

EPISODE 170

[INTRODUCTION]

[0:00:11.4] AVH: DNAFit is a DNA test that helps inform your fitness and nutrition planning. You may have already heard about test like 23 and me that use saliva samples to give you a pretty comprehensive overview of your genetic heritage down to the 10th of a percentage point as well as info on genetic traits, family history, increased likelihood of certain genetic diseases or disorders.

DNAFit uses this genetic information to let us know what types of training, food and supplementation will help us maximize our health and athletic performance. I had a chance to take this test and learn all kinds of interesting things and in today's interview with Craig Pickering, the head of sports science with DNAFit, we get to use my results, use me as a bit of a guinea pig as an example for how to use the service. Craig is a former Olympic sprinter, he competed in four world championships and the 2008 Olympic Games before switching to Bob Sleigh and qualifying for the 2014 winter Olympics, you already know he has a good story.

This double actually made Craig only the eighth British person to be selected for both a summer and winter Olympic games. Now, shortly after this, he unfortunately suffered a serious back injury and was forced to retire but throughout his athletic career and now his career with DNAFit, he's learned a lot about human performance for his clients as well as for himself.

He has a great story to share. Let's get into it, but before we do, just a reminder that if you are enjoying the Paleo Magazine Radio Podcast and I hope you are, it would mean a lot to us if you could leave a nice review on iTunes.

Not only is this great for us to get feedback but your comments and reviews help make the podcast more visible to other people who could learn and benefit from it too. It only takes a minute and to sweeten the pot, when you leave a review, you can enter to win a paleo cookbook so win/win for both of us so please show us some love if you can and leave a review and if you want to find out more about all of our contests and giveaways, check us out on Instagram, @paleomagazine.

All right, that's my shameless plug, now on to the interview.

[0:02:43.3] Hey Craig, welcome to the podcast, thanks for being here.

[0:02:46.3] CP: Yeah, thanks for having me.

[0:02:47.7] AVH: I appreciate you getting up early on a Saturday because you're in Australia right?

[0:02:52.2] CP: Yeah that's right. It's not too early so don't worry about that.

[0:02:55.2] AVH: Okay good, alright. Before we get into DNAFit, I'd love to talk a bit about your background because it's crazy impressive. I mean, you're an Olympian, you were selected for both the summer and the winter Olympic games, can you tell us a bit about your background, the sports that you were involved in and how it brought you to where you are today?

[0:03:16.3] CP: Yeah, I was a sprinter primarily. I grew up always being the fastest kid in my class at school. When I went to secondary school is when I was 12. I broke the school record of the first sports day there, my PE teacher said it would probably be a good idea, to do flag stuff. I was kind of a bit nervous to do that because I thought I don't train for this, everybody is going to be much better than me.

I went along, I win my first race by quite a bit and then a year later I was the national under 15 champion in Great Britain. That was kind of what I thought, well, might be quite good at this and then spent a few years kind of focusing on that, went to university to train with a coach there and off the bat, went to four world championships in either hundred meters or four by one relay.

I got awarded a championship medal on relay as well. I was picked for the Olympic Games in 2008 and went there and competed. The whole time I was competing and I was studying Sports Science as well because I was interested in how I could take the theory about those things and try and make it and allow me to improve my performance.

I was working with my nutritionists, bio mechanists, physiologists, I had a big interest in what they were doing to try and enable me to run quicker. Then one day in 2012, I woke up and I couldn't reach out, I was quite off pain, I hurt one of my disks quite badly, was causing me quite a lot of nasty symptoms. I was in South Africa so I flew home from there, saw the surgeon, he recommended that he'd operate on my back and said I did that I'd miss the London 2012 Olympic Games and obviously quite disappointing because that's the Olympic Games in your home country and I spent seven years trying to prepare for that.

As a result, I stopped getting paid by the government to compete. In the UK, you get a small amount of money, it's not much, always enough to get by on to compete professionally and as a result of my surgery, the national government body decided that I probably wouldn't be able to return to any kind of decent amount of form so they stopped paying me.

I had kind of a choice which was either get a real job which I didn't really want to do or find somebody else to pay me to do sports. I managed to find British Bob Sleigh who were interested in getting a couple of sprinters to come and push their bobsleigh kind of like a sled down a hill, kind of exactly like Cool Runnings, the film.

I went along to their training day, I was quite good at that and then I spent a year doing that and I was picked for the winter Olympics in 2014 which made me the eighth British person to be picked for a summer and a winter Olympic games, that sounds like a happy ending, it's not because I went to the winter Olympics, suffered a career ending back injury and had to retire so I couldn't actually compete.

