Patrick Theut and Ivor Cummins talk: Want to Reverse Your Calcification and Heart Disease? Here's How! Find out more @ ihda.ie and TheFatEmperor.com

Ivor: 0:00 We have a fascinating podcast today. Because I'm going to be speaking with an engineer and biochemical expert, Patrick Theut. And he has done what very few people have been able to do. He has effectively reversed his heart disease, and dramatically brought down his calcium score. So, I know this is going to be a fascinating conversation Pat.

Patrick 0:24 I'm looking forward to it.

Ivor: 0:26 Yeah. And it's long overdue, I must admit, but there's been a lot going on. So maybe you could start with giving a brief overview of roughly how you reversed your heart disease. Because we know that calcification progression can be slowed down. And that confers a massive lowering of risk just by stopping the progression. But the holy grail and a lot of people ask about us, is reversing the calcification, leaching the calcium back out and achieving a near elimination of the disease process, which is demonstrated in subsequent scans. So maybe give us an overview of that first.

Patrick 1:05 Okay, just a quick one on myself. Right now, I'm 66 years old. My little adventure started in November of 2002. And presently, my background is I've got a masters in Biochemical Engineering, a Masters in Business and masters in Statistics. I'm a geek, and I'm also an athlete, a Master's athlete. I was an ice hockey player back in another life. And I've always had a fascination with how does things work. Well, I was confronted with my left main being completely calcified from the wall of the heart to the branch, calcium score 337 back in 2002, and I was given less than four years to live. I was going to this prestigious clinic south of Minneapolis, said you have less than four years to live and you're going to die of an arterial blow out. And I said to the attending cardiologists, my body got me into this mess, my body can get me out of this mess, and he thought I was into denial. And my good friend who was the at that time, the Vice Chair of psychology and psychiatry at the clinic said, "you just don't know Pat. He's got that look in his eye." So, I proceeded to deepdive into the Internet, and with my background in Biochemistry and all that stuff It was easy to fly, literally fly through the internet, and read all the scientific journals and stuff like that. I devoted eight to 10 to 12 hours a day to it. Now I have over 16,000 hours of reading on the subject. And within three years, I had stopped and cleaned out my entire Left Main [Coronary Artery]. Cleaned it out and to date I have 28 heart scans to prove it. Going back to 2002. 28, it was... Yeah, I had this one physician. He is an holistic MD cardiologist, he's now retired - great guy. He said, "Pat aren't you afraid of radiation and cancer?" I said, "Doc I'm going to die anyway. So, it doesn't freakin' matter! I need to figure this problem out. If I can't do it, I need to leave a trail of what I did that worked or didn't work and why.

Ivor: 3:17 Excellent. And just one quick thought and I won't intervene or interject too much. But just on the radiation, I've been through that one as well. And one or two scans, increase your theoretical risk by one in 20,000 for remainder of life for a middle-aged man. So, whatever about you know 28 scans, but one or two for most people - it's just irrelevant. But please go ahead.

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Patrick 3:43 Yes and to your point is like flying from Chicago to Tokyo and back in the same day or something like that, It's nothing really. So, within three years, I reverse my left main. I had while I was reversing my left main the calcium score kept increasing. It took a year to stop everything. But other stuff started growing. And I started reversing that too. And then I'll just say and for brevity sake, I hit a speed bump. And my calcium score tripled in three months. Which yeah, according to Dr. Budoff [leading cardiologist and Calcification expert] that's impossible. Well, guess what I did it. And then it was, then I ended up a type two diabetic, Partially. I stopped and reversed that. That took me three years to get that squared away, boy that was a problem. Because if you don't get your diabetes squared away, you're going to have heart disease.

One thing that the listeners need to grasp ketogenic diets are critical. With the exception of the APOE4 genotype. There you better be a little cautious in your diet. But I've always been ketogenic from my athletic days back in the 60's and 70's. So, I kind of knew what worked. And by January of 2003, I wrote a nice letter to a friend in Tiburon, California and I said Bob, heart disease is a gut bacteria problem. It's a function of your thyroid, it's a function of low D, low magnesium. And basically, it's your gut bacteria that dictate your health. That's kind of interesting, January 2003, long before any of this and I really emphasize carbs will kill you. And it's been fascinating. It's been hell of a ride ever since. So, the thing with calcium scores, your calcium score keeps increasing. Okay, that means you have stuff growing in your arteries that aren't supposed to be growing there. I sometimes call it cancer of your arteries. And in 2010, I said to myself, enough is enough. I've slowed it way down, progression is actually like a couple of percent per year, but it's still growing. If it's growing, it'll kill you. So, I said, I took a week off and I just burrowed myself into my books. And I've ran into an inadvertent article by Mercola from 1998. And it said, vitamin K influences heart disease. And I went, really? You got to be kidding me. I didn't know it. I truly didn't know it. I got everything else figured out. But I didn't know about K. And it was funny when I finally dove into that, I remember what Dr. Davis, Dr. Bill Davis from "Wheatbelly" fame said to me, yes that his mother was from Japan. You know Japanese, they have this thing with vitamin K and I'm going oh my God! That's what I missed. Because from 2002 to the reversal and cleaning out of my left main, guess what ate? I ate kale. I hate sauerkraut. I ate hard cheeses. Because that's what my body seemed to crave. And I just kept eating, eating, eating it. And I inadvertently used K to solve my problem. And I didn't know it at the time.

Ivor: 7:15 But it was essentially, it was your investigations and your switch to a more keto diet, removing problematic carbs, which feed the wrong gut bacteria causing leaky gut, immune reaction, all that stuff. You were doing all the right things. But inadvertently you're tilting towards high K2 foods.

Patrick 07:35 Exactly. Exactly. I stumbled into it. You know, it's just so apparent when I hit that speed bump, apparently the gut bacteria that were making my K were killed off. I'll just put it that way. And we could talk about what really happened at that time. But that's a whole another thing. It's very controversial and I don't want to get into it. So, I realized I needed K. So, I had to go find it in level sufficient to make it work. And I did a deep dive into that and I said Okay, I found my K. It could read like a Cheech and Chong movie, you know

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driving down to Tijuana to score some marijuana. I mean it was amazing. You know, you go to these conferences and say "hey, I'd like to buy a Kg of MK4!"

