

Question and Answer with Matt Lovell – Elite Sports Nutritionist

Hi, welcome to the first hopefully of what would be a regular occurrence which would be times when you can log on and ask questions live on our Sports Nutrition Vlog Question and Answer call.

I've got a load of questions that you guys have sent in earlier and also, I'll be looking through those questions and you can send me through some questions as they occur to you and you can actually type them in live and just go from there.

First question from Neil: **Is there a theoretical limit on the amount of protein the body can process at one time?**

Well, for years as far back as I can remember, everyone was saying, you can't digest more than 25 – 30 grams protein in one sitting and this myth actually came from a study done on old age pensioners who have less stomach acid and less ability to process and digest and absorb high protein meals. As you get older, your level of stomach acid decrease and also I heard that it was propagated by Lou Ferrigno (The Original Incredible Hulk) in Gold's Gym and it became a another myth across America and so, in many instances like this what you have to think about is the fact that our metabolism is very primitive and we wouldn't have had it limits like this imposed on us.

You can kind of imagine the hunter gatherers gathering around the mammoth they've just killed and one of them says to the other "Dude, don't over eat on that mammoth, you can only absorb 25 grams of protein at once." So clearly, the body has the ability to process and absorb far higher levels of protein in one sitting otherwise we wouldn't have survived as species.

However, having said that there are sort of sensible upper limits and I tend to suggest to athletes that they don't consume more than their body weight in kilograms in grams. So if they weigh 100 kilos, then I wouldn't suggest they consume more than 100 grams of protein in one sitting so like four large chicken breast which seemed to be safer for upper limit for that kind of body weight person and similarly, for low weight person of 50 grams then two large chicken breast would seem to be safe upper limit. Of course, if you consume more than that once in a while it's not going to do any harm, but if you regularly over consume more than that then perhaps it wouldn't be such a good idea.

Questions coming in here - **What if I'm training with clients at the gym, changing exercises but the body shape is not changing, what can I advise them to do or changes to make?**

Well, a lot of the things with diet boil back to very basic principles and one of the best things you can do with any client is just get them to fill in the food diary. So this immediately puts the responsibility on the client to become aware of their personal intake. Some people really are unconscious eaters you know. I've given people food diaries and they said, "Wow, I didn't realize I was having a bowl of cereal at nine at night because I was a little bit pucky" because eating is so associated with emotion and things like that and plus it's hard to remember everything you eat in the course of a day and certainly over a week so do the diet diary and then look at what's going into them, so why is the body shape not changing because they're not taking in the right micronutrients in order to allow the body to change. So you may need to do some more in-depth analysis on that or get them to see a professional nutritionist.

I got a question here - **What are your thoughts on power supplements to help increase stamina and endurance during games, footballs for example or during gym cardio training and long runs?**

Well, by that I think you mean the sort of pre-training stimulant; a metabolic boosting supplements. Yes, I do like these. They sort of work on three levels generally. They generally have stimulants in them, they generally have some like nitric oxide boosters. Basically, what I mean is it gets more nutrients to the cells because they vaso dilate, so they open up the blood vessels and then some of the most have like buffering agents or a creatine mix as in amino acids and so on.

They also have amino acids which will boost your brain power like Tyrosine which up-regulates dopamine because they have a number stimulants in them, you might want to get one which is stimulant free, power drive by bio test is quite good but I mean, I use a whole heap of different companies for that. I wouldn't routinely hammer into one which had loads of caffeine in it just because I don't think it's good to constantly take stimulants; they give you some energy of course but you'll always pay that energy back plus a little bit.

So if you are using them you may need to make sure you get enough R and R and do things which slow down your nervous systems, most of those stimulant based supplements work on the sympathetic part of your nervous system which is your fight or flight system, which is why they're so good for exercising but you need to balance that with stuff that supports your parasympathetic system which is your rest and digest. So you need to maybe take calming agent, do calming activity such as meditation to make sure you're getting proper recovery.

