



Expert Voice Podcast- Ryan Pinto CONTENT EDIT 1.mp3

Victor I'm Victor Tuballa and this is Expert Voice, Eagle Natural Health's podcast and your partner in natural health wellbeing.

Victor Introducing Ryan Pinto. He is an accredited sports dietitian and the head of nutrition for the South Sydney Rabbitohs National Rugby League Team and New South Wales Waratahs Super Rugby team. Ryan is passionate about helping athletes to improve their dietary intake to maximise their performance. He incorporates nutritional supplementation as part of his dietetic approach. He also has experience working at the New South Wales Institute of Sport and was previously the sports dietitian at the Parramatta Eels Rugby League Team. Apart from Rugby League and Rugby Union, he works across other various sports including triathlons, football and endurance and combat sports, to help teams and individuals perform at their peak. Ryan, thank you so much for joining us today and welcome to Expert Voice.

Ryan Thanks for having me.

Victor We are going to be focusing on high performance nutrition and how an individualized nutrition and exercise plan can help you to perform at your best. Ryan, given your line of work with professional athletes, nutritional intake would be absolutely crucial when it comes to high performance. Could you define for us the term 'high performance nutrition' and what the key elements are that contribute to this?

Ryan The biggest factor with high performance nutrition is the specificity of it. When we look at the general population, and where we're trying to get them to trend in an upwards direction, in a better direction too. With high performance nutrition, and with an athlete specifically, they have that grounding when they come into our program. We're trying to make sure that they're not only covering off the 80 to 90 percent of what a normal person should be doing in terms of eating healthy and making sure that they're continually feeding in accordance with exercise. But it's also making sure that they're getting the one percenters right. In sport, we're really striving for that one percent - with high performance nutrition, it's probably one of the most untapped areas, although a lot more people are becoming interested in it.

Victor When it comes to high performance in athletes, that one percent doesn't sound like much. But that one percent could make a difference between, in rugby league terms, one point in golden points, or pulling off 60 tackles in a game when it comes to forwards. I love that concept: the fact that one percent on top of the 80 to 90 percent you're already applying can make a massive difference.

Ryan I think that's where the understanding with not only athletes, but coaches and different staff within the football or an athlete's set-up. It doesn't really have to be about football, but when it comes into the endurance space, for instance, these guys are absolutely smashing their bodies. If they're doing an Ironman or are even just a weekend warrior [that goes to the gym on Saturday and Sunday], it's making sure that they are fuelling correctly. This way they're not going to find that their bodies get worse over time. They're actually getting the benefit from what they're putting out in terms of exercise.

Victor Why is it so important for athletes to measure their nutritional intake? To specifically measure their macro nutrient intake and how do you educate them about this?

Ryan One of the main things we start with is macro nutrients. Macro nutrients are fats, carbohydrates or protein. These three components make up most of your diet or most foods. We start to educate our athletes. I have the ability to take them grocery shopping, make it a bit more interactive, and getting their family involved too. Rather than just give them a handout. It's all about visual learning. It comes back to when you were a kid and you start to learn things, and you touch and feel things in a real sense, rather than on a piece of paper.

Then we start to show our athletes the importance of different nutrients. For instance, protein is one of the main foundations for recovery. Fibre helps to keep you full and allows you to get good nutrient density from your food. It's about making sure that those key elements are ingrained in the person before we move on to elements such as supplementation. It's making sure initially it's visual and making it appealing to learn.

Victor We've been speaking about your role in working with athletes, and their diet. How does this advice relate to non-athletes? You mentioned weekend warriors, for example. Could non-athletes, or those who exercise regularly benefit from this advice?

Ryan Definitely. If we touch on macro nutrients again. Protein and fibre, for instance, are two of the most key parts of a food. If you are able to strategically place them and distribute them evenly throughout the day, you'll probably tick most of the boxes. The other information of just putting carbohydrate around when you exercise. It doesn't have to be at a certain time of the day or cut off at a certain time at the day. But for someone who's doing a 45 class in the morning, or going to their local Oztag game at night, putting

carbohydrate around that activity component to allow your body to use it [carbohydrates] better.