Ivor: 8:29 Excellent. You might define I know you will. You were looking for K2 and a variant MK4 or maybe MK7. So maybe give a brief description of the K1 plant food more and the K2 you know from NATO and cheeses. Just give an overview of the different Ks.

Patrick 08:52 Okay, I'll give you a conversational biochemists thing. K comes in 14 forms. K1, which is in broccoli. It's in broccoli and kale. MK's are fermented products made by your gut bacteria. Surprisingly enough, bacillus subtlest in your gut. And you can also get it in foods like NATO, sauerkraut, fermented sausages, stuff like that. So, it's everywhere. One's on the fermented side, the one's on the just plain extractive side. And they're very similar chemically. As in fact they look like chemical tadpoles or poly walks. Oh, you've got this benzene head on it over here in this long freakin' tail. And that's important because LDL and HDL carry that stuff all over your body. And that's something people forget about LDL and HDL and VLDL. Those are the three trucks that haul K1, MK's, which coming 13 different flavors, and your vitamin E and your CoQ10. And something called micro RNA, which is primarily resident on HDL. And that's the coating that your liver puts on the LDL and HDL kicks it out back into your bloodstream. Doctors don't talk about that all that often.

Ivor: 10:28 You're describing a system where Lipoproteins like HDL and and even VLDL, (which is a problem in diabetics when it's high) and even LDL, the bad cholesterol. You're describing them as not just cholesterol, which is simply one of their contents. You're describing them as a crucial evolutionary delivery system, of which all of them HDL, LDL and VLDL are all crucially important to you, right?

Patrick 10:54 Precisely. They are your little milk trucks and hand that bring your milk all over the neighborhood and drop the milk off at the doorstep. That's what they do. That's what they do. Dr. Ferland made a great study up in Canada on vitamin K1, and its impact on Alzheimer's in its prevention. And she went through the whole biophysiology, how the darn thing is even hooked up to the LDL particle and how this enzyme takes it off the LDL, in other words, takes it out of milk truck, puts it through the wall of the artery and remanufacture into MK4 for shipping material for your nerves. So amazing. And when you look at the studies of LDL and HDL, we never talked about that. It's crazy.

Ivor: 11:42 You know, Patrick I haven't got so much into that science that you're talking about. And that's why it's fantastic that people get a good grasp of it today. But it makes absolute sense that in evolutionary terms, the most complex macromolecule, like the Lipoproteins, is going to be multifunctional and completely embedded in our health, even the LDL.

Patrick 12:07 Exactly, exactly. That's just amazing. So, in 2010, I did my deep dive, I finally realized what I missed and since I'm kind of a researcher all on my own, you're not going to get everything. So okay, I missed it. But I got it. Now, I came up with a whole new definition

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of heart disease, which is just fascinating. And it is, and I don't want to use big words to scare people or whatever. But it's basically you've got foam cells and macrophages in your pipes that are growing, they're bad actors. And you got to kill them.

You just got to kill them. So, I'll tell you how it works. And I'll put it in Peter Rabbit language. Okay, you've got a macrophage that went in into your pipe to kill the bacteria that got in there. The macrophage doesn't want to leave. So, it gives off a chemical that says I don't want to leave, the body goes, you got to leave. Macrophages ain't going anywhere. So, if you have sufficient vitamin D floating around, and you have sufficient free T3 floating around, that's a thyroid hormone. It causes an up-regulation. In other words, it makes these little chemicals start spinning on the surface of the macrophages and the foam cells. Those are called matrix GLA proteins. Think about it as little top spinning on a on a basketball. Well, your HDL sees those, and it goes hey, those are my friends. So, the HDL wings into your artery. And imagine it's got a magnet on it and the magnet is your vitamin Mk7. MK7 attaches to that little spinning top and locks it down. Pretty cool, huh? Just locks it right in there. Now CoQ10 is hooked up to your HDL particle. CoQ10 is like the hoosier cables on a boat to tie it to the dock. So, it ties it to the dock. Now your HDL is hooked up to your macrophage or your foam cell. And then the micro RNA sneaks through and tells the macrophage foam cell you're supposed to die. So - would you please die. And in the meantime, HDL is Mother Nature's mosquito. It goes in there, it sucks out the fat. When it gets all bloated and says I'm full and I've got you in my belly. APOA1 goes along and attaches itself and makes it an official HDL particle, hauls it back to the liver, it gets reprocessed. Pretty cool huh. So now how do you get the calcium out? Well, you remember those little spinning tops that I was telling you about? It's called the up-regulated proteins? Well, there's a little carrier protein called Fetuin A - and nobody talks about Fetuin A. Well Fetuin A sees that chemically and goes "Whoo-hoo! I need to go there! So Fetuin A burrows into your artery, gets up with your vascular smooth muscle cells where the calcium is kind of resident. Along with magnesium, just serum magnesium - that's why keeping your magnesium levels up is so darn important - Magnesium loosens up the calcium. Fetuin A grabs on to the calcium and hauls, takes it out. It hauls these either to the liver, or to the bone for redisposition. Now your arteries are clear.

Ivor: 16:08 It is very cool, Indeed Patrick and around one in a billion people probably have any idea of this process, especially the detailed steps you've discussed. Now just going back to the HDL, so the HDL reverse cholesterol transporter as they call it is crucial. But what you add to it is some more details around that and how it works. But I've often said this, that HDL reverse transport is extremely important. But if your HDL is dysfunctional, damaged or incapable to many different factors, you're going to have a challenge without that important step. And the classic example is diabetic inflammation, HDL is highly compromised. So, you need a healthy HDL. So maybe we'll talk briefly on the HDL, its outer shell and the importance of keeping it healthy to enable what you described in your first step there.

Patrick 17:09 Oh, it's a great point. That is really something. The issue yet you have before I just leave all of this, the purpose of LDL in heart disease is the LDL particle is carrying K1.