Question from Ettienne: **How do you optimize the energy output before a game?**

Well, in pure simple terms, we make sure they've got plenty glycogen in their muscles by increasing the amount of carbohydrate foods they eat from anywhere from 72 to 24 hours before a game or event depending on the duration and nature of the event. On event day, we make sure they at least twice pre-events, so once five or six hours before, once two or three hours before. I'm obviously using all the hydration and pre-event type drinks leading into the match. So that's one way to optimize their energy.

Question from Kelly: **How many grams of protein per pound does an athlete need?**

Well, protein requirement vary depending on requirements. I'd use anywhere from 1.4 to 2.2 grams per kilogram. I'd use those amounts routinely and then possibly increase that for intensive weight training sessions which are occurring you know, multiple daily sessions. So pre-season and through intensive building blocks if someone's in a hypertrophy phase so we tend to flex the protein intake, flex up and down, there is some controversy around that as well but I tend to emphasize a high protein requirement when there's more muscle damage and then use a lower protein intake when we just need maintenance.

There's question come in here, **can you reduce or control joint inflammation, knee in particular as a result of a soccer injury possibly from overuse?**

The inflammation system in the body is highly influential of all the nutritional protocols. So it's one of the key systems that you look to influence through changing someone's diet and supplement program. One of the key ways you can influence inflammation is through the prostaglandin pathways and their influenced primarily through fatty acid consumption but also through a group of compounds call polyphenols, which are naturally occurring compounds in pigment based vegetables, fruits, spices and other types of food such as coffee beans and things like that, [green tea](#) is a very good constructive source of polyphenols.

We're posting something on the site on [polyphenols](#) and where you can find them, five different classes of [polyphenols](#) but all very good few excellent things to have present in the diet, in small amounts across the board.

There's a question here, **I've heard from naturopathic doctors that eating dairy products can lead to inflammation of the joints, any thoughts on this?**

Well, if you look at the cascade of changes that has to occur in the body to change a fat into prostaglandin, so change of fat, from the fat into an anti-inflammatory hormone in the body, this requires enzymes which require various nutrients and some nutrients can block these enzymes. But one of the things which blocks these enzymes working are opioids and opioids are compounds which are found in both wheat and dairy products. So yes, there is an association with high dairy consumption and potentially blocking anti-inflammatory pathways in the body as there is with high wheat consumption. You know this is something big when you practice nutrition and you get so many people coming in with joint problems, inflammation problems, asthma, eczema, hay fever and you take them off wheat and dairy and increase other anti-inflammatory elements, they have a huge improvement in symptoms.

Here's a question from Gwyneth: **How often should you be measuring a body fat and in season especially for season in high performance track and field athletes?**

Well, I would recommend just doing that once a week so, any more than that gets a bit obsessive. Also, you may not see any big changes if you're measuring more frequently than that gets a bit obsessive. Make sure that you're doing it the same time of day in the same kind of temperature, the same kind of hydration levels, making sure that it's pre-exercise, if he wants to pre-exercise or if you're an hour off to your exercise then just keep it all reproducible because lots of different things can influence even caliper testing. It's even more dramatic for like bio impedance, another method of doing body fat.

There's a question here from Rob: **He trains from 8:30 to 10 pm at night, he can't change this. What should he eat after straight recovery and size and strength gains given that he's depleted and also going to bed soon?**

It was a good question, Rob. Basically, when you train, it changes the rule that you shouldn't eat late at night. So any time you train, you need to eat full stop. So I would take a pre-training shake and a post-training shake, go home, have a lighter meal which is quicker to digest like a fish and vegetables and salad based meal and also just before you go to bed, make yourself a shake, put it right at your bed and then when you wake up, if you go to the loo, then you can just drink that shake and that can be part of your kind of overnight recovery.

That's also particularly good for people who are struggling to put on muscle mass, so a lot of people struggle to put on muscle mass, the night time is the most catabolic time; it's the time when you have no nutrients going into the system so making one of those little night time shakes and jamming it down can help a lot with sustaining lean mass. Good question. Thanks, Rob.