When it comes to fats, which keep you full, if you're able to time that away from training to keep you full. For instance, you're sitting on a chair for eight hours, in an office day.

Making sure that you're consuming small amounts of fat throughout the day, you'll feel fuller throughout the day.

Victor You've mentioned and emphasized the fact that carbohydrates and fats play a major role. In the broader community, there are still a lot of those connotations about, that all carbohydrates are bad or fats are bad. Not only is it important to know about the right choices of carbohydrates and fats, but more importantly, when to eat them.

If you were to segment a plate into a number of sections, which foods would feature on your plates for each meal in order to support high performance?

Ryan We're educating our athletes of what a portion looks like. From a plate perspective we have three different types of plate. These include a light or off day, a moderate training day, and then a heavy day.

A light day is quite vegetable- and nutrient-dense. Half of your plate should contain vegetables, or a salad, one third a protein for recovery, and to help keep you full, and then a small amount of carbs on the side.

A moderate day contains one third carbohydrate, one third vegetables and one third protein.

On a heavy training day a third of your plate should be protein, a lot of it carbohydrates and vegetables to ensure you have micro-nutrients. These carbohydrates should include pasta or rice. The protein should ideally be more nutrient dense, such as red meat or fish.

Your light training day would be salad based vegetables to get volume in to keep you full

and busy, but we might also emphasise your white types of protein or legume type of protein. Things that aren't really as high in terms of bioavailability or nutrient density but will keep you quite full. It's not just about the plate, but what the components are.

Victor For those of us who aren't athletes, even we can benefit from this plate analogy. On the days we're not exercising, it would be a good idea to eat a light plate. And a heavier plate according to the amount of exercise you're doing.

I think that's important that we're not too far removed, nutritionally, from what athletes do.

Let's go into the micro-nutrient side of things. Ryan, in your opinion which vitamins and minerals do you believe are the most important for supporting high performance?

Ryan Iron is important, because athletes use so much on their training day. During a general pre-season week, an athlete does close to five to six days of training; each day involves about six hours of training in 30 to 35 degree heat. There's a lot of stress on the body.

Vitamin B12 is another key one. On heavy training days we work with caterers to make sure the athletes are having red meat for a decent dose of Vitamin B12, it's a very nutrient dense type of protein.

Calcium and potassium help with electrolytes and to keep the body hydrated.

Magnesium is also important as it helps to body to relax and create energy production.

These are all things you'd see in a textbook.

It's then about how to make these intakes practical. We try to work out which foods can be consumed and easily made part of a daily routine.

Victor It's understandable that an athlete is going to need more food and nutrients than the average person. However, the average person isn't going to be training six hours a

day, five or six days a week and certainly not in 30 to 35 degree heat. The increased intake of micronutrients, iron, calcium, magnesium, you mentioned before is crucial for an athlete's health, and may give them that extra one per cent edge. That one percent could be the decisive factor in a game, or in the grand final for example.

Victor You mentioned calcium. Is calcium for bone health and muscle contraction important?

Ryan Calcium is important from a muscle contraction perspective. When people train in summer, whether it's football or cricket, it's quite hot and they're in the heat for a long period of time. We're making sure that we're reducing the risk of someone cramping. Most of the time people reach for the salts, as it's a well-known way to hydrate. Sodium and potassium are important too, along with calcium, and most people don't get enough through their daily diet and that's why they cramp.

From a bone health perspective, especially those who play cricket - males for instance, will reach their first growth spurt at about 15 to 17 years of age, and then again from 19 to 20 years. With fast bowlers for instance, in cricket, stress fractures and lumbar stress fractures are the biggest injury risk by far.

Victor I often hear that about athletes, that their bodies break down quite easily.

