 2 diabetes but other conditions as well. I think I just started noticing that people didn't really seem to look healthy for what I was doing.

**Bret:** And what were you using as the framework for how to treat them?

**David:** Well we're pretty closely regulated so I was using the usual guidelines that all GPs in the UK use and the payment system is slightly based on the guidelines as well. So it was a good idea to do conventional medicine and they're called QOF - quality and outcome framework payments and we did very well with those and so it looked on the surface of it that we were doing quite well.

**Bret:** So the closer you adhere to the guidelines the more you got paid basically?

**David:** Yeah, although the QOF figures on diabetes practice were quite disappointing. Which was a bit difficult to understand... we can seem to be doing very well. So I had on one hand a sort of sneaking suspicion or a feeling that the medicine wasn't what I'd hoped. So when you're young, you become a doctor because you want to make a difference .

It's not really about money. You have a shining thing that you want to make a difference and then the years pass by and you sometimes wonder whether you are making much of a difference. And patients didn't look really very much better and during my time we'd had an eightfold increase in the number of people with diabetes so that didn't look... really a good reflection on me.

**Bret:** Right.

**David:** So there was an eightfold increase in the people with diabetes. So we had 57 people when I started--

**Bret:** In your practice?

**David:** Yeah, out of 9000 patients. And now we've now got about 470. So I watched that happening. I just had a sneaking suspicion I was letting people down somehow, that I wasn't achieving what I thought was health and what patients thought was

health because some of the things I measured seemed a bit better. But their experience of life wasn't improving.

**Bret:** I'm guessing you weren't the only person to see that sort of a change, but for some reason it hit you more deeply and you had a deeper awareness of what was happening.

**David:** I think in part because I knew I was coming to the end of my career and you tend to reflect... So when I was 55... you're tending to look back on your career and I was disappointed in myself really.

**Bret:** And then how did you change?

**David:** Well, several things happened. There was one particular case I've talked about before where there was a patient who-- so in 25 years I'd never seen a single person put their diabetes into remission, I had not seen it once. I didn't even really know it was possible.

**Bret:** We were not that it's possible.

**David:** No, my model was that the people with diabetes... It was a chronic deteriorating condition and I could expect that they would deteriorate and I would add drugs and that's what would be normally going to happen. And then one particular patient wasn't taking her drugs and she actually went on the low-carb diet and put her diabetes into remission.

But she confronted me with, you know, "Dr. Unwin, surely you know that actually sugar is not a good thing for diabetes." "Yes, I do." But then she said, "But you've never once in all the years mentioned that really bread was sugar, did you." And, you know, I never did. I don't know what my excuse was. So this this lady had done this wonderful thing and she'd also changed her husband's life as well.

She'd sorted his diabetes out and she'd done it with a low-carb diet and that really made me think I didn't know much about it. I didn't know much about it. So I found out what she'd been on... on the low-carb forum of [diabetes.co.uk](http://diabetes.co.uk) and to my amazement there was 40,000 people on there, all doing this amazing thing. And I was blown away but then I was very sad because the stories of the people online were full of doctors who are critical of these people's achievements.

**Bret:** Right.

**David:** And practice nurses who were saying, "You'll come to harm, you know. I won't take any responsibility for you if you give up your drugs."

**Bret:** There is a definite fear factor there.

**David:** Yes, there was. They were being blamed. I thought I was terrible, really terrible, when they seemed to be doing their best. And at the same time-- I was running one day with my wife Jen and she was saying, "How do you feel about retiring?" And I said, "I don't know, a bit disappointed." And she said, "Shall we not do one decent thing, one good thing in medicine together before you finish?" And I had just seen this case and begun to read around it. And so she said, "Who would be the group of people who you'd really like to help?"

And so I thought people with obesity and type 2 diabetes. It would be a great challenge and if we could help them that would be brilliant. And the next thing she said was, "Why don't we do this?" And I said, "Because we're not paid." And she's a great woman, she said, "So, we are not paid "and that's why you won't do this thing?

Shall we not just think our way around this?" So it was Jen's idea. She said, "First of all, why don't we work for free?" So we came up with the idea on a Monday night. The practice wasn't being used very much and my wife would work for free and I would work free. The partners wouldn't mind. And another idea was, why don't we do the people in groups of 20? We were very cautious at the beginning. So it wasn't just people with diabetes.