I've got question from Lisa: **How can I ensure that I'm meeting the right food to maintain an alkaline pH in my body to keep it healthy and what is the role of pH in the body?**

Well, acid alkaline balance is massively important in the body. They've done studies to show that if you neutralize the slightly acid western diet in the body, then you can improve things like bone health, you can improve nitrogen balance; so you go into positive nitrogen balance, you can reduce stress hormone concentrations, you may produce more growth hormone, when you sleep, you may regulate your metabolism through better conversion of

thyroid hormones.

Now the Western diet is slightly acid and the reason for this is because some foods have an acid effect in the body and that acid effect and that's called potential renal acid load (PRAL) and you can go on the net and download PRAL list which will give plus or minus list for loads of commonly in foods. Basically, proteins will be slightly acidic and grain is slightly acidic and then vegetable is slightly alkaline, fruit is slightly alkaline.

So most people who eat too many proteins and too many grains particularly athletes, you know they are thinking they have to recover and eat more carbs, eat more pasta, more rice, more breads and eat protein and you need more muscles to be strong and more or less everybody neglects the vegetable component and that needs to be at least 50% of your meal by weight and possibly more than that.

There are other little handy tricks that you can do to shift yourself to slightly more alkaline environment and we'll put some of those on the member's area so you can have a little look. Obviously, one of the key areas there would be if you are or slightly acid and your body is going to use alkaline minerals like calcium, magnesium to balance that out and on long term, you're going to rob those from your bones and that's going to lead to osteoporosis.

So it's particularly important for ladies as they get older but increasingly also for men; men are also suffering from more and more from osteoporosis these days.

There's a question here. **I have heard that Ester C is more easily absorbed than vitamin C and has a nourishing and maximizing effect on soft tissues and membranes and can reduce pain and prevent further wear and tear of the joints and soft tissues and membranes injury, interested in your thoughts.**

Well, vitamin C is an amazing vitamin and does many of those things because it has a multitude of functions through collagen formation. So it help with any kind of joint problems as there's probably a building block in the collagen tissue and it also has a knock on effect on immune function and so on. Ester C is an alkaline form of vitamin C, obviously the most common form of vitamin C is ascorbic acid which is slightly acidic.

So for those reasons, ester c could be seen to be slightly more alkaline and more body friendly form of vitamin C, it appears to be at least in some of the smaller studies that been done on ester c, there seems to be quite beneficial effects. But with all things, if it sounds too good to be true, the supplement often is. Ester C may not be that much better than some of the other cheaper forms of vitamin C – one of the things I like to do with supplements is to use a process called bio synergy.

So I take, if it's vitamin C, it might take a bit of additional vitamin C but I have it with a kiwi fruit or a natural source of vitamin C so the natural state of that vitamin C may enhance some absorption of some of those nutrients because there maybe co-factors and things like that are linked in to the natural food which aren't present in the supplement.

Then there's a question here. **When you say protein shake, does it need to be made with protein powder or is it equally effective to make one with yolk or other real foods?**

Well, whenever I take a Whey shake or get a can of say a Whey shake, I like to make it a little bit closer to real food. So sticking a couple of scoops of green powder in there is good. So green powder is basically concentrate vegetables and sometimes you get concentrated food powders as well. So that just ups the nutritious content. You can also maybe grind a few seeds in there, maybe add a dollop of yoghurt a few berries. Obviously, for the calorie

conscious, that's going to increase the calories but for those of you who are more interested in getting more nutrients out, shake then you're making that closer to real meal, making it closer to real food.

Here's a question from Simon: **As a particularly hard gainer attempting to gain a target of 7 kilograms almost adding 10% to my current weight, what should be the fundamental foods that I should be eating?**

Well, in order of importance for muscle tissue, they are protein, essential fats, vegetables because of the acid alkaline balance, fruits and then quality whole grain carbohydrates and you are going to need lots of them. We are actually going to putting an anabolic plan together which will be quite big piece of work which is based purely for those amongst you who want to increase lean body mass, just looked up to that would be to bring that out in the next couple of months.