Ryan We need to make sure that from a young age we get enough calcium to make sure that their intake is meeting requirements and targeting it around when they actually exercise. It's important we do this on heavy stress days, because you sweat out calcium.

For instance, if it's already 30 degrees and a player is going out to bowl and they haven't actually had any calcium foods, they're going to be losing calcium without putting it back in. We need to educate young players and their parents that they need to buy the correct foods, or they're supplementing correctly at the time that's needed and when it's actually needed.

Victor You mentioned before about calcium and magnesium in terms of its importance, whether it's from diet or supplementation. But in terms of calcium and magnesium, could you give us some, some ideas food-wise for sources of good quality calcium and magnesium?

Ryan When it comes to calcium, the food group that stands out is dairy foods, as they're a very high and naturally occurring calcium.

And one of the main things that we find is that people can't get enough dairy foods into them, either because they're lactose intolerant, or they're read something that's incorrect, or it's a hot day. It's important then that we educate about different source, such as vegetarian source. For instance, almonds are a great source. Seventy almonds contain the same amount of calcium as one glass of milk. Obviously, it's a lot easier to drink a glass milk than just eat 70 almonds though.

Other sources include dark green leafy vegetables which have a small amount of calcium. Nuts and seeds contain magnesium, particularly the outer coating which have a high amount. Vegetarian sauces and vegetables have a small amount of magnesium, but if we're not eating enough nuts and seeds then we need to look at supplementing it.

Victor We know the importance of dairy and how much calcium dairy can give us in terms of our diet. It's good to know that you get some of your calcium needs from nuts and seeds to help contribute to your overall intake.

Ryan This is one of the differences with high performance nutrition needs in athletes compared to the general population. With athletes you're striving for a lot higher calcium that you're trying to get in. Generally if you're looking to increase your calcium intake you can start to pair a few different foods, and your calcium intake will start to rise quite rapidly. It's making sure that you are educated and where you can actually get it [calcium] from a variety of sources.

Victor Outside of dietary sources, are there particular forms of calcium and combinations that are important to look out for when selecting a supplement for bone health?

Ryan Definitely. A lot more supplement companies are moving towards this in terms of having a more well-rounded calcium supplement. Anything apart from a calcium citrate which absorbs a lot better, compared to a carbonate for instance. But it's more so the combination which takes it to a new level. Looking at whether it has Boron or a Vitamin K2, magnesium, or Vitamin D3, we know these allow calcium to absorb a lot better into the body. It's important to ensure it's a complex, along with a good quality source of calcium, rather than just calcium itself.

Victor Do you need a good quantity hydrochloric acid or stomach acid to break down various supplements, particularly when it comes to our elderly population? Not a lot of those individuals have a lot of acid in their stomachs. It's always important to emphasize

the importance of certain calcium combinations or certain calcium compounds that will be much easier to absorb.

Victor When it comes to athletes in high performance, what role does supplementation play and how can it potentially support high performance in someone who is doing an enormous amount of training?

Ryan With our guys, especially during pre-season, we can get up to 40 hours of training in a week. Nutrition definitely needs to be close to 100 percent perfect, if not 100 percent. When I talk about nutrition mainly coming from whole foods, you can't necessarily get all your needs if you're following a 40-hour training week. You can't get that much nutrients from food and it's quite hard to consume it.

We look at how we can tie supplements in to help nourish the athlete and help them from a health perspective carry on through that week.

For a new athlete (to the club), they may not be exposed to the different range of emphasis that we place on nutrition, but the supplementation as well. We find that during the start of the week - Monday, Tuesday - they'll be okay and then come Thursday or Friday, they're really feeling flat.

Supplementation plays a huge role in allowing them to still feel well, without actually eating all this quantity of food which they're required to eat. Especially in 35-40 degree heat, when you don't feel like eating, these athletes get into a huge calorie deficit. And then they just don't get the nutrients in. When they go from one training session to the next. The supplements support the person's needs, without them actually having to eat a huge quantity of food.