They offered back of that, I really did have to find a new job because I wasn't able to compete anymore. Based on my sort of sports science background, one of my friends was working for Danny Fit and he said "come along and work on the science side of this, are you happy to do that?" and I kind of – he sent me a test and it made a lot of sense to me and sort of the back of that, I've kind of been working for DNAFit for almost three years now.

[0:06:05.0] AVH: Wow, okay. I'm Canadian so I know all about bobsleigh, I think that part's really interesting but I thought that it's kind of interesting that – you're a sprinter, that was your

sport and you almost kind of happened into bobsleigh because you were looking for some support and you wanted to just stay in athletics.

Was it, had you ever thought that that was something you'd be into, did you like it when you were doing it or was it almost just a means to an end.

[0:06:32.4] CP: Yeah, that's an interesting question. Bobsleigh in the UK is not really well-known so everyone's seen the film Cool Runnings but apart from every four years when the winter Olympics ran, nobody really knows anything about, it's not like a main stream sport or anything like that.

And then, I used to train with, when I was at university in 2011, he started doing bobsleigh so I kind of kept an eye on him there and stayed in contact and that got me interested. And then the year before I made the move across my athletics coach, actually became a bobsled coach, it was employed by that.

I started to have more people involved in bobsleigh, I thought, this seems like a fairly reasonable route to go down especially as I got exposed to it a little more, being in an actual bobsleigh was horrific, it's horrible. It's basically like you want to practice itself, just get a big metal bin, climb inside it, get your friends to kick it for a minute, its' really uncomfortable.

The part of being a team and traveling around to various things and working together towards a goal, that's the part which is enjoyable so I actually disliked the minute we were going down the track but the rest of it, I really did enjoy.

[0:07:37.1] AVH: Right, that's so funny because I mean, that is a very, like you said, that's a pretty niche sport, it's also incredibly dangerous and to my mind, terrifying. I mean, you know, sprinting of course is its own thing but I mean, sprinting down an icy luge in a metal bullet is a completely different thing that you'd have to get your head around.

Alright, that's intense. Okay, going back to your injury, you had a slipped disk originally and then you worked through it and were training for bobsleigh and then you reinjured, is that what happened?

[0:08:09.6] CP: Yeah, that's right. I kind of, I had always had a bad back so since the age of 13, I have had solid back based symptoms and then first time I got an MRI scan I was 20 because my back was still causing me a few issues and I had a couple of disk issues at the lower end of my spine.

I kind of just sort of worked around that conservatively and that was in 2007 so I still had sort of five years, five good years without any problems. Then just kind of the year before the Olympics as I was training, I was just – my symptoms were getting worse and worse, it got to the point where I couldn't really lift my right leg any further than kind of 15 degrees off the floor which if you're a sprinter you're going to aim for 90 degrees, it was a long way below normal.

I had surgery on that, it was causing me a lot of pain, I couldn't really, matter of fact it's gotten to the point where I couldn't train at all and I had to stay in bed all day. It was causing me a real large amount of pain. The surgery made quite a big difference, they cut out about 50% of the disk in the lower portion of my back, and that relieved all the nerve pain and nerve pressure and then I sort of spent maybe six months rehabilitating from that, it took me four months to run again.

Had to relearn all the different movement patterns and then I was fine for about a year and then one day at the winter it just kind of back of the bobsleigh and the disk above the one, I'd had surgery on. Which obviously it had been taken up a lot of the slack from the disk below which wasn't absorbing force particularly well and so that's when this whole circle that surrounds the disk that tears a little bit and the bit that's in the middle called the nucleus that leaks out slightly and compressed my nerve and that's quite painful.

On this time, I was quite looking at each surgery, it wasn't too bad a rip and over time that would have reabsorbed itself and strengthened so now my back's probably better than most people's because I spent a lot of time focusing on those exercises, I actually don't really get much back pain all these days.

[0:09:52.9] AVH: Right, okay. I want to ask you more questions about your sort of training and that kind of thing but first can you just tell us, because you'll do a much better job of this than I can, what is DNAFit, what does DNAFit do?

[0:10:07.7] CP: Yeah so, DNAFit was kind of born out of the knowledge of the research going on now that if we give a large number of people exactly the same sort of treatment and by treatment that can be training, that can be diet, we'll see a large difference in how they respond to that.