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And K1, along with vitamin C kills macrophages and foam cells through a process called atrocious. That was first identified in 1998. That's kind of neat. That's a whole another story. So anyway, and that's why the LDL goes into your artery, it goes there as basically a Scud Missile to try and kill the foam cells and macrophages. And since it doesn't have enough K1 on it, the macrophages and even. So, again this conversational biochemistry, so everybody kind of wrap their head around what's going on, but it's kind of fun. Here's the thing with the diabetic stuff. And this is interesting. The average diameter of an HDL particle is about 10 nanometers - it's kind of tiny. But think about it as a softball. So, if you are diabetic, the size of your softball gets smaller. So, it'll go down to 5 nanometers. And if you've got healthy HDL, it gets really big, like 15 nanometers or a basketball. So, if you need a softball or a basketball, and you've got golf balls, guess what? Your surface area goes way down. That's where it's compromised. That's why small dense LDL and HDL is not good. Think about it as golf balls, soft balls and basketballs. Henceforth, you can't put enough coating, the proper "chrome on the bumper" that you would like to do. And to give you an idea of surface, let's see, I've got this calculated out, the surface area. The difference between low and high of surface area in HDL alone is 900%, between low to high, think about that 900%! And that translates into how much more stuff you can carry. And then you end up getting compromised. That's basically it, your truck is too tiny.

Ivor: 19:40 Yeah, and you've got a double-barreled problem now. If you've got issues that caused the smaller HDL, LDL, it impacts their function majorly. And usually people who are impacting that are also not getting the correct nutrition, which is needs to go on the shell in the first place. So double barrel problem, you've now completely undermined that on two levels, the functionality of HDL and LDL is role in managing disease.

Patrick 20:13 Exactly. And to make matters even worse, the larger the particle and more stuff you have hanging on it, the better you can orient the particle to hook up to where it needs to get hooked up. If you've got the right chemical, on an itty-bitty particle, you lose that orientation opportunity. So henceforth, yes you may have sufficient say CoQ10 floating around. But guess what? It can't be made up like a lock and key like you would have with a larger particle.

Ivor: 20:48 I love that one, because there are so many manifestations of that problem of molecular interlocking. And yet another one for LDL - the smaller dense particles, have longer time in the bloodstream, we know causes problems. And we have papers as well, I have where the smaller, denser particle also changes to an ovoid shape and doesn't lock so well with the receptors in the liver, and stays in the bloodstream. But that's yet another independent problem with LDL, but it's not LDL's fault. It was caused.

Patrick 21:22 it's the chemistry that gets it to that point. And that's why the ketogenic diet is so damned critical. We just can't keep; our system is not designed to be hammered with sugar. It's not designed that way. In fact, if you want to really look at it from a very interesting perspective, sugar to the body is really a toxin and the body is designed to really eliminate that toxin. If you think about it.

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Ivor: 22:00 Yeah, indigestion. Of course, some people argue, well, sugar is the natural fuel. That's why the body uses it first. But the body has to use it first, at all costs. I mean, maybe alcohol it uses before sugar, but that's it. It's alcohol first of all, because that's most poisonous. Then sugar needs to be managed and used up or switched into fat for safe storage. And then finally, fats. So yeah, excessive sugar, I guess if you're insulin sensitive and healthy, and athletic and in great condition, you can handle increasing amounts of sugar or carbohydrates in your diet. But that doesn't mean it's good or Okay. It just means you can manage it better. But the majority of adult Americans over 45 now are, the official figures are 64% are now pre-diabetic or diabetic. So, we're not talking about healthy people, we're talking with people at risk and they have a big problem.

Patrick 23:00 The problem is staggering. It just absolutely staggering out there. You look at a cola drink of any kind. It's 100 grams of sugar, your bodies not designed to take that, my God. The body is not designed for that. It's like exogenous calcium. Oh, I'm going to take calcium. Why??? Your body's not designed for it. And when you take calcium as I say, "gnaw on some limestone." The body is going to do something with that calcium, and it's not going to be anything good. It'll give you a kidney stone, it'll go into your heart — it'll go any... It'll cause nodules in your joints. Don't do it, your body's not designed for it. Your body's designed for magnesium, it was not designed for calcium. And here's a neat point in calcium. If your body does need calcium, vitamin D is a signaling chemical to the gut bacteria to deliver the calcium it needs. Isn't that something? It just goes and tells hey, dude, I need some more calcium. Okay, here it comes. It's pretty cool. I love that.

Ivor: 24:10 Well, the body has all these regulatory mechanisms. So, if you starve yourself of calcium, and literally not ingest enough, it may have a challenge. But absolutely, there were trials where they gave extra elemental calcium, and there was higher mortality. But they were looking simplistically at it. Oh well, more calcium will help. Because more is better. But as you say, No, you need enough the right amount.

Patrick 24:38 Right. And it's just like taking vitamins in general. But the biggest thing people forget about taking vitamins is the first thing that gets fed is your gut bacteria. Make them happy first! And another thing about eating.... Dr. Noakes talked about eating once a day. And I've been doing that for years. And why is that important is because it allows the proper gut bacteria to multiply and liberate the chemicals it's being told to liberate. So, if you keep pounding food down your gullet, the bacteria get all confused to what to do. And that ultimately causes bad bacteria to start to grow, which in turn induces diabetes, which in turn induces non-alcoholic fatty liver and stuff like that. It's all coming from your gut, you are which you eat, you are what you digest, you are what you absorb.

Ivor: 25:31 And you know Patrick, the whole thing is the latest "big thing." But I think a lot of people who are talking about gut bacteria do not have a grasp really of how it works. They just kind of know what's important, and then some of them make up their own theories. Another big problem is, well just to your point about the gut bacteria, if you have GERD or SIBO, small intestinal bacterial overgrowth and challenges of that nature, you're

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going to get malnourishment, you're going to get a leaky gut and all kinds of problems - for sure. But if you go to a low carb, healthy fat diet and cut your meals from three or four down to one a day, the evidence suggests there's going to be a dramatic improvement. Now it might not fix everything. But it's like a first step. Right?

Patrick 26:17 Exactly. You have to have a ground zero somewhere. You just have to and when you tell people it is really not that complicated, and then you explain it and Peter Rabbit language they go wow! My aunt Phyllis, ninety years old, she's on a ketogenic diet. She loves it. She's skinny. She's sharp as a tack, healthy as a horse. And she's, you know, she's around her friends who are just dropping like flies and she said, and she keeps telling them, "you're eating wrong." And they've got all these problems and they give them all these meds, making even more problems and she says "I don't take any meds." Ninety years old, no meds. It's amazing.