Victor Could an athlete's immune system be affected? Or their nervous system, as their stress levels are higher? Are they less able to fight off infections as effectively? It's not just about performance, it's about the overall health or the health away from the football field as well, isn't it? In terms of supplementation for athletes what are your top three supplements that you prescribe to help with boosting performance?

Ryan It's mainly looking at energy metabolism. We work with an Activated B supplement which allows a person to get the B vitamins back into the body that they're losing. We then look at a magnesium supplement to help replace magnesium that's been lost, but also allows the muscles to relax and assist with energy production.

The last of our top three is an Omega 3 supplement. We need Omega 3 to help reduce inflammation in the body and start to reduce inflammation, whether it's within the joint or if there is a chronic joint issue. Omega 3 supplements may allow them to get a little bit of relief. It's high in EPA to allow the inflammation to subside.

Some Omega 3 supplements contain a higher amount of DHA (docosahexaenoic acid). We're finding a lot more research into concussion and treatment of concussions with DHA or fish oil. Research shows that fish oils which have a high amount of DHA allow something called a neuro-filament light to start to decrease. And that allows the brain to start to rehabilitate after a concussion or head trauma.

Victor Concussion is certainly a big topic isn't it? Not just in rugby league but a lot of the full-contact sports. We know that hydration is important. Can you explain why hydration is so important?

Ryan We focus so much on hydration because it's our body's ability to cool itself. When we sweat, the body is sweating and producing fluid to be excreted to cool the body. We're

losing a lot of fluid. There's so much research which suggests that as you start to dehydrate, you reduce your performance. Even a loss of two percent of your body weight within a session can compromise your body's ability to perform and reduce your cognition during that sport. If that sport, and most sports are, skill based or skill-determined, you're reducing your ability to perform that skill during that period of time. We really focus on hydration because it's one of our non-negotiables that we talk about.

One of the pieces of advice we give our athletes is to not catch up on your hydration and to start your session hydrated.

One of the key metrics we use is that a person needs 10ml of liquid per kilogram of their weight to be consumed within two hours of a session or within their game. We mostly find that people go one way or the other. Some people don't hydrate enough, which means we need to start to encourage them. We do this by encouraging them to pair a drink with a salty food. This starts to encourage thirst and then they get that amount of liquid in.

On the other side of the coin, some people put too much of an emphasis on hydration. They then over-hydrate and dilute their electrolytes. We're starting to find that happens a lot more in sport nowadays, because of their access to things like Powerade and water, people will over hydrate. They'll dilute their electrolytes and then they'll actually start to crave these in the game.

With our 'Cramper Club', as we call it, we make sure that they have a set amount of fluid that they can drink, but no more. We start to educate our guys, to make sure they're not just sipping their fluids, or not over-hydrating.

Victor If you're a 70kg person, you're going to need 700ml. You talked before about athletes when it comes to hydration. What about the average person? So again, just the average person who may not be exercising as much. What sort of levels of hydration should they be aiming for?

Ryan That equation, I gave as an example, is only in the prep into a game (two hours before a game). For the general person, even for athletes, all we're really looking for them to do is to self-monitor. When they go to the toilet, they should look at the colour of their urine before they flush and it should be a very pale straw colour. That could be anywhere from six to 10 cups of fluid - that includes drinks such as coffee, tea, and other fluids such as soups.

There's no real set amount of water or fluid that you need to have. It's about making sure that you're monitoring yourself. Before you flush look at the colour [of your urine]. See how hydrated you are and then hydrate accordingly. Ideally, your urine should be a pale straw colour. Anything darker than that means you're not drinking enough. If it's clear you're probably drinking a little bit too much fluid and not getting enough food. We probably see that more in the general population, where a person may have seven to eight coffees [a day], but don't eat anything.

Victor Excellent. And I think that's very important to note that paying attention to your urine colour is something very simple that anyone can do at home to be able to monitor where their hydration state is.