Question here from Lance: **I'm having trouble maintaining my weight, if I train for five hours, how much do I eat and what and cannot be done without lots of meat?**

Well, we've had a couple of questions on the vegetarian sources and we've done a blog post on the vlog on that. Of course you can do it without lots of meat, for instance, you can eat lots of fish, but if you're a strict vegetarian and you can switch to fermented soups, soya products. So make sure the quality products which are being properly fermented in traditional way and things like miso, tempe and tofu. You can also use beans and pulses, you have to combine those with whole grains to get a complete amino acid spectrum, but you don't necessarily have to combine them at the same meal. The body will hold on to amino acids and then it combine them later if need to be. Also, nuts and seeds would be highly nutritious source of protein for vegetarian as well as of course all your low fat dairy Whey shakes. You've also got things like soya protein isolate powder, Hemp protein powder, rice protein powder. So there's a heap of different places, you can get an eggs and you can get your protein as a vegetarian.

Question here from Natasha: **Is there anything we can do to reduce the risk of leg injuries when it comes to nutrition?**

Well, by that I think you mean leg breakages and for bone health, there are over 16 different nutrients required for proper bone health. Most people think bones, they think calcium, but there's many other nutrients and co-factors involved in creating strong and healthy bone so things like magnesium, zinc, vitamin D, vitamin K, getting healthy sunshine and one of the best ways to do this, to get these you can buy available bone building supplements, another way is to make your own broth.

So you get organic bones from organic animal because non-organic bones can have toxins stored in them and then, you boil them up and just do your basic broth recipe throw in any vegetables, whatever you've got, boil it away. There's actually a Tom Yum soup recipe on the v-log, you can have a look at that and what does that is it provides a natural like liquid glucosamine and gelatin and you boil the nutrients out the bones and then as you drink them, this will provide good food to make your bones strong too.

Question from Peter: **I play beach volleyball tournaments and I wonder what you would recommend for food, drinks and supplements between games; a game duration is about 30 minutes and in between games anywhere from 30 to 60 minutes.**

Well, you're lucky beach volleyball players, they certainly looks great, certainly looks like a lot fun and so you've got a high intensity 30 minutes with a quick turnaround for 30-60 minutes, it's quite like Rugby Sevens. So quick recovery, quick digestion is a key there

between those little bouts of intensive competition. So what you need is a group of foods which are quick digesting, high energy but which have a low glycemic index and also have a low fiber.

So otherwise, any time you have a high fiber food, effectively with what you do is taking on dead weight because you can't burn the fiber as a source of energy or at least not immediately anyway. You can with some types of just soluble fiber can produce energy. So these types of food will include yogurt, fruits, rice pudding, custard, some energy bars, some energy gels, isotonic drinks, coconut water and I would strongly suggest you use the quick acting creatine between those types of bouts and also use creatine as part of your general training and planning into beach volleyball game because that's one of the major path ways we use in a sport like that.

Are there effective protein powders available for vegan athletes?

From Alessia this question, I think we answered that. Yes, rice and soy protein isolate base protein, they don't often taste very nice so you have to – you know flavor is not for something else otherwise, you're going to rapidly go off that protein and that's one of the times where you would want the frozen yogurt and some berries in there as well.

Question here from Melissa: Could you suggest some snacks that would help a 12 year old a lead gymnast during her four and a half hour practice?

Do you know what, that's a long time so and your child should pay particular attention to keeping up blood sugar levels up and hydrating properly so an isotonic sports drink sipping up on that regularly throughout that practice, stopping and having some of the snacks are presumed she gets time for a quick break. For breakfast snack at some stage during that time so some of the recommendations were made for the beach volleyball player there. So light, quick digesting thing such as tropical fruits, some watermelon, a little bit of yogurt, so stuff that's just going to keep her ticking along, keep her mental focus there that's one of the key areas. So getting dehydrated or getting low blood sugar is going to slow a reaction time which is critical in gymnastics.