Ivor: 27:00 Yeah, and the overmedication of the older generation is quite shocking. I mean, I forget the figures, but something in the UK 30% of people over 65 or 70 are on an average of six prescription medications. So, everything is gone crazy. We know that. But if we go back now to the atherosclerosis process, so you did these interventions, and you learned as you went with enormous amounts of research and fairness into deeper biochemistry. Not just looking at trials and trying to guess or associational rubbish studies.

Patrick 27:35 I did it, all the stuff. I would read a study and then I would study myself. So, I've gotprobably \$300,000 of my own out of pocket just on my own lab work, just testing on myself and see what works.

Ivor: 27:50 Wow. And that's what you got to do if you're discovering new data and not just parroting another people's stuff. I was had a conversation with Dr. Bill Blanchet the other day who's big into CAC scanning and intervention to stop progression. And he had a couple of other unusual ones which you'd probably like. Gum infections and gingivitis is not only a reflection of a bad diet, which will give you heart disease - but the very bacteria and infections themselves trigger the immune system and can drive progression and people who otherwise have done the right things and are disappointed that they're progressing. So maybe your thoughts on that one for instance,

Patrick 28:30 Oh, I will give you some real interesting stuff on that. The Veterans Administration in the United States says if you're going to have a heart valve replaced, you have to have all of your teeth removed. Yeah, my buddy - I'll just call him Glenn - is my next-door neighbor. I said, you're going to do what? Oh, yeah. They said, "you know tooth infections will screw up my valve", so they're going to take out all my teeth. You got to be kidding me, Glenn. Really? It's true. I dug in to it, It's true. It's just, it's just bizarre. By the way, know Dr. Blanchett and I made a presentation, an acapella presentation at his clinic, he showed The Widowmaker Movie, and I was in the audience. And he introduced me to the audience. So, I talked for two hours, two and a half hours. It was pretty fun. But here's something interesting which you get your vitamin C correct, your vitamin D correct, your K correct, and your magnesium correct, Guess what? You don't have to brush your teeth.

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Ivor: 29:39 Okay, so you can over power, or compensate for - the challenges that bacteria and immune reaction to bacteria calls for atherosclerosis?

Patrick 29:50 Yeah it turns out, I have yet to meet a mammal that brushes his teeth other than humans. I've still been looking. Can't find one yet, but I'm looking. And you ask yourself, why do you brush your teeth? Again, I'm an engineer. You know, we ask questions. You know, why does this work? So, drilling down and turns out that if you get that right, you don't have to brush your teeth. And I haven't brushed my teeth in 10 years, I went to, I had a little mechanical opportunity. And the dentist said, "I'm so proud of you." This is a year ago. She says "my God, you know, people your age should really follow your advice." I said "doing what?" How you floss, how you brush, everything looks great and I said "I haven't brush my teeth in 10 years." She says, "Oh my god, there's no plaque on your teeth." Yeah, I know. It's not supposed to be there. Is this something?

Ivor: 30:42 Well, it resonates with me. Because, yeah there are studies which show hunter gatherer tribes living on real natural foods with all of the elements generally that you describe. They didn't brush their teeth. And they have an average of one cavity or missing tooth I think in their 50's from skeleton studies that were done. In contrast, similar genetic peoples - who moved to the cities and ate the modern kind of "white man's food" if you want to use that phrase, they in their mid-50's had myriad cavities and missing teeth, and also even increased suicide rates in the tribes that eat the modern foods. Because the tooth pain was so bad without access to dentistry, that suicides actually went up and they tied them to the dental problems. I mean, this is kind of blindingly obvious.

Patrick 31:34 Ahah, ahah. You and I are both engineers. So, we define the problem, we don't define the symptom. And when you define the problem, you get different answers than if you define the symptom. And to your point on native tribes, there was a study in Denmark, Denmark wanted Denmark brought a bunch of folks from the Intuit from Tully down to Copenhagen. And they had brought them down there, and they would last about three years and they die. So eventually the Inuit's says "we're not going to Copenhagen, because you're killing us, and we don't know why!" So, the Danish government said, well we're not killing you, but obviously there's something going on. So, they studied their diet, and they found out that the diet that the Inuit's had was what made the Inuit's survive, and the western white man's diet truly did kill them. And it's just a fascinating study. It's one of those things that doesn't get really published a lot, but it's out there. It's fascinating.

Ivor: 32:39 And there are so many examples, like the Samoans. The amputations in Samoa for diabetes and the obesity is off the scale. And the Pima Indians up to 50% are full blown type two diabetic after moving to the new food supply, and probably all of them are diabetic if you measured their postprandial insulin. But we still get told – shockingly - that it's laziness and gluttony that's driving these dietary problems. Which is insane, because all peoples in the world in the last century suddenly started getting loads of heart disease, increased cancers, obesity, diabetes, and it was all because humans of all different tribes all

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around the world, suddenly got "lazy and gluttonous." It's so absurd when you think of those Yeah.

Patrick 33:28 Oh if I may. I want to reference Dr. Noakes on this. Back in 2002 he published his book, the law of running., and since I coach world class athletes I thought like "wow, he's the guru of endurance running." So, I read his book, it reads like the Chicago phone book. It is about 800 pages long. And if you're a biochemist, which I am, it's fun. If you're not it's "Oh my God", it's torture. But he had a chapter, now this is 2002, 2003 on carbs - and I got to that chapter and I read it. I went, "Oh, my God, you got everything right. But you didn't get this right." So later on, Dr. Noakes, hats off to the guy. He's a stud. He really is. He's an intellectual stud. And he said, "you know the book in Lore of Running, I remember his YouTube video — "Ignore the chapter on carbs, it was wrong." I loved it. It was just so apropos. And here's a man who for giggles runs 50-mile races. He's in phenomenal shape. He's following like he said, I did everything but what I was told to do, and I became a type two diabetic. What is that all about? Think about it. It's amazing.

Ivor: 34:51 Hey guys, just a quick break to remind you to this podcast is only possible due to funding from the Irish heart disease awareness charity (www.IHDA.ie), and its founder David Bobbitt, David discovered he had massive heart disease in 2012. And could only do so by getting a five-minute calcification scan and CAC score. It enabled him to act to stop the disease process and to save his own life. Now, he is spending millions to help others do likewise. All we ask is to help get the message out on the power of CAC, watch the Widow Maker movie linked at the end of this podcast, and share it as widely as you can. Thank you, and now we will return to the conversation.