Some people will respond really well so they're the top people that see massive improvements in training or they lose weight very quickly on a certain diet. Some people will improve not at all, they're called non-responders to that specific type treatment and most people are somewhere in the middle and we know that if we kept someone that's a no responder or non-responder and change that and change their diet, they can see better improvements. Depending on what type of treatment we give people, some people will respond well, some people will respond less well. That's partially determined probably about 50% by our DNA.

If we know what versions of DNA we've got, we can change the training we do, change the type we do to best suit our genetic makeup and that will enable us to become much better responders to the type of treatment that we do.

That's how DNAFit kind of got setup based on that research and we have two major products that we offer to people, we got a fitness product which looks like the best type of training for you to do, how likely you are to get injured, which obviously you can do exercises to offset that.

Again, how quickly you recover from exercises. And then we've also got a diet product as well which is kind of looks at do you need to focus on certain nutrients a little bit more, is there some nutrients you want to focus a little bit less on.

And are you sensitive to various different food types and then we've just started to add in a stress report as well which is born out of our work with some military people and looking at how well your respond to pressure acutely and chronically.

That can be useful to get in to professional sport, that can be useful for people just in the work place, who want to know how they are predisposed to stress and if they are, what can they do about it?

[0:11:54.3] AVH: This is an online platform that for any of our listeners who are familiar maybe with 23 In Me, it's a DNA testing process right? It's a saliva test and you send that in and then that's how you gather the information?

[0:12:09.7] CP: Yeah, there's a number of ways you can get our results so you can buy a test from us which is like you say is a cheap sort of test so we'll send you like a Qtip and you just rub it on the inside of your cheek, send it back to us and we're going to analyze that or you can upload your 23 In Me or ancestry data and we'll collect reports based on that, there's loads of different ways that we can do that.

The main part is obviously we just need to get your genetic information and then once we've got that, either three way genetic test or from 23 In Me or ancestry then we can then credit these reports for you.

[0:12:38.6] AVH: Right. I'm going to go all over the place here because I have a lot of questions but when you use the service, you're given sort of this online account where you can go on and look at the information that's provided. People can then decide whether they want to go further and request more services from you guys in terms of like coaching or nutrition advice, is that right?

[0:13:03.2] CP: Yeah, that's spot on, you can just buy one test from us initially and then upgrade to further test, you can buy the full test in there and we've got an online training platform which is aimed at people who kind of are new to exercise and don't really know what they're kind of doing and we've got fat loss and muscle gain and programs there.

You can talk to one of our experts, it might be me or it might be somebody else and they'll run you through your results as well and you can pay for that service and then we've also got networks of personal trainers and nutritionists. At the moment, primarily based in the UK but also in other countries and we can put you in contact with them and they've been through our

training program so they kind of understand how to interpret your generic results to get the most out of it.

[0:13:43.4] AVH: Who in general is using your services. Do you have a demographic breakdown by age or gender, are they mostly athletes or not? Is it people looking to lose weight? Who is really using DNAFit?

[0:13:57.9] CP: I've looked at the demographics so widespread, it's literally everybody find some sort of use in this. The fitness report, that's usually used by people under 45 and also people that are interested and athletes and males seem to buy that a little bit more whereas the diet report is mostly female well not mostly but slightly more female and again, people that are kind of over 45 tend to focus on the diet report. The vast majority of people by both the fitness and the diet report together, that's kind of the biggest so they want...

[0:14:31.9] AVH: Actually, the athletes are quite a small number of people who buy our service, there's not many other athletes in the world anyway so we couldn't target those but they do use the product and we work with some professional sports teams to enable them to get the most of their training but really kind of our big issue is just normal people who may have a competition that they want to perform well at or might have a fitness goal that they want to try and reach or they might have a diet goal they want to try and reach as well.

[0:14:57.3] AVH: Right, I actually just got an email today so this is very hot off the presses that you guys won Best Technology Award at the Sports Technology Awards for this year.

[0:15:07.4] CP: Yeah we did, that was Thursday evening. Yeah, it's good to get recognition and probably one of the biggest issues that is around DNA testing is that people aren't aware that you can do it and aren't aware of how valid it is.

Slowly recognition is starting to come not just our way but to genetic testing in general and winning that award like that is just kind of one step on that pathway which makes us more knowledgeable and more visible to people in the public sphere.

[0:15:35.0] AVH: Right, I mean, there's such a wide range of resources that you guys can provide and I think 23 In Me is becoming well known but they're really, to my knowledge aren't many or any companies that are doing what you're doing so it's pretty unique.