Question about fish oils - Do you recommend supplements and how much is a good intake? I've heard some people take mega doses six grams and also, is DHA/EPA ratio important?

So the DHA and EPA ratio is important. Normally there's about 60% or 70% DHA to EPA and most fish oil capsules come with the right ratio because they've taken the fish oils straight from the fish and the right ratio is in the fish. As I understand it, DHA has more beneficial effect on the nervous part of the system in the brain so it benefit things like learning and EPA has more of an effect in the body so for inflammation, insulin management, blood pressure, cholesterol management although EPA also helps with mood disorders. So there's obviously a cross over there. What you may need to take them both in balance, don't take more of one than the other.

How much is a good intake? Well, you need to get your red blood cell fatty acids measure to see where you're deficient and then put in the right kind of fatty acids to balance out the deficiency. I would suggest something like one gram of EPA per day for general consumption and up to three grams of EPA per day for athletic consumption. So if you look on the back of the capsules that's not the total weight of the fish oil capsule, it's the total weight of the active component.

Question here. My partner is a professional soccer player and he has about three percent body fat. He eats just about anything. He doesn't seem to put on any fat or

weight, is this safe health wise given the amount of training he does and the number of games he plays?

Well, a couple of things there, first of all, who's measuring him? Three percent is very low. I've trained professional bodybuilders and they get down to three percent and it takes them months of dieting. So just check the method of measuring. The next thing you might want to do is just check if he hasn't got some problem with malabsorption and everything is working properly in the body. Other than that, I expect he's just very lucky.

Some guys just process nutrients faster than others, seem to be able to eat anything and stay ultra lean. That shouldn't however be an excuse just to eat all the junk in the world. So that junk is still going to be affecting the cells in a negative manner, still going to hamper and limit recovery and you can still get things like diabetes if you're really skinny. It's not just the fat people that get diabetic from eating too much sugar.

There's a question here. **My high nature lemon fish oils says take no more than one teaspoon a day. I'm a 108 kilo plus power athlete training seven to nine times a week mostly weights and aerobic conditioning, should I use more than one teaspoon?**

Absolutely, well yes, that won't really be touching the sides. I'd look at a dessert spoon twice a day would be an average consumption for you however as with all recommendations like that you really need to get your red blood cell fatty acids looked at first.

Let's go back to one of the questions that have been sent in. Ms. Tracy saying, **"Why do I keep craving sugary foods?"**

Well, normally, it's because you keep on eating that so every time you eat sugary food, what will happen then is your body will release insulin to push the sugar out of the blood stream and then you get a corresponding crash and then your body will release stress hormones and then this in turn will cause craving because your body will want to switch off those stress hormones and this is called the insulin/cortisol seesaw and you can see why its breakfast cereal for breakfast, sugary snack mid morning and possibly a coffee, a pasta or bread based sandwich for lunch, mid afternoon the biscuits go around and at night, a rice or a pasta or potato based meal so constantly driving the insulin cortisol seesaw.

So to get over your craving, you need to reduce the amount of sugary foods you're eating. You could follow our craving protocol which is on the member's area of the site, you can take nutrients which help stabilize blood glucose as you may well, if you haven't taken any supplements or you're eating a poor diet for a lifetime, be deficient and things like B3, zinc and chromium which will require for glucose tolerance factor, which just basically helps your body process and use glucose.

Powerade, Gatorade or just water; what's your choice for best rehydration?

Well Powerade, Gatorade and Lucozade; they're all much of a muchness they're basically sugar water sometimes with some electrolytes added so depending on which one you like, the taste are better would depend on which one you choose to use. I tend to stay away from the type of sugary drinks unless I feel they are really warranted, so if you're exercising for longer than 45 minutes then I would use them, other than that I would just use plain water possibly with a little bit of minerals added but you know like proper sea salt.