Ivor: 35:28 Well, he discovered - he just had the intellectual and ethical ability to admit he was wrong. And then to say "I must share this to save other people." But a lot of researchers don't, they turn a blind eye when things are uncomfortable. But there's no doubt, it's outrageous out there. And actually, that just reminds me of the calcium scan story from The Widowmaker Movie, which you obviously enjoyed. And Bill is doing great work to promote. I mean, we've got a scan which enabled you to act, track your progress and fix your heart disease and reverse it. We've got this scan for 40 years. There are millions upon millions of people out there who if they got a quick scan, and found that they'd huge disease would like Noakes realized they were duped; that the low fat high vegetable oil diet, and doing a bit of exercise completely let them down and gave them huge heart disease, not genetics. And they would go and search (maybe not as profoundly as you did) - but they will go and search and increasingly now on the internet, when they go digging and they're angry with huge disease, they're going to start finding out about how heart disease works. Because increasingly low carb, and other root cause inflammation is exploding on the internet. So, all those millions could be saved. Yet the system doesn't want to use the scan, almost like they don't want what I described to happen. What do you think?

Patrick 36:57 Well, the reason for that is, I don't wear a tin hat and listen to AM radio at two o'clock in the morning and Saturday night. So, I just don't do that. But it's the old saying "follow the money." I have a couple of good friends in the medical world that tell me "the

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reason why we don't encourage heart scans is because the general practitioner will be confronted quickly by John Q Public, saying I'm taking a Statin, if I get a scan every year, my heart disease is increasing What's going on?" That's the problem. They're trying to be gatekeepers and controlling the narrative. That's the issue. I've heard this. I have a good friend who was a chief of surgeons at a very prestigious Hospital in the upper Midwest, he just retired. He said "Pat, that's what's going on." That's what he told me. It's scary. So, and I'll give you a piece of objective evidence. Now, I live in the upper Midwest, and there's a heart scan Center, where you can get a heart scan for \$59. It's a 320-slice Toshiba scanner, excellent piece of equipment. I've recommended it to a lot of people. And now they don't go once a year, they're only allowed to go over five years. And so that my one friend said why every five years and the cardiologist said, oh your heart disease doesn't change in five years. So why push yourself through all that radiation?" Honest to God - you know, it's like just what heck?

Ivor: 38:45 And the cardiologist obviously has no grasp of the trivial nature of the radiation with a few scans over a decade. It's meaningless. But there were many, I agree. There is a challenge and it's unfortunate that the status while they give some benefits and they can stabilize plaque, true certain mechanisms. Unfortunately, they have a tendency towards being correlated with a higher calcification even though it's probably more density rather than volume. But because of that, it makes calcification scan unpopular. Because it gives the impression the Statin is increasing it. But there are all the other reasons too. I mean, we know that if you scan people who are going to go into an invasive cath lab to get angiograms, probably 50% will have a zero-calcium score and means there's no way they need an Angiogram if they're asymptomatic, and that's a huge impact on revenue. And then the drug companies know that if you start scanning a lot of people, there'll be a lot more people taken off the product - than they will get extra people on it. So, it's like nearly everyone in the business all across the top strata, the scan doesn't suit them. It only suits someone who wants to save people's lives, ordinary people's lives. But that's not part of the business.

Patrick 40:07 Right like Dr. Blanchet, he's trying to save lives. He just is. He's got an EBT scanner.

Ivor: 40:16 Yeah. And David Bobbitt, then of course, who got the Widowmaker Movie made and IHDA.ie set up, who I work for. He is furious, and even seven years after discovering himself - with the scan - that he had massive heart disease, after passing treadmills and executive medicals and ECG's. And he discovered what we're talking about. He's still as angry today - I was talking to him the other day. And as angry about all the people who are dying unnecessarily due to lack of use of the scanner, as he was seven years ago. He said it has hardly subsided. He's so passionate about it. But the problem is, it's hard to get the message out to the masses, even though the low carb community increasingly getting quite knowledgeable about the scan. The masses are hard to crack - when all of the power structures are against you. But it can be done.

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Patrick 41:11 A piece of trivia back in 2010, when I was, when I said maybe K does work. I had some statin and I drove my LDL down to 60 nanograms per milliliter. My triglycerides were at about 60 to 80. Anyway, my HDL was about 70. And I said if the body loves K, which the research for masters University said the body loves K and other research out of Tokyo, from Dr. Sato. Okay, so I got my K, took my K. And being a good engineer, I said okay let's see what happens to my LDL and immediately it shot up from 60 to 135. While I was still taking a statin. Boom! Just like that. My what do we got here? So, being a good engineer, I said "Well if I go off the statin, what's my LDL going to go while I still take my K?" In theory, in theory, it should stay the same. And it did - it stayed the same within 10 points. Amazing. And then subsequent to that about five years later somebody did a paper that said, yes if you take K and you're on a Statin, and you have low LDL, your LDL is going to go up. Its amazing. You know just using logic should work. And it did.

Ivor: 42:36 That is actually fascinating, Patrick. Because I think what we acknowledge is, Well a couple of things around statins. They are much maligned, and there's certainly some reason for being concerned about overuse of them. But if you take a cohort of people who are not going to get the K2, they're not going to know about low carb, they're not going to know any of the stuff, they'll still be better off if they're identified with high heart disease with the mitigating effects of statins. So, if you put that group aside - could be a large group - the people then who are doing all the right things, you could argue they're going to stabilize their heart disease anyway. And therefore, the statin no longer has the benefit to give. And that's a personal decision. Like when you're a low CAC score, is between you and your doctor in the 2018 guidelines now, they said a CAC score below 100 in the middle risk person - it's no longer automatic statin. It's a discussion with the patient. So again, you're making choices. But I'll have to come back to what you just said. The body then is taking the statin regulatory effects, which is lowering LDL particles, and arguably giving some of its benefit by lowering the amount of LDL substrate prone to oxidation, let's say. But the body is counter regulating that stuff in effect, when there is more K and striving to circulate that k effectively.