Victor Moving on to sleep. How does sleep factor into high performance?

Ryan Sleep is probably the most important thing that we haven't conquered at the moment. There are so many distractions that can occur at night. Whether it's coming from kids, or from blue light from electronic devices. Whether it's coming from our players playing Fortnite until two am! Or just scrolling through social media. There are certain things which impede our sleep, yet this is where we get our recovery. It's where your

hormones start to normalize, it's where we start to find that things like growth factors start to get produced.

Unless you're falling into sleep and you're hitting those REM (rapid eye movement) cycles – about three or four in a night – you don't really find that you recover as well and we find that injury rates increase. If an adolescent athlete or semi-professionals gets less than seven hours of sleep a night it increases their risk of injuring themselves between one-and-a-half to one point seven time more than someone who sleeps eight hours a night.

We look at our athletes' sleep environment and, the term we use, their sleep hygiene.

Some key tips are making they have a certain routine. Even if they are watching TV or they're on their phone, we make sure they have a routine before going to bed. For example, making sure that they have a shower just before they go to bed. It breaks that cognition or hook that electronic devices have, and it starts a certain routine.

Another tip is making sure that the bedroom is actually slightly colder, ideally between 18 and 21 degrees, and that it's maintained throughout the night. We find that people might put the aircon on during the day or put a heater on. The room temperature then changes throughout the night and they get restless and wake up, around three or four AM. We're looking to maintain a certain temperature within the room for the whole duration of the sleep period.

Fluids are also important. People tend to not drink enough and then have to catch up during the night. They then have to wake up to go to the toilet and that breaks the sleep cycle. It's those sorts of tips and tricks.

High tryptophan-based foods which allow you to start to sleep a little bit better and helps put you into a deeper sleep cycle are also ideal.

We focus on this and have a tick list.

Victor You mentioned high tryptophan foods. What comes to my mind, of course, is milk but also turkey. Can you suggest of any other food sources of tryptophan?

Ryan It's mainly those two. You can get tryptophan supplements for instance – these are in many sleep formulas, but it's mainly eating those two foods before you go to bed.

Victor Sleep is 'housekeeping mode' for your body. As you said it's the time where your body can repair itself. The time to do all the things it needs to do so that it can reset itself. Then the next day when you wake up, your body is raring to go and it's repaired itself to the best of its ability and can look forward to the day ahead. Good sleep isn't just for athletes, but for everyone in general.

Onto exercise... how important is it for individuals to have a personalized plan based on their needs? And why?

Ryan I find that people, from a general perspective, that it's important to you seek out a professional who can treat you. It's about making sure you are seeing someone who can individualise a program for your needs and include things that you like.

Victor When it comes to getting nutritional advice in order to optimise performance, who should they seek it from?

Ryan From a sporting perspective, a sports dietitian, a nutritionist or naturopath who are experienced or worked in that area, to allow you to optimise yourself. If you have seen one in the past and it didn't go your way, don't tick your box and move on. Find someone who will help you, who are more experienced who can give you guidance and help you to perform better at the end of the day.

Victor It's that advice that could make a difference in terms of long term health and well-being. We all know that proper nutrition and exercise is important, but it was fascinating to hear about the actual physical impact of certain foods on our bodies and how that can impact our performance. And how sleep, hydration and proper supplementation may help some people reach their everyday potential.

For more information on achieving performance through nutrition please visit the health and wellness section on the Eagle Natural Health website and search for Ryan Pinto.

Victor We encourage you to consult with your health care practitioner for advice on whether supplements are suitable for you. If you've enjoyed what you've heard today, we'd appreciate you jumping onto iTunes to provide us with a rating and a review. If you have a topic that you'd like us to cover, we want to hear from you. Get in touch with us via the Eagle Natural Health website which is www.eaglenaturalhealth.com.au in the Contact Us section. I'm Victor Tuballa, thanks for listening.