I was really concerned about the people with pre-diabetes. Because we'd just started screening for them, so we knew who they were, but we weren't doing anything for them so it was ridiculous, because we knew who they were and we were just sort of waiting until they would develop diabetes.

**Bret:** Right, and that's part of that eightfold increase that you saw in diabetes where all those people had pre-diabetes when you were taking care of them.

**David:** Yeah, so why were we waiting? And within that group, I think particularly the younger people, what a shame not to help. So we sort of thought let's begin with the younger people with pre-diabetes and invite them in groups of 20 and do them as a group. And then Jen and I learned about low-carb with these people.

So we bought each one of them a book on low-carb and then we did cookery lessons together on a Monday night. I remember we did like-- how fast can Dr. Unwin make leek soup? So it's about three and half minutes, that sorts of things. So we did it in a group with the patients. And I was so surprised because I had such fun.

**Bret:** You had such fun and probably were seeing a success you hadn't seen in your practice and a new level of enjoyment you hadn't seen in your practice for a while.

**Bret:** Well, the first thing I noticed was how I enjoyed the experience of group work with my patients. Because we, doctors, are used to one-to-one, but we are not really used to groups, so I was quite scared almost of not being in charge of the one-to-one thing. But the group work was so great... I wonder why was it so good? I think it's so good because the group dynamic becomes very interesting and patients try and help each other...

And they were very kind to me and then I started seeing them improve which happened quite rapidly.

**Bret:** So you went from just doing it on Monday nights to now basically basing your practice on it.

**David:** Yes. There was a difficulty because at the time what I was doing was seen as being not dangerous but weird.

**Bret:** And it's important to sort of set the stage, because you work for the NHS, the National Health Services in England and it's sort of a government run program with one pair and one set of rules and would you say it's fairly restrictive and what they say is within the scope of what you can do?

**David:** So interesting... I thought that, yes. So we developed this for a little while and we started with pre-diabetes and then people with diabetes started sneaking in, because they had heard and so they said, "We want to do the same thing." And then we started getting some very good results with diabetes.

And I thought what I was doing was not really part of the guidelines, but you know I hadn't really read the guidelines, not all of them, because they go on pages and pages. So because I felt vulnerable, I thought I'd read every word of the guidelines. And then inside the NICE guidelines in the UK I found some pure gold.

**Bret:** So the N-I-C-E, NICE guidelines.

**David:** Yeah, and it says we should advise high fiber low glycemic index sources of carbohydrate for people with diabetes. And when I found this, I was so excited because I knew then I got something that could make what I was doing and it was effective but it could be safe and I was not going to be criticized as much for this.

**Bret:** That's an interesting point that-- the low glycemic index because that's a difficult thing for a lot of people to understand and interpret and put into practice. But it's a very calming catchphrase, but maybe not the most practical. But it seems like you found a more practical way to interpret this.

**David:** That's an interesting story. So I became obsessed with the glycemic index and the glycemic load which is calculated from it. And I was also obsessed with the results we were getting. So I became a real low-carb bore. I went on and on to the partners. And one my partners, Scotty Scholz, she said, "David this is getting really boring now, "because we don't really understand. "You're talking about the low GI, but we don't really know what you're talking about.

So why don't you go away and come back when you can really explain--" Yeah, she said, "When you can really explain it to a plumber, to a student to other GPs." So I am very grateful to Cottee because she was absolutely right. I was a low-carb bore and GI and all this. So I really started thinking about how would you communicate the effects on your blood glucose of eating foods with carbohydrate in.

How can we help people understand the glycemic consequences of their dietary choices? And I came up with an idea. The first thing really was why was it so confusing? Why did people not understand it? Now I decided it was because people are not really familiar with glucose, because a glycemic index and the glycemic load always works out to grams of glucose. So this amount of food is equivalent to so many grams of glucose as a glycemic load. And really I don't think doctors or patients are very familiar with glucose as a substance.

**Bret:** What do you mean by that? Because glucose is sugar, right?

**David:** Well, it isn't really, is it. Because sugar is table sugar, which is, you know,-- so people know table sugar but they don't really use glucose in cooking. And they don't really know what does 10 g of glucose look like. They were not really familiar-- particularly in the North of England they are not using glucose for anything.

They wouldn't know what it looks like. So I was looking for something that patients and doctors would understand and would be familiar to them. So I thought I wonder whether it would be valid to redo the calculations in terms of something we are familiar with which is a 4 g standard teaspoon of table sugar.