Patrick 44:09 That's correct. The problem with statin is, in fact I was just reviewing it today. You're right. You're absolutely right on the LDL part. But people are not told. And this was part of the original Statin patent way back, saying CoQ10 is down regulated also. And you need CoQ10 in your body and statins get rid of you making CoQ10. In addition to that, and here's something that's not ever talked about, people are usually deficient in Selenium. Well, there's a Selenium protein that Statins deregulate, in other words, shut it off. So, if you're already under-gunned with selenium, and the enzyme used to make your Selenium effective is shut off, that makes your problem even worse. And on top of that, there's an Isoprenal something or other that makes your cell walls, it is kind of the glue that holds your cell wall together. That gets screwed up. And there's something else that I haven't researched, there is five things that get screwed up with taking a statin. One of them's LDL, the other four, nobody ever talks about, and they're all critical to the progression of heart disease. It's amazing. It's just amazing.

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Ivor: 45:30 Yeah, and there are lots of impacts, negative impacts, I suppose, it still has to be sad that if someone is all knowing about any of these things, and as you know on average someone with very high heart disease, there will be a benefit and even the anti statin people will acknowledge from the trials, there's an average benefit for someone with high disease, not for someone with low. But I suppose it's up to people and to understand what you just described and then try and make it their own decision, having knowledge on how they're going to mitigate their risk into the future. Are they going to use meds and CoQ10 added and selenium and all the good stuff and get the belt and braces? Or do they want to go with alone with fixing the root causes, depending on their confidence level. You know what I mean? It's still down to an informed personal decision by people who've been unable to realize they have high disease by the scan, it's still a way better place than the current giving drugs to nearly everyone based on cholesterol, and not allowing people to get the scan and find out what their real situation is.

Patrick 46:41 Precisely, an informed decision is an important decision. It respects the patient, respects the person, and you got to do that. And getting back to your point on ketogenic diets. One of the things a physician can inform the patient saying look, if you eat a lot of junk food, you chemically scar your pipes. When you chemically scar your pipes, your macrophages, which are your repair crew going there to fix the scarring. You got to stop scarring your pipes. Put it in Peter Rabbit language, and people respect that, you know most people don't want citric acid cycle details...

Ivor: 47:22 Yeah, I guess the challenge is that most physicians- and again, not being disrespectful - but from all my physician friends and colleagues around the world. I mean literally hundreds of them now, they acknowledge too. Most other physicians do really see it as a "bad cholesterol" disease and don't have a grasp that the health of your endothelium, the health of your gut, and whether you have leaky gut infections, hyperinsulin, hypoglycemia - that all those things are way more important by a million miles. But they don't understand that I guess. If you go back to your roots, or your path to reversing - you went from 300 and something (and we'll put aside when you shot off due to the fact you said it's getting complex), but you came right back down to what?

Patrick 48:11 Okay, I took my left main coronary artery, cleared it out. Then I had my ...I'll just call it my "speed bump." It went up to 1200 for a calcium score, my left main still stayed clear. 1200 is not good. You got stuff growing. And then when I finally discovered K and got everything squared away, my score is down to about 950. I have over the last five years, seven years whatever, a 10.2% reduction in volume and score on the same machine at the same hospital. So, I know it's working, I've got the objective evidence to say so.

Ivor: 48:55 You know, that's so important. Because a lot of people ask me about progression. And we have anecdotal, true and factual but not in the published study – we have regressions, and certainly flattening of progression. Which arguably, from the Raggi and other studies, if you go down to a "few percent a year increase only" - instead of the usual 20 to 30%, your risk falls really down toward someone with a low score in the first place. But you are a case of actual regression. The only published study I know is William

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Davis, Wheatbelly, who we are very familiar with, who published with his intervention, not quite yours, but a little like it. He got a third of his people to regress, a third to flatten and the other third to rise slowly, which was fantastic. That's the only published study I know off demonstrating this.

Patrick 49:47 That's correct. And yeah, that's correct. The other studies attempting regression using a statin were all proven to be... they slow it down, but they don't stop it. And like I tell people, if it's growing, it's growing. And that's not good. Because all it takes is one set of circumstances will bust through the epithelial layer and you've got yourself a clot, you got yourself a problem. You got to stop it first. As I told Bill Davis way back in 2004, "you got to slow it down, you got to stop it, then you got to clean it out, then you got to get it set up so you don't have it happen again." And when I was at the ICM conference, I presented a beautiful slide, I can send it to you - of the multi-headed dragon of heart disease. And each head of the dragon has got a different thing that needs to be addressed. It's not one pill solves the problem. It's a lifestyle change.

Ivor: 50:48 Its a Hydra.

Patrick 50:51 Yeah, you got it. The vampire squid. And any one of those things will get you.

Ivor: 50:57 Exactly. And I always say this to people too. It is multifactorial. I think sometimes the medical business uses multifactorial as almost like an excuse all there's 300 causes. So, throw your hands up and just try a pill. But the reality is, it is multifactorial and different people may have different drivers. And therefore, some people may stop progression and they are happy, right? And some others may do quite a few correct things, but it keeps progressing. But for those people, they need to look at the dental health, they need to look at the K2, they need to look at the CoQ10. They need to look at everything. And if you found out you have a very high heart disease, it behooves you. It's your personal responsibility on behalf of yourself and your family. To go deep, and to keep striving to get the progression to slow down and stop. I mean, if people don't care, well then okay, forgot them. Let them drink Coca Cola and do what they want. But there are so many millions who do care.

Patrick 52:01 Right. All people have to do is have a heart attack. And then they're going to say, boy, I shouldn't do that again.

Ivor: 52:11 That is for sure. So, your interventions then, just putting them as your personal success, regressing your calcium. And we have several more people. We have a lady whose husband went from 400 and something down to I think 280. So, I'm beginning to gather these testimonials. but you did the low carb / keto diet. That's one. You did the vitamin K2, and K1 right? Big intervention. And we'll talk soon about how much and the types of ways to do that. CoQ10 I guess. What are the other key things?

Patrick 52:52 Magnesium.

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Ivor: 52:54 Magnesium of course.,

Patrick 52:56 Vitamin D. I was one of the first people to say your vitamin D level should match your HDL level and figure there you're in good shape.

Ivor: 53:06 And that's in nanograms, the American units, nanograms per mil I think not the nanomols.