[0:15:50.1] CP: Yeah exactly. Genetic testing is very widespread, you can do that for loads of different things, you can do it to find out your heritage, you can do 23 In Me which is quite general but not many companies will give you specific advice based on your genes so what should you do. Should you have more cups of coffee, should you have slightly fewer.

Are you better off lifting very heavy weights in the gym or slightly light weights with the more reps. Not many companies offer that kind of advice and we can offer that which again just enables people to have a little bit more insight into what's happening in training and diet based that we should be doing.

[0:16:20.7] AVH: I would imagine of course you've made use of DNAFit for yourself, you know, you don't have to get into anything too personal but did it teach you anything interesting? Did it tell you anything maybe that you didn't know or help you change your training at all?

[0:16:34.0] CP: Yeah, I think for me, the main thing was it just kind of backed up things that I figured out throughout my career and this is quite a consistent thing that we get when we speak to the athletes who do our test which is like, doesn't necessarily tell them anything they perhaps didn't know but it supports their gut feelings. If you're an athlete, you're always training on those things, you're trying new things in your diet and then over time you find things that work and things that don't work but that process can take three years, four years, five years, it's a very long process.

If you could have sort of this information when you're 18 then you kind of, it gets rid a lot of the trial and error and then you can spend less time trying out different things in more time, maximizing your potential so for me it showed I responded slightly better to slightly higher volumes of work in the gym which you can figure out but it took me five years to figure that out.

Showed me that I was a bit more sensitive to the effects of caffeine and again, I kind of discovered that, they took a long time of trying very high caffeine doses and not responding particularly well to that and try and lower caffeine doses and responded the best to that.

It's just that trial and error process which I think DNAFit can be quite useful on that because it just reduces that, gives you more information to starting point to make better decisions earlier on.

[0:17:45.2] AVH: Right, what about nutrition wise, did it give you any interesting insights there?

[0:17:51.7] CP: As an athlete, I've always kind of struggled with keeping my body fat as low as possible and one of the ways that I actually control that was by limiting my carbohydrate intake to just around my kind of training and again, that took a few years to figure out and then the results of the DNA fit test showed me that I was very highly sensitive to carbohydrates.

The more sensitive you are to carbohydrates, the more likely you are to gain weight if you have a lot of carbohydrate in your diet. Getting that just kind of under scored for me, that kind of wanted to miss those things out and on the micronutrients that we test as well, we got antioxidants, Omega3, Vitamin B, Vitamin D.

I have a raises requirement for those nutrients and as an athlete I was getting Vitamin D tested quite regularly, my Vitamin D was always kind of on a lower end of what most of the athletes were and again that just confirmed that kind of finding based on the DNA results.

[0:18:40.5] AVH: Right. What's your training like now, I'm always interested in obviously what elite athletes, how they train but also maybe folks who were professional athletes that aren't any longer but are still training of course or still have fitness in their life, what does that look like for you right now?

[0:18:58.6] CP: Yeah, I very much enjoy training so I kind of just train for enjoyment as apposed to improvements these days. I just want to try out various different things and see how that goes. I've just started, I'm trying to do long distance running and that's long distance running in

commas or brackets because I'm not very good at it so my background is running hundred meters as fast as possible.

I'm trying to sort of go to the other end of the spectrum there and work on that. But I weight a hundred kilos so I'm very heavy for long distance runner but I quite enjoy it and I quite enjoy learning about the different things. So that's kind of my main thing and I do like circuit training and some weight lifting around that as well and then when the options come up to do just various certain things in nature, I try and take that up as well so I live in a very nice part of Australia so I'm right next to the beach.

I'm also right next to kind of a rainforest so I can go for hikes in the rainforest or go body boarding or stand up paddle boarding in the sea as well. I try and do those things as much as possible.

[0:19:51.7] AVH: Not bad, sounds pretty good to me. Okay. Alright, I was lucky enough to try DNAFit and I'd love to kind of talk a little bit about what I discovered and maybe unpack some of these things and you can help me work through it and it will be selfish for me because I get to learn some stuff but maybe our listeners will kind of learn some things as well through my discovery. Does that sound good to you?

[0:20:15.7] CP: Yeah, sure, which area do you want to focus on?

[0:20:18.1] AVH: Well, I've got it up here and I guess I can just kind of mention a couple of things that I think are interesting and some questions that it gave me. Maybe one of the first ones so on the fitness side, it tells me that I have high aerobic potential as well as high injury risk and medium recovery speed. There are a couple of questions I want to ask about that but first, I guess with the aerobic potential, it tells me there's like a pie chart and it's saying it's 67% endurance, 33% power.