**Bret:** A 4 g teaspoon of table sugar! And put that into glucose equivalents. So now you can visualize it, you can see the tablespoon--

**David:** And you think that's what it does. So I was really lucky, I contacted the original people who developed and experimented and published the work on the glycemic index and the glycemic load and they are actually in Sydney. And Prof... I think is Jenny Brand Miller. And I emailed her and to my amazement she emailed back... I was so surprised.

And I was asking for help... "Is my idea valid and will you help me?" And she said, "I don't know, but I know somebody that will help you." And that was Dr. Jeffrey Livesey who was one of the academics who would work with her on the glycemic index and glycemic load and Jeffrey has helped me. And so he redid the calculations for 800 foods.

**Bret:** 800 foods?

**David:** Yes, in terms of teaspoons of sugar. So I can now tell you that 150 g of boiled rice is about the same in terms of what it will do to your blood glucose as 10 teaspoons of sugar. So whether you have 10 teaspoons of sugar or 150 g, a small bowl of boiled rice, is about the same... and patients find that very surprising.

**Bret:** Very surprising, yeah. I'm sure you see people's eyes just pop open at this awareness that they haven't had before.

**David:** It's such a quick way for them to understand how carbohydrates-- And it helps them because they're so mystified, because so many patients say to me, "Dr. Unwin, I know that you shouldn't have sugar if you have diabetes, and I haven't had sugar for months now and yet my blood results are terrible."

And they don't know how-- and previously I didn't know how to explain this, but now I can say, "Well, let's look at what you're eating." And then if you are having a takeaway the rice would-- no wonder, or if you take boiled potatoes, 150 g, that's about 90 spoons of sugar. Or even a small slice of healthy whole meal brown bread is the same as three teaspoons of sugar. So you can begin to see that some items in your diet may not be a great choice if you have type 2 diabetes.

**Bret:** And in fairness that glucose equivalent, that sugar equivalent, is going to react differently in different people depending on their metabolic health. But when you're dealing with a population that's obese and pre-diabetic or diabetic, that's where the concern is. So I can see how phrasing it that way will really make people understand it better.

**David:** I think that there are two really important points. So one is helping them understand that this is where the sugar is coming from. But the other vital thing is giving them hope... It's so important... I think hope is even more important. The idea that yes, you have diabetes but it doesn't have to be chronic deteriorating.

And that original case that showed me you could put into remission; if you could repeat that, how wonderful for people... And when I now-- because I think we've done 60 patients who put their type 2 diabetes into remission. So I'm able to say with confidence to people, you know, you stand a good chance. In fact I can say that of my

patients who take up low-carb, about 45% of them will put their diabetes into remission which is amazing.

**Bret:** Remarkable, no drug can do that.

**David:** No, and I've never seen a single case of that in 25 years.

**Bret:** 25?

**David:** Yeah, not one. And now reliably week after week I'm seeing people, I am getting them off drugs for type 2 diabetes. And they're coming in getting these marvelous results and it's such cheerful medicine and it makes me-- You know, I often ring them up. I love it now when I get the blood results I keep them like a treat for the end of the day. The hemoglobin A1c is the liver function. I keep it like a treat, because so many of them are good and I ring them up at home. You know, how often do patients get a cheerful phone call from their GP to say, "I'm just ringing you to tell you... it's amazing you've done so well"?

**Bret:** What do you use as the cutoff for the diagnose? Is it an A1c--?

**David:** I use a hemoglobin A1c.

**Bret:** What level usually?

**David:** So I think on the whole now I agree with Roy Taylor. So I'm defining remission of type 2 diabetes as being off drugs for at least two months. And hemoglobin A1c in millimoles per mole of less than 48. You'd have to convert that into percent for the listeners because I can't remember what that is.

**Bret:** Okay, I'll have to work on that.

**David:** Maybe it could come up on the screen, that would helpful. So that's the definition and Roy published that in the British Medical Journal.

**Bret:** And I have to remark which I'm sure people on the video can see, but people in the audio might not be able to-- Your face sort of lit up as you were describing it to me, the way you can call these patients and give them the news. Your face just like lit up.

**David:** Yeah, it's such wonderful medicine. I've never thought I'd live to enjoy it so much. And amazing, you know, I'm old, I'm over 60 and I'm still there. I was supposed to be retired six years ago, that was the plan, and I'm still there. It's really addictive because all the time you just look at the blood results and it's not really about the



blood results, is it? Imagine the patients how they feel when they come in and they've lost weight. It's not even just diabetes, is really not just diabetes.