Patrick 53:12 Right right, nanograms per milliliter. Getting your Selenium right. I take fish oil. I've been doing that as soon as you take fish oil, you need to take it with a fat or it doesn't get absorbed. That's fascinating. There a study out of Hungary way back when. Pretty much I get my thyroid right. My "speed bump" killed my thyroid. So, I take Armor Thyroid. Have to get my free T3 correct. That's between 3.5 and 5.0. And that's pretty much it, don't take any calcium supplements. I take a multi B vitamin. And that's once a day. Exercise a little bit, that's about it. It's not that complicated.

Ivor: 54:05 It's not as you state it, but that's a pretty powerful evidence-based science-based list of things. I mean, you can have six things that are trivial, or you can have six or seven things are really important. So that list you described would probably cover a lot of people who have developed heart disease. Because the root causal chains are common, with a strong commonality. So that list that works for you would have a big impact on most people. And maybe they'll be some people at the fringe who'd keep progressing. And they have a - well in engineering they have what we call a "special cause" - outside the norm.

Patrick 54:43 Well, I forgot, I also take vitamin C also. And when I work out real hard, I take lysine and citrulline. I don't take Arginine. Is not good for you.

Ivor: 54:58 Okay, that's a good one to know, because some people talk about Arginine and you know this has for them a magic potion about it, and vitamin C. I never went for the Linus Pauling type "super vitamin C to fix everything." From what I looked at, I couldn't see hard data. So, I just figure well just get enough vitamin C, but not a biggie.

Patrick 55:17 I take about six grams of vitamin C a day, but that's for my body. And I emphasize to people dial your body in. If you want to call it my protocol, use my protocol as a jumping off point for your body. Because everybody's body is different. And doctors don't want to recognize that. And people don't want to recognize that. Everybody's special. So, you got to work at it.

Ivor: 55:48 If you have high disease, use the serial scan to check the efficacy of what you're doing, because you could be missing something really important. And you could be progressing.

Patrick 55:58 Right, and that's the engineering approach, define the problem, define, measure, analyze, innovate, and then repeat. And if you're missing something, you obviously defining the problem incorrectly - redefine your problem, and you keep doing the

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iteration. And since as you point out, it's a multifactorial problem. And you and I both know an engineering, multifactorial problems are busy systems, and you just cannot be, if they're not solved linearly, you have to sit and think about it. Think Plan and get ready, Act, Aim, Fire.

Ivor: 56:31 And kind of course be a lot of ambiguity and interacting factors, which are highly confusing and even lag-times between a cause and effect that can throw you off.

Patrick 56:42 Oh my god, yeah, like just taking vitamin D. It's like a one or two-month lag time before your system finally gets adjusted. When you take high dose, say this protocol that I use this and for some reason your body won't respond to it well. You're not going to see anything for six months, if not a year. You have to be patient, you just got to sit there and just be patient.

Ivor: 57:05 To that point Patrick, another thing occurs to me with what you just said. The lag time can also apply to the calcification process. So, you may do all the right things and be actually in a good place. But your score for six or eight months may keep rising, as soft plaque that's been generated before, kind of calcifies. So, you got to be really careful to take a deep breath, slow and steady, root cause it, cover all the factors. And then over a couple years, you know - do the scans - and stand back from the problem. You know, you are still, as a person doing that, based on what we discussed today, you will be overwhelmingly ahead of the vast majority of other people with progressing heart disease, you'll know your score, you'll be taking all the right actions. You're so far ahead of the game and have say meds to mitigate in the short term until you know what's happening. That you can relax a bit and say, Wow, I'm acting and I'm all over it.

Patrick 58:09 Oh, that's so true. The Psychology of this problem. You've met my partner, Dr. Roxanna Transit, She's a clinical PhD, clinical psychologist. And she really emphasizes that part. When people ask her, oh, my God, what do I do, and I can speak to that. Two months ago, a good physician friend, 45 years old likes to run 5 K's and 10 K's very similar to Dr. Noakes. And he said, "oh I'm going to get a heart scan just to make you feel better." I said okay. Got a heart scan, got a score of 150, 45-year-old guy. He was devastated. And I mean, he was upset and rightfully so. And he said, what do I do? And Dr. Transit looked at him and said, relax. Step one, don't panic, we've got this, it's going to take time. So, she talked to him for probably an hour of just relaxing, don't get nerved up. Because that's going to send all sorts of wrong biochemical signals throughout your body, and you're going to make a bad situation even worse. Just relax. It's just - relax, take it as it comes, you're going to be fine.

Ivor: 59:28 Well and the key thing is "relax - and take the right action." Now people who, it's possible there are people who don't know what to do, that they won't be able to relax as much because they just don't know what's going on. Now, they will get the standard of care, which will help with heart disease anyway. But the ideal situation is to relax, follow up, discover, learn, and do all the right things. And then you're in control. I mean - I am not worried at all if I get a high score, sure I got a zero. But if I got a high score, I'd say well,

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that's a project for me to work on and like you, I'm going to do the best I can do on that and then I'll be happy.

Patrick 1:00:07 Right, Yeah. "Relax into success" is what I told my world class athletes. "Just relax. You'll be fine. We'll get there."

Ivor: 1:00:15 Oh, the other thing: ApoE4. Now you are on all the forums you know all that stuff. What do you reckon on that?

Patrick 1:00:25 As it relates to ApoE4/3 4/3 or 4/2, I believe he's got a point. For the E3/3's? Maybe. For E2/2's, probably not. So, if you look and say, apes - great apes they are ApoE4/4, they don't need a lot of fat.

Ivor: 1:00:50 True. And I often wonder this. You know, there may be sensitivities there and the people with the highest risk with the most disease should be playing it real safe.

Patrick 1:01:00 Absolutely. In my travels, a lot of people who are ApoE4 they say, Well, what kind of diet? I say Be very, very careful what a 3/3 does is not what you're going to do, guarantee you. And when I set the ICIM conference in March, there was a lady talking about the ApoE4/4 diet, and it's not a lot of fat. In fact, not much. And it's just the way your body does what your body does, you know, it's always important to know what's going on. And that is in an ApoE3/3 person, your LDL and HDL and VLDL are reprocessed in the liver. And this is just for biochemistry conversation sake - about every three days. When you're ApoE4, it's processed every six days. So, what happens is you have an awful lot of LDL and HDL floating around that have lost their coating of K1, the MK7, E and the CoQ10. And in the case of the HDL, some of the micro RNA is missing. So henceforth, you have to treat your diet differently. And in fact, you may even know this may sound like heresy, you may even need a statin - surprisingly enough to drive your LDL down and then have a real high dose of K, CoQ10 and E, just to make sure that it stays coated longer. So, your body gets all the benefits from it.