There's a question here - **Skim milk has been termed to be better than Lucozade in a couple of studies, do you ever use milk?**

Yes, I do. You know despite what we mentioned earlier, sometimes you know, you have to

find something that's handy, quick and will fit the bill in terms of getting your optimum recovery. So milk has a good ratio of carbohydrates to proteins. If you've just exercise then taking in like one of those sugary milks will help with recovery. Any liquid based meal with fast digesting protein and carbohydrates is going to help with recovery.

Question from Richard: **What should be on the timing and type of carbohydrate and protein intake before, during and after workouts?**

Well, my view is there's plenty of research to suggest that pre, during and post training workout shakes are really, really beneficial. So I would use a variety of these types of strategies for preserving lean mass and ensuring optimal energy levels, taking in a pre workout shakes seems a perfectly good idea and certainly after about 45 minutes of training, I would start to take on both some kind of nutrition and some kind of either carbohydrate or carbohydrate-protein based nutrition and always post training, always take a recovery based liquid protein and carbohydrate drink.

There's a question here from Tetenda: **What is really the best nutrition an athlete can take to create the best of their athlete body?**

Well, that's the million dollar question. We'll be writing a book later this year, it's going to be called *Broccoli for Breakfast* so this will contain all the information we've spoken about plus loads of other detailed information, so look out for that.

Question from Bob: **What's your opinion on Chia seeds?**

Multiple benefits. I'd recently read there's an organic source in North America, so I'm looking forward to possibly importing some of those and including them in some of the bars that I help people manufacture. So yes, a good source of nutrition Coco Chia bars are very good by Living Fuel, very tasty.

What are your thoughts on the effects of caffeine and insulin levels?

Well, excess caffeine will increase insulin resistance. So excess caffeine long-term will make your body more likely to store fat because insulin resistance makes your body more likely to store fat. So different cells become insulin resistant at different rates, so first the liver will become insulin-resistant and the liver is responsible for depositing nutrients around the body and the next thing that will become insulin resistant are the muscle cells so then you won't be able to get sugar in the muscle cells and finally, the last thing to become insulin resistant is your fat cells, but your fat cells won't become insulin resistant until you know like 300 pounds or 150 kilos, it's obviously you have to be severely overweight before your fat cells would become insulin resistant. So when we're talking about insensitivity really what we're always talking is about keeping the muscles and the liver nice and sensitive so that you can properly metabolize fat and so on.

Let's crack in with few more questions. **What's the best and quickest method for calculating daily calorie carb, protein or fat intake if your food does not have a nutritional information provide e.g. loose fruit and vege?**

Well we've got charts in the Four Week Fat Loss system. I like the palms for portions. I think they're great, you don't have to be "I know and weigh everything out" although I have done that in the past you know, but then you know how much carbs and protein is contained in certain foods. You don't have to weigh out for very long before you start remembering.

But generally, if you imagine at four palms of leafy carbs, so leafy veg spinach, four big palms would be about 10 grams, you'd have to compact them quite closely together because

a big bowl of leafy salad can be quite a few more palms than that in volume but if you squash them together you get your true carb value. Two palms of fibrous vegetables which will be like broccoli, cauliflower that sort of thing will be around 10 grams. I mean it varies a little bit depending on the things. One palm of starchy carbohydrate would be 20 to 25 grams and one pound of protein would be roughly 25 grams of protein. So you can see, you can start gradually topping up things like that.

This question from Merle: **What's the best food to eat straight after exercise?**

Straight after exercise you need fast release sugars, fast release protein preferably in a liquid form so that you can hydrate properly after you're dehydrated from your exercise.

I think we're running out of time now, so what I'm going to do is I'm going to draw the call to a close now. It's been great, as in great fun, we had some great feedback as we're going through, so I'm glad people have enjoyed it. Hopefully, tell your friends and next time there will be a few more people on the call and it's been good for me as well because it refreshes the gray matter. We don't rehearse this calls, it just comes in and we just you know, we just chat through it.

We'll be in touch soon. I hope to see you guys who are on this call back on for the next one like I said, if you know anyone else that would benefit from this kind of interactive call then let them know and we'll be speaking to you soon. Thanks a lot.

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