**Bret:** That was going to be my next question, so you are you focusing on the diabetes, but what other, you could say unintended effects or other downstream effects which actually should be intended effects, but what else did you find?

**David:** Interesting, so one of the things that surprised me most in the beginning was dramatic improvements in liver function... dramatic.

**Bret:** The fatty liver going away.

**David:** That was so interesting because I saw patterns, I began to see that I could predict the patients who are doing really well before they came into my room because I'd get the blood results and I'd see the liver function improving and I know this is one that is doing really well. The liver function would seem to improve almost before anything else.

**Bret:** Interesting.

**David:** I'm now getting-- it's about 40% to 50% improvement in liver function and gamma GT, which is a thing I measure. The next really interesting thing, and this happened to me as well... I used to have high blood pressure. But it started and when I stood up I felt dizzy and my blood pressure was dropping. That happened in the first few weeks and then it was happening with patients.

And I was discovering that I could take-- I could stop lots of drugs that I had them on for hypertension. So every week I was stopping amlodipine, perindopril, lots of drugs that they were on to keep them safe because I worried that they would faint if they stood up. So imagine how that is for a doctor after 25 years... it wasn't just about diabetes, it started broadening out. So we had their blood pressure, the weight, they were losing significant weight particular off the belly, they really liked that, their belly was going down.

Triglycerides were another thing. I had worried about triglycerides for years and I never knew what to say to patients, because you did the blood test and the triglycerides were sky-high, but I never really knew why. And of course there's no real drug for triglycerides, so what would you say? And I'm embarrassed to say I used to fudge it. I'd say, "It's a bit high.

You probably need to lose a little bit of weight. And we'll redo again in six months and hope another doctor did the test in six months. Why did triglyceride matter? But I found it dropping significantly. And another thing, I don't know whether you've noticed

this. Have you noticed? The first change I see in people is that their skin improves. That's nearly one of the first things within a couple weeks sometimes. Their skin improves and another thing is their eyes look bigger.

**Bret:** Bigger?

**David:** Yeah. I think they're losing fat around the eyes.

**Bret:** How interesting!

**David:** Yeah. I always have a little bet with myself. When I see them in the waiting room from a distance, I have a little private bet... "Oh, this one is going to be good." Before I weigh them. And the ones who have the eyes look brighter and bigger, they have nearly always lost weight. I wonder whether they're losing either periorbital fluid or periorbital fat. I don't know, but it's a thing I have noticed again and again and I see first.

**Bret:** And this goes back to sort of how we started this conversation where you said people weren't looking good, they weren't looking healthy. And I've heard you make that analogy, I want to hear your analogy to animals about the same sort of thing.

**David:** That's a separate thing. So I had a lifelong interest in natural history. I'm fascinated by wild animals, I run a series of bird sanctuaries so I do a lot of watching of animals in the wild. I've had all sorts of pets lots of weird, weird animals I have had as a pet. Another one of the things that had troubled me over the years was human beings don't look like healthy animals.

If you go down the street, how many would strike you as a really strikingly healthy animal? Not very many... Isn't that odd? And yet wild animals on the whole do look healthy and you could say, "Maybe it's because the wild animals are all just young and the people I'm seeing in the street are mainly old", but that's not true because I started to notice even 30-year-olds who should be in the prime of life who were looking obese, with poor skin, they didn't look healthy and didn't look happy either.

And so I used to think that this is really odd because human beings are not looking healthy. And suddenly I had this thing that they were looking healthy and not only did they look healthy, they felt healthy. And another thing I noticed at the beginning was people-- So the average patient I'm dealing with weighs 100 kilos and they are not exercising.

**Bret:** About 220 pounds.

**David:** Yeah, it's understandable that you're not exercising if you weigh that much.

**Bret:** You don't feel good.

**David:** No. They felt sleepy, tired but when they've lost a bit of weight, they start exercising. Again and again I find patients saying, "I am a bit bored in the evening so I am starting to exercise." So we were going from a population who didn't look healthy, didn't act healthy and as I say I've been a bit mystified unlike everything else in nature where people-- sorry, where animals generally in nature look pretty good.

And now human beings were beginning to look pretty good and I thought, "I'm onto something here." But one of the things was I didn't know any other doctors who were like us. Completely alone at the beginning.