Which to me, kind of means that I'm sort of just like meh at both of them. I guess which explains some things to me. My background I used to swim, I was pretty good at cross fit, never really like a real power strength athlete so that makes sense.

I guess my first question was something like this: Most people who do DNAFit. Are they going to find that they're a mix like this or are there some folks who take it and it's like they're 95% endurance, 5% power or vice versa, is it always kind of like a mix like what I found?

[0:21:19.4] CP: No, so about 50% of people are between 40 and 60% power and then 40 to 60% endurance and either 50% are honestly obscured towards that. We get about 1% of people who are 100% endurance, I think the highest power score we have is 94% so there's a slight skew towards endurance. It's a bit less common to these results but not, I would say uncommon.

Your score here, 66.7% endurance, 33.3% power, that's more or less the same as mine. One of the interesting things about DNA testing is that it can't tell you what sport you'd be good at, it doesn't tell you potential, it just tells you the best type of training for you to do. Because you're slightly higher on the endurance end, we'd say you'd spent more of your time doing endurance base training. That could be in the gym, so in the gym that would be lifting kind of moderate weights for a high number of reps. So maybe three times 10 or three times 15 that could be longer running, that type of thing but we did our own bits of research and it is just published in a peer review journal about a year ago now. We got a group of people, gave them a DNA test like this and then stood them deep into doing genetically matched training or genetically mismatched training.

So because you are 66.7% endurance we will class you as an endurance athlete so we could give you match training which is three times 10 in the gym or we could be giving you power based training which we will call mismatch training which is 10 sets of two in the gym and what we found is those who did match training, the training match their genes, they saw about three times much improvement in a test of power which is a virtual jump test and test of endurance which is a three minute match cycle.

As opposed to those who did a mismatch training. So we can be confident enough that if you do train in match your genes should determine by this algorithm that we use here, you'll see better improvements in fitness. So yeah, based on that you just want to do slightly more of a training towards endurance and respect them.

[0:23:09.9] AVH: Yeah, so I guess my next question was if I find out that I skew more towards the endurance side but I am currently training for power lifting and I want this raw power and this strength that I have been doing this 10 times two as you said, is the answer then to train the way that my genes are telling me to or train the way that doesn't come naturally to me because it will make me stronger and I think what you are telling me here is if I train for my genetics it's going to give me that overall strength increase better than if I try that work against what my body wants me to do right?

[0:23:46.4] CP: Yeah, exactly. So when we adapt to exercise or when we do a training session what happens is that our genes get sort of activation turned on. That's what allows us to respond and adapt and accept training. There are different pathways depending on what type of training we do. So if we do aerobic training or if we cause metabolic stress in the muscle through lifting a lot of weight that's a very different pathway to if we lift a very heavy weight.

So these genes that we're looking at here they're a path of that pathway. Some people will produce more of an enzyme if the genes express or less of an enzyme that's what can cause variation. So if we are talking about power for example, remember a few minutes ago I mentioned that genetics is about 50% of a difference between individuals. So too is that person's environment and their goals and their previous training history and things about.

So if you've got a power lifter who comes out as a 100% endurance instead of perhaps doing a lot of training with reps of one or two, we might suggest a bit more training in high reps. It doesn't necessarily have to be 10, that could be five. Each for a power lifter would be classed as high reps whereas if we have a marathon runner, who came out as a 100% power because of their differences in their event we might shift the marker to do sets of five as well which is definitely power for a marathon runner.

But we might class that as endurance for a power lifter. So that person's sport and that's person goal becomes very important as well.

[0:25:05.2] AVH: Right, okay. So it also talked about – I have medium recovery speed and high injury risk. I think those two, correct me if I am wrong but they could be related because it talks here about variants in genes that are related to free radical removal and I think similar to you

mentioned that I should be really focusing on having more antioxidants in my diet for that reason. What does it mean to have high injury risk for soft tissue injury and how do I even deal with that?

[0:25:34.3] CP: So again, we know that if people do exercise some of them will get injured, some of them won't get injured and part of the reason why there is a difference there, a small part but a part nonetheless is the differences in their DNA. So we look at some genes here which look at your collagen strength. So do you produce more of a certain type of collagen or less of another type of collagen, and that can impact on how strong that collagen is and how flexible that collagen is.