Ivor: 1:02:40 And the long residence time we largely accept now that long residents time whether FH or any other person is more time exposure to lose the coating or become the desialylated, oxidized, damaged and it's arguable that damaged LDL or lacking in coating is the root of all of the problems with the artery - and native healthy LDL, for whatever reason, is probably not really part of heart disease at all really on average. And your training world class athletes at the moment?

Patrick 1:03:21 Yes, yeah, I've trained a number of Olympic athletes, some Olympic medal winners and things like that. Some from Russia, some from the United States. I help a high school and college kids win state titles and set records and stuff like that. A lot of them take a very similar protocol. I remember this one Olympic athlete Jeremy Scott, he was on the 2012 team as a pole vaulter. In 2010, he come to me and he said Pat - he says "oh my god, my wifehas celiac disease, I'm doomed." Well what do you mean doomed I said? "Well, I

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want to be a good husband. I want to eat with cheese, but there's no carbs." And there he was at the 2012 London Olympics and to this day stays keto big time!

Ivor: 1:04:17 So hey, these guys are doing keto is essentially that's what you're directing them towards. And that's what's helping their performance.

Patrick 1:04:25 Oh God yeah. Like I told Jeremy, when you start keto, first thing you're going to do is you're going to go through withdrawal symptoms. And he did, he went through about six weeks of withdrawal. It was really pretty rough. When he broke through on it. His endurance improved. His training improved, everything just got better.

Ivor: 1:04:47 Recovery I believe as a dramatic factor.

Patrick 1:04:50 Recovery is virtually instantaneous. The only thing he did different with his protocol versus what we're talking about is, he added cherry juice powder for binding up peroxide that are generated from muscle overuse. But other than that, his workout seems to be every five to seven days now - when he was in the old days training was every day. He never got tired. His speed was just stunning. At the London Olympics, he was, they put one of those little speed guns on him. He was the fastest, pole vaulter there. I think he was running like 25,26 miles an hour from a dead stop. I mean, phenomenally fast. I've got a young man in upper Michigan, he's in high school. His parents like nutrition, good nutrition. He's on a ketogenic diet. And he's an amazing runner. Two years ago, he couldn't run around the block now he'll just go out for a 10 mile run just for giggles, at a five-minute mile pace. Just go, It's just amazing. And now his friends invite him over and he'll have, say, a cupcake. He was telling me this last week, he says "I had a cupcake." What happened? "I was so sick. I didn't know what to do." Told you. It's just amazing. The Russian athletes that I work with now, they don't like steroids. Like I finally convinced a number of their coaches that steroids don't make you a better athlete. They just speed up your recovery. And so, I helped them with how to be a better athlete. K2 Mk7 - North Texas University, North Texas State University did a great study in MK7. One milligram a day improves your endurance by 10%. If you are a distance runner, 10% is a big deal. 10% is the person who finished 80th at the Boston Marathon rather than winning it, just by taking one milligram of MK7. Amazing.

Ivor: 1:06:57 So that brings us to and I know we'll have to curve to a close shortly enough, but I think we will be back again talking - but the MK7, the K2, you've actually set up based on all your learning and the importance of it, essentially, you've got a company with K2 on sale - and it's very hard to get good supplies of true Mk7.

Patrick 1:07:20 I have a company. It is called www.k-vitamins.com. It's on the web. So, Dr. Transit and I sell one product. It's called Koncentrated K. I know where it's all sourced from, which in the nutraceutical world, that's a big deal. But a lot of people don't know that. I take it, which is kind of motivated to make sure it works. And so does she. And we price it so that people can afford it. I've gotten a lot of flack for the low pricing on it. And I said "look at the senior citizens who are in fixed incomes cannot afford what would normally be charged for

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that and same with the athletes. So, I just price it very fairly." In fact, we haven't made a dime on it yet. We are working on it.

Ivor: 1:08:09 Well, you should in fairness, it's very fair to profit from research, insights and to create a product that's low cost and an excellent product. So, in fairness, yeah maybe you should put her up by 20 or 30% and get some margin in there!

Patrick 1:08:26 Well Dr. Transit and I have "the David Bobbitt of psychology." We are so upset with the medical world, we're going to do whatever we can to help people change how the narrative is spoken. And to us the morality of it is far more important than the profit.

Ivor: 1:08:49 Excellent. Well, you know what, Patrick? I think that's a great way to draw to a close today. But as I said, I think we'll be back again talking in more detail about some of these topics. And you did a great job today, as we were joking about before we recorded to kind of keep it high level so that most people can benefit. Because some of these podcasts, you knowl've seen others where they go into incredible detail - and if it switches off a high proportion of people, what's the point? We're here to reach the masses. That's what it's all about. The nerds and thet, they're going to be okay, anyway, they're going to get the information. The masses. So, I love that sentiment you ended with.

Patrick 1:09:32 I truly am humbled that I'm here to support and whatever I can do just let me know what I can do.

Ivor: 1:09:41 Hey, thanks a lot Pat. Well listen, you have a fantastic rest of your day. And we'll put the links when I post this out. In fairness, I also want to get more of that. Because last year I got some of the Koncentrated K off you and I've been so busy, I let it lapse, it's gone. So, I want the link for how we actually access that product. Because it's not too common that you can get good price exotic things like MK7. You know you can get all the other ones easily. And any other links you have, we will put them up.

Patrick 1:10:13 Okay, very good. Happy to do it.

Ivor: 1:10:14 Thanks a lot Pat. Great stuff. Bye now.

Patrick 1:10:17 Take care now.

Ivor: 1:10:20 Thanks for tuning in guys. If you're watching on YouTube, you can see my subscribe button in the middle of the screen. A free viewing of the Widowmaker movie on the far right. And myself and Dr. Gerber's book, "Eat Rich, Live Long on the left. Otherwise, please do subscribe to the audio podcast. Thanks.