**Bret:** How did that feel? I mean you really felt like you were hesitant saying like maybe I am doing something wrong because nobody else is doing it?

**David:** You wonder whether you're bonkers. Am I trying to convince myself? But then I started with one, and then it was 20 and then it was 25. It worried the partners in the practice, what I was doing. They were cross with me because they said, "David shouldn't you be concentrating on sick people?" And that upset me because if I don't do something they are sick, so that troubled me.

And then I knew that what I was doing was making some health professionals uncomfortable and I remember one meeting-- after I got my first paper published I went to a big diabetes convention and the doctors stood up and absolutely shouted at me and said that what I was doing was dangerous and people would come to harm and I should stop it. He was shouting at me. And other people when they heard my name would just turn their back on me.

**Bret:** Wow.

**David:** It felt terrible. I was mystified because I thought, "What am I to do?" Because if I go back to doing what I did before, that was so depressing and I couldn't understand the reaction of the people that seemed so cross.

**Bret:** The lack of knowledge and lack of understanding, have you seen that change over time or do you still see that level of resistance?

**David:** It's changed hugely, hugely and it gives me joy because, you know, I'm not alone anymore now, there's loads and loads of doctors doing this.

**Bret:** In part of that I think it has to do with your advocacy. So you started with treating the patients, seeing the benefits to the patients, getting the joy back and now you've gone on to be a sort of a leader and an advocate in the Royal College. So

tell us a little bit for the American folks what the Royal College and your role in it and what impact that's having on patient care?

**David:** So the Royal Colleges in the UK... you can't actually be either a general practitioner or a consultant unless you've passed an exam set by your Royal College. So there's a Royal College for general physicians, there's a Royal College for psychiatrists, dermatologists and a Royal College for general practitioners. They're responsible for quality really and standards. They are unique I think almost in the world in that they are independent.

So if you can convince the Royal Colleges what you do is reasonable and if there is published evidence for this then they are going to listen to you. One of the things I'd say to other doctors right at the beginning is keep data. So one of the things I did at the beginning knowing that what we did at Norwood Avenue, that's the practice, was a bit odd, was I felt I owed it to the patients, really the patients, you can't experiment on them, you really got to do blood tests and keep the data.

So I started with an Excel spreadsheet. It's funny really, I owe all of this to Prof Roy Taylor who is very famous in the world of diabetes. Should I tell you the story of Roy Taylor?

**Bret:** Sure.

**David:** Okay. When my results first started coming in, I couldn't believe them. I thought there's something-- you know, you can't believe it and after all these years... is it safe? What's going on? So I contacted I think about 20 professors to say, "I'm getting these results and I feel I need to tell the world. And I don't know whether it's right or what's going on." And only one professor answered me and it was Roy Taylor. He said, "What you're doing is fascinating and may well be clinically very significant.

But we need to do the statistics." I didn't know how to do statistics. And he said, "You need an Excel spreadsheet." I didn't know how to do an Excel spreadsheet. And I had to get my accountant to do an Excel spreadsheet for me because I didn't know how to do it. But that started me with the data. So I'd say to anybody if you collect data-- so now I know on average with the patients I'm doing, I know what's happening to them.

When you start doing data is a bit laborious and time-consuming on top of your day job but soon it becomes addictive. I love doing it now. So about twice a week I am loading my data to see how they are doing and see how the averages are coming on. But that really helped convince the Royal College. And then the other thing was we started making drug savings. I think I should know we were doing this.

It was actually... it was one-- so we are organized in the UK... GPs are organized into groups of about 20. They are called CCGs. But then our CCG pharmacist contacted me one day and said, "Do you realize you're way below average for our CCG? "Not only are you way below average, you are the cheapest practice per 1000 head of population in our CCG." And she said, "I think you're spending about £40,000 less every year on drugs for diabetes and is average for our area."

**Bret:** That's remarkable.

**David:** Well, it was amazing. I got her a bottle of champagne that one. I was so excited. And it was true and we've kept that up for three years now and that became very interesting to the College, but also very interesting to other doctors and also politicians.

**Bret:** And now you don't have to worry so much about being outside standard of care because you're showing you have evidence, you have data to show how you are benefiting the patient and benefiting the bottom line with medication prices.