And depending on your kind of collagen type would depend on how likely you are to get injured. People with stiffer collagen and slightly weaker collagen appears to be a bit more likely to get injured and people with more pliable collagen appears to be a bit less likely to get injured. So if we know that, then we can then take steps in your environment to offset that. So if someone's got a high endurance like you which is sort of on the back of your mind and then you use that information when it comes to design their training program.

So if you wanted to run a marathon for example, you'd be a bit more likely to have Achilles tendon, actually it is Achilles tendonitis and so if we knew that, we could take steps to reduce that. So in your first week of training, we probably won't do five running sessions a week. We'd build up slowly, we might give you specific type of exercises to reduce the chance of having Achilles tendon injury. So we build your calf strength and your foot strength.

Make sure your ankle is nice and flexible and then perhaps do eccentric loading for your Achilles. So having a high injury risk isn't bad news. It's not good news either, it's just news that you can do something about. So one of the main things to get from your genetic results especially in getting fit is that there is no kind of good news or bad news just actionable news, information for you to take on board and then use that when it comes to your designer training program or diet program.

[0:27:14.0] AVH: Right, I wish I had spoken to you a decade ago when I ran my first marathon and it was a painful process. I wish I had known a little bit more back then but hindsight of

course, 20-20. Alright, so can we talk a little bit about the diet too because that was really interesting. As you mentioned, it told me a lot of things that I sort of already knew but it's interesting to have it confirmed. For example, the caffeine thing again similar to you.

I can't really handle a lot of caffeine and I know that and I am working to fix that but it tells me that I have pretty low lactose intolerance which is kind of cool like I can handle dairy. Those are things that are very useful to know when I am working on a diet and it tells me too that I am moderate carb and fat sensitivity. So with that I guess lent itself to not necessarily a super high fat or a super low carb diet but something that is generally moderate in all of the macronutrients?

[0:28:13.8] CP: Yeah, exactly right. So you tolerate carbohydrates pretty well and you tolerate saturated fats pretty well. So you can have it in your diets in fairly reasonable amounts. So we recommend you kind of a Mediterranean-esque diet which is kind of relatively equal parts of carbohydrates and fat with normal amounts of protein as well. So yeah, that's probably the best type of diet for you at least as a start point.

[0:28:35.5] AVH: Alright, that makes me really happy and that's the way I like to eat, what are some of the most common diet recommendations that are given out through DNAFit? I guess it would depend so much on where people are from genetically but what are some of the sort of most common diet recommendations?

[0:28:54.4] CP: So we see quite a lot of people being put on a low carbohydrate diet because they are very sensitive to carbohydrates and most of the people we test are kind of North American or Northern European and they seem to be people that are sort of especially sensitive to that type of thing. We see probably just over 55% of people, a place in a low carbohydrate diet. The rest, most of them are put on a Mediterranean diet as well and that's the main two and we also have a lot fat diet which actually very few people have.

Most people appear to have tolerance to carbohydrate sensitivity as opposed to saturated fat sensitivity. It is a fairly even split on that. In terms of some of the other things like caffeine like you said that ends up being about 50-50 split between people who tolerate caffeine really well and people who tolerate caffeine a little bit less well. So on the caffeine side, the gene that we

test always is called CYP182. So that produces an enzyme which is responsible for about 95% of all caffeine metabolism in the body.

And depending on what version of this gene you have, you might produce more of this enzyme which means you are fast metabolizing because you break down caffeine very quickly or you might produce less of this enzyme which means you'll be classed with the same metabolizer and see if you break down caffeine a little bit slower. If you are a fast metabolizer, these people appear to be a type of people who if they have kind of two, three maybe four cups of coffee a day.

That has a protective effect on the cardiovascular disease risk. So they have less chance of having hypertension, less chance of having mild cardio inflection or a heart attack as well. Whereas people like you and me who are slow metabolizers the research shows that if we have high amounts of caffeine for an extended period of time kind of again, those three or four cups of coffee a day, our risk of hypertension goes up slightly and our risk of having a heart attack goes up slightly.

If we know that then we take steps to offset that and then very recently this gene started to get examined a little more with regards to sports performance. So pretty much all athletes around the world, they take caffeine before they compete because caffeine has a very strong performance enhancer effect especially in events that last longer than four to five minutes. So I like to say it is one of the most high performance enhancing drugs in the world and it's legal.

So all athletes take it and this gene appears to have a slight role in determining how much your improvement will be with taking caffeine before exercise. So people that have fast metabolizers, they tend to see a larger improvement. They have caffeine before they exercise and people like you and me who are slow metabolizers, caffeine has a smaller effect on improving our performance. Now what we don't know is how can we improve that for someone who has a slow metabolism?

So people like you and me, do we need to take more caffeine or can we take caffeine a longer time before our competition? And that's kind of the veered direction of the research is going to start going quite soon if you are willing to figure that out.

[0:31:41.1] AVH: Got it, okay. I will be very interested in those results and also if you can figure out a way for me to have a large ice coffee and not feel like I am going to crawl right out of my skin that would be really great.

[0:31:52.4] CP: Yeah. I'll do my best.

[0:31:54.0] AVH: We'll work on it but it's interesting that you say that the biggest recommendations tend to be low carb and also Mediterranean and it's about keeping things simple and we've been told for a long time that a Mediterranean diet is one of the healthiest ones out there. It's full of healthy fats and whole foods and nice healthy meat and stuff like that and then of course on the paleo side, we are pretty big on the low carb thing too for the most part.

So I guess it's good too that this is confirming for us that largely we are on the right track in terms of lower carb generally for a lot of us and just whole foods, healthy whole food right?

[0:32:32.3] CP: Yeah exactly. So people like to make nutrition fairly complex but it doesn't have to be all. If you just eat those whole foods, you eat plenty of vegetables, a little bit of fruit, decent protein sources, good source of fat and then you'll be okay on the most part and another useful part that we often get is that we see I know some of these genes with carbohydrate sensitivity, they might increase your risk of weight gain if you a lot of carbohydrates in your diet.

Well they might increase your risk of type two diabetes with a lot of carbohydrate in your diet. If you do exercise especially high intensity exercise, that risk is almost completely negated. So although you might have risk versions on these genes, if you are sensible by having a healthy diet and if you are sensible by doing the right type of exercise, that risk almost completely disappears. So again, the more information we get and the more in depth that we get into genetics.

So that the more we just confirm the basics of what helps people which is having a very whole food based healthy balanced diet and doing some exercise, some of it has high intensity and that is probably enough for most people.

[0:33:36.4] AVH: Right. So if I want to take the information that I have gained through DNAFit and I am training for a power lifting competition and now I know what my power and endurance is I know what my optimal diet is and I want to work with you guys to come up with a diet plan and a training plan. What's next for me? What do I do?

[0:34:02.3] CP: The best would be just to send us an email and then we'll be able to solve either help you out ourselves or we will put you in contact with somebody. One of our personal trainers who has experience in that field is able to help you out as well. So worst case scenario that we could do is we could talk to you through your results ask you what you do already, make small changes to what you do because no doubt people that do sport already.

They have a good idea of what works for them in terms of diet and nutrition. I think a genetic test shouldn't replace that. It should come along side of that. It just give you a bit more information on which you can base your decisions. So I wouldn't drastically change it with training over diet. I would say you do this now, perhaps we just try this, set some rep range, perhaps we have an extra day recovery here, perhaps we add this exercise to reduce your injury risk.

Maybe add these foods to your post workout meal to get these vitamins. So just making small changes along the way with the other bits of information you get from DNAFit as opposed to kind of changing everything and making huge changes.

[0:35:02.9] AVH: Right and how in depth are the services that you offer after the fact like if I wanted just one basic plan, here's how you should eat here, some recommendations for your training and then I go off or what if someone wants more one on one continued support. Is that available as well?

[0:35:21.2] CP: It's not available directly from DNA Fit. We have personal trainers that we can put you in contact with across the globe. They will be able to help you out on that but we can work more of a spoke service say to that. If you want specific things, you can get in contact with us and we will find the best solution for you. We have online diet plans and online training plans which is suitable for people who are on the beginning steps of this.

If somebody needs a bit more in depth service then I'd recommend that they contact us and we'll try to help them out as best as we can.

[0:35:48.7] AVH: Got it. So if someone is on the fence about this whether or not they want to try DNAFit, if they're wishy-washy about the whole DNA testing stuff but maybe we think that it is useful for them, what do you tell people who are not sure about it yet?

[0:36:05.9] CP: Basically if people are not sure about it, they don't have to have a genetic test. I am not here to sell or anything like that. If you do not want a DNA test, don't get one but what we think you get from a DNA test and would help is that you get information to underpin your decisions. You might get something which also surprises you and makes a big difference and the caffeine one could make a big difference to caffeine strategies and things like that.

You might find out how to modify things very slightly. It's not essential to have this test but definitely can help you make best decisions. I know the important thing is just a onetime test. So you just have a genetic test once, we've got your results forever and then if we get more information in the future we could create new reports which will be able to help you out. So it's just a case of getting more information. Reducing the trial and error process which people are busy.