**David:** It's not even that, is it, because I think I am doing low glycemic index sources of carbohydrate for diabetes which is part of the NICE guidelines, but I think I just ignored that and went straight to drugs. So I didn't really believe in lifestyle medicine. So now I am really focusing on that. And I tell you, I think it's five years or maybe six years now, every single patient that I diagnosed diabetes with, I offered them a choice.

So I say, "Right, we could do this two ways. "I believe that I can help you with this with diet "and we need to start talking sugar and starchy carbs, or if that isn't your thing we can start drugs, lifelong medication." But, you know, not a single patient, not one in all these years has asked for the drugs.

**Bret:** Interesting.

**David:** Not one. So other doctors say to me, "My patients wouldn't be interested." But, you know, my patients weren't interested for the first 25 years, because I didn't give them that choice. And I think if we could give people the choice and offer support-- so I say, "Shall we for three months, how about we have a go?" I'm up for this, I'm up for this thing. How about we have a go? Shall we talk to your wife? Shall we-- who does the cooking? Who is doing the shopping in your family? And I think then they know I care.

**Bret:** What would you advise to patients who are seeing a doctor who doesn't bring it up and just prescribes the medication and doesn't think it's an option or doesn't think

they would be interested, but in the back of their brain they are wondering? How would you advise them to address their physician?

**David:** I think you always have to cooperate with your doctor, because at the end of the day he's got your records and maybe you can't get another doctor anyway. Doctors are difficult, aren't they? There is not enough of us. You have to work with your doctor, but I think would it not be reasonable to say to your doctor, "This is something I've read about. Would you mind could I try this? Would you give me the trans to try this?" And I think if a patient asks their doctor reasonably, then the doctor would at least have to justify refusing that.

**Bret:** Yeah, I think that's good advice. That's similar to the advice I give. You're not saying this is the way I am going, this is what I want to do. You say, "Will you work with me on a trial? And these are the things we can measure. We can see how I feel on my weight and my blood test and let's just see what happens in three months, in six months, then we will revisit it and if I am feeling horribly we'll come back to the medication.

**David:** Exactly and I think you said a good thing there which is agree what you're going to measure what are the outcomes for success. So for me, I find waist circumference very good. And the patient can do that and then they're getting feedback.

**Bret:** Better than weight, better than body mass index, waist circumference.

**David:** I do both. I've actually had patients, I don't know about you, I've had patients whose diabetes has improved significantly without weight loss.

**Bret:** Without weight loss, but--

**David:** Have you had that?

**Bret:** Yes, I have, but you can't see body composition changes without the weight loss.

**David:** They change, absolutely, some of them have put on muscle probably, but the belly has gone smaller, so it's worth measuring both because there are people who don't believe that. There are clinicians who don't believe you could improve diabetes without weight loss. There are definitely yeah, but you can. I was going to say something about motivation, I think. This is some of the stuff I've learned from my very clever wife Jen.

And that is... the first thing is giving patients hope. It's a really interesting subject, the subject of hope and how do we give people hope of a better future and asking

about their goals. The next thing is feedback is absolutely central to behavior change, isn't it? So I don't know any of the listeners who have seen my Twitter stuff but I do this graph of the week.

So the computer systems generate graphs; so weight, hemoglobin... So every week-- this is the patient that has done the best and those patients are so proud. So I always put it on Twitter. But what wonderful feedback that is!

**Bret:** Let's get into long-term and short-term goals. So the short-term goals are the stepping stones that get you to the long-term goals, but they give you hope, they show you immediate feedback that you're having progress and it keeps you interested.

**David:** That brings me to a point, you know... I didn't used to recheck hemoglobin A1c a lot often. So I wouldn't check it for six months. But, you know, the fastest remission of type 2 diabetes looking at the hemoglobin A1c I've ever seen was 38 days.

**Bret:** Wow!

**David:** So this guy had hemoglobin A1c, I think it was about 62. I brought it down to 38 mmol per mole. That's really significant remission. And that was done in 38 days. Now previously I would've missed that wonderful result because I wasn't checking them soon enough. So I would say if a patient is losing weight and if they are really doing the low-carb thing, it is worth redoing the hemoglobin A1c certainly after two months.

Because that feedback is like oxygen to that patient and the doctor too, because you're wondering whether you're doing a good things so I think it's worth doing a few more blood tests. So as part of the contract for the patient with me... okay, you don't want to have drugs... great. Would you mind having a few more blood tests? And generally on the whole they don't.