They don't have a lot of time to exercise. They want to make sure they are doing their top training which fits them very nicely and we want to make sure they are on the type of diet which suits them as well. So they don't have time to try new things. Having a better idea at the start of what works for you could be massively important. That is probably kind of the main aspect is you get a bit more information to underpin your decisions and you can reduce that trial and error which can be a very long process and hopefully get faster results in a short period of time.

[0:37:21.5] AVH: Right and I mean it is amazing as someone who has gone through this process personally and we've talked about this over the course of this call how it is so interesting that having the irrefutable evidence in front of you on this program really solidifies stuff that you already know deep down and people know their bodies like I know how I react to

caffeine. I know when foods make me feel better or make me feel worse and I know which kinds of exercises I love to do that make me happy.

And which ones I respond to and which ones I don't but sometimes you just try to push yourself in a direction that doesn't seem right because maybe external forces are telling you what to do or maybe popular whatever is telling you to act a certain way and you're trying to do what you think is right even if it's not exactly what your body is telling you and I think having something that's just reaffirming how you feel inside already I think is greatly empowering and it really helps inform your decision. So I think it's pretty awesome.

[0:38:28.6] CP: Yeah and I think on top of that as well is that I often see that people think the best diet for them is the one they're about to try. So people always like eight weeks in a diet and perhaps you hadn't lost as much weight as you want and then all of a sudden on your Twitter feed or on Facebook or some of the social media sites is the next best diet which could be doing X, Y and Z and you think now that is a diet which is going to work for me and then you do that for eight weeks.

And then you don't see the results that you want and then another diet comes out. Another one, this is the next diet and you're always going through that process where it is actually if you stuck to a diet for an extended period of time if you are consistent on what you did you'd probably have good results and if you know what type of diet works for you based on your DNA then you can stop that inconsistency of going from diet to diet or exercise plan to exercise plan.

And just have a much better control over what you do and you don't have to be influenced as much by those different popular science articles on what type of diet or exercise would work for you. You see that with caffeine all the time. There's always newspaper articles that say five cups of coffee a day reduces your heart attack risk and it is also newspaper articles that say five cups of coffee a day massively increase your heart attack risk.

Now both of those are true. It just depends on what version of the gene you've got. So depending on whether you have a knowledge or not on impacts in how you take that information hand to hand. So it can very useful in cutting through the kind of mainstream information and having training plans and diet plans more tailored to your individual make up.

[0:39:58.1] AVH: Right, where can we follow along with you and also with DNAFit online and find out more about your services?

[0:40:06.0] CP: Yeah, so both myself and DN Fit are active on Twitter. So mine is @craig100m and then DNAFit is @dnafithq. DNA Fit also has a website, www.dnafit.com and if you get on there, all the Twitter feed you will find plenty of information about where to sign up. If you want to get a bit more information about DNAFit, we've got some emails we can send you. Now if you want to order a kit or if you've got any questions or anything like that just go to the website and we'll help you out as best as we can.

[0:40:34.2] AVH: Awesome very cool. Well Craig thank you so much for taking your Saturday morning to chat with us and teach us all about DNAFit and I'm going to go around telling everybody that I am an endurance athlete now so I appreciate that.

[0:40:45.8] CP: Alright, that's cool. Thanks for having me.

[END OF INTERVIEW]

[0:40:48.2] AVH: Alright, thanks again to Craig from DNAFit for walking us through the process and reminding me that even though I'm maybe more genetically suited for endurance than power, that doesn't mean I have to stop bench pressing and start marathon running. Thank goodness that would be so sad for me. If you have any questions about DNA Fit, check them out at dnafit.com or feel free to ask me any questions you want on Instagram.

You can find me @themusclemaven and I'm always happy to chat with you on there about that or anything else and if you haven't picked up your copy of the June-July issue of Paleo Magazine, what are you waiting for? It's the best magazine on the planet with the best recipes, the best articles on fitness and health and in my unbiased opinion, the best contributors. So go get your copy and learn more about the magazine and all your subscription options at paleomagonline.com. Thanks for listening.

[OUTRO]

[0:41:37.8] AV: Paleo Magazine Radio is brought to you by the Paleo Media Group and is produced by We Edit Podcasts. Our show music features the song *Light It Up*, by Morgan Heritage and Jo Mersa Marley, and on behalf of everyone at Paleo Magazine, thank you for listening.

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