**Bret:** I think that's a great perspective of your approach in how you incorporate your wife's approach, Jen's approach as well, because behavior change and the psychology of behavior change is so important. We can talk about the biochemistry of how things work, the science of how things work, but if we can't get people to buy into it and sustain it and it doesn't really matter what the science says.

**David:** I think we've missed a trick in medicine. So much of chronic disease depends upon behavior change and who is an expert in behavior change? It's the clinical psychologist, but whoever asked the clinical--? And they know stuff but we never ask them. And I realize now I'd spent 25 years telling people what to do, like doing medicine to people. Whereas what I'm doing now is more collaborating with patients.

And that involves really taking on board behavior change and people's personal goals. Now what is their goal? You've got to talk to patients to find out what are they hoping for. And again the Royal College of Gen. practitioners is really committed now to collaborating with patients because you can't solve-- One of the big things we've got is multiple morbidity.

People then got not one thing wrong or two or three, they've got four or five things. You can't possibly sort out multiple morbidity without working with patients and their goals. And as I say I think the British Royal College of Gen. practitioners is way ahead in the world because they are the only people talking about collaborating with patients, working with patients.

**Bret:** Important perspective.

**David:** Yeah. And they've made me-- just to show off... can I show off?

**Bret:** Please do, you need to.

**David:** They've made me national champion for collaborative care in diabetes and obesity in the UK because of my commitment to working with patients. But it's a selfish commitment because it's just better medicine. It's just much more funds.

**Bret:** So at the start people were yelling at you and condemning you and now you've been made the champion of collaborative care in diabetes. I mean that's a remarkable journey.

**David:** It's a turn, I'm sure still irritating a lot of people. it's very difficult, you know, I'm certain I am irritating people... But they're working on 10 minutes appointments... it's hard and you can't get locums. It's a long day, it's a really hard day.

And then this doctor comes along and starts saying, "What are you doing? You should be doing it this way. And why don't you do this as well and why don't you run groups as well?" I really understand how difficult it is if you're very tired to start taking on because equally, how about heart disease, how about so many other subjects on that? So any GPs out there that I've annoyed I'm sorry, I apologize.

**Bret:** Your story is fantastic and a great learning experience for physicians. I mean I hope there are a number of physicians listening who can see your progression and the joy that you've gotten from helping people more than you were before and then for patients to understand the type of doctor they should be looking for. I wish everybody could work with you but clearly that's not possible. But hopefully there are more like you that they can work with and how to frame the conversation a little bit differently with their doctor.



**David:** I've got nothing to add on that. I think very often we are telling patients what to do but we're not framing it very well. So now I'm trying to frame my information and advice in terms of physiology that a patient can understand. And I think then the patient can decide whether to take my advice or not, because they are in a better position. So I quite like to just add a little bit about insulin.

**Bret:** Sure.

**David:** So I explain to patients with type 2 diabetes that one of their problems is insulin. So what happens is if you eat the 150 g of rice then you're going to absorb about 10 teaspoon equivalents of glucose into your bloodstream. What does the body do with that glucose? Where does it go? Because you are programmed-- we know that the high blood glucose it's dangerous. So your body has to get rid of the glucose. Insulin is the hormone that gets rid of glucose to keep you safe.

Insulin pushes glucose into cells to get rid of it and it pushes glucose into your muscle cells for energy, which is fair enough. But maybe you're taking in more glucose than you need for energy. What happens to the rest of it? And that glucose is being pushed into your belly fat to make you fatter and it's being pushed into your liver to make into triglyceride and could give you fatty liver.

And anybody with a big belly in middle-age is beginning to understand that maybe the toast, the rice, whatever, might have something to do with the big belly. And so what I'm saying to them... They've got a little hook in their own lives to think, "Maybe he is telling the truth."

And then if they take my advice and the belly gets smaller they think, Dr. Unwin might have made a good point. So I think this idea of really thinking about communicating with people in 10 minutes, to give them information that is relevant to the goals that they have. So if you want to get rid of your belly I can talk about getting rid of belly fat, or people want all sorts of different things but let's talk about physiology. And particularly if you relate diet to physiology, it becomes more powerful.

**Bret:** I think so, yeah. Well, thank you so much for sharing your experience with us and sharing your journey. I hope there's a lot that people can take from this to use in their own lives and try your path for health and I love to see that the joy in your eyes and the excitement of healthy people come back. So thank you very much.

**David:** I hope they like it too.

**Bret:** This has been a pleasure.