

Sports And Performance Nutrition

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Week-07

Lecture-31: Vegetarian and vegan athletes

A warm hello to one and all among special group vegetarian and vegan athletes have very unique needs. In this lecture let us understand the nutritional implications of a vegetarian and vegan athlete, challenges of meeting protein requirement, alternative protein source and the common nutritional deficiencies seen in vegetarian athletes. In India following vegetarianism is very common. An athlete who follows vegetarian meal plan will refrain from consuming foods from animal source such as chicken, meat, fish. So what's the difference between a vegetarian athlete and a vegan athlete? A vegan is an individual who will not consume any product that comes from the animal origin including eggs and also dairy product which can be milk and milk products. Some vegetarians also consume eggs and many times you may relate to a very intriguing aspect of vegetarian days in the week where an athlete or a family practices only vegetarian meal plan be it a Monday, a Tuesday, a Saturday and you can imagine what it could mean for a sports dietician to plan the adequate protein intake if an athlete is training when he embraces a veg day where he could easily meet the protein intake by a very small quantity by consuming non-veg.

In India vegetarianism can be followed either due to religious practices and sometimes it is the individual owners for ethical considerations. Since vegetarians have a higher consumption of plant based food there is a lower incidence of lifestyle diseases and cardiovascular health issues. A normal healthy individual itself needs about 0.8 to 1.0.

1 gram of protein per kg body weight whereas an athlete who participates in physical activity, sports and exercise can have double the amount of a protein requirement each day and besides an extremely small percentage of the consumed protein converts to actual muscle. So vegetarian athletes have the requirement to consume a very large portion of the protein and if you recollect going back to the lecture on proteins where I gave the analogy of consuming 300 grams of tolay versus perhaps even a 100 grams of a chicken breast to meet the same requirement of 20 odd grams of protein in that meal. So many times vegetarian meals are very carb heavy and it needs meticulous planning to consume larger portions of protein. Low iron and poor calcium intake can be often seen in veg athletes and we have touched upon the low iron or the presence of iron deficiency anemia from young girls to female athletes for several reasons and in particularly vegetarian diet it can be amplified as the vegetarian form of the heme iron is complicated and is poorly absorbed. So vegetarian athletes must ensure when they consume dark green leafy vegetables or any rich source of iron they need to add vitamin C rich foods be it a tomato salad or a dash of lemon juice before consuming the dish.

Also along with the focus on iron and vitamin C taking care of folic acid and B12 is important for iron absorption. In the iron lecture to remind you a high consumption of anti nutritional food components found in dark green leafy vegetables or whole grains and pulses which contain oxalates and phytic acids can lower the absorption of iron in meals. As I already just mentioned that vegetarian meals can be very carbohydrate heavy be it the idli dosa dals or sometimes a vegetarian pulao and an athlete must ensure they make a deliberate attempt to plan the meals with the protein in the center. Dals and legumes also give 15 grams of carbohydrate for each katori. So bearing that in mind you have to consume larger quantities of dals and pulses.

For those athletes who consume dairy and other milk products it's easier to get higher quality proteins. For vegans higher quality protein can be derived from certain foods such as soya based items be it soya milk, tofu which is the paneer made from soy milk, tempeh, fresh soya beans called edamame and extruded soya products such as soya chunks, soya granules, soya chop. There are other alternative high protein options like satin which is made from wheat protein. To bear in mind that the muscle protein synthesis is influenced by the leucine threshold of a high consumption of 2.5 to 3 grams each meal.

So for the vegetarians and vegans who may exclude dairy product which is a very rich source of leucine apart there is some good news where vegetarian and vegan athletes can consume corn which has good amounts of leucine. So boiled corn or corn chard can be consumed as a snack to make up for leucine. A very important vitamin for athletic performance is vitamin B12. If you remember the chapter on vitamins we dealt with B12 in detail which supports energy metabolism and also helps nerve conduction. B12 is got only from food sources that come from non-veg.

So if one does not consume even milk or milk products they can be at a very high risk of very low level of vitamin B12. But there is hope that at least nutritional yeast can be a source of B12 for vegetarian vegan athletes. But that can become very expensive as you have to eat a very large portion. We have time and again talked of the role of the anti-inflammatory function of omega 3. The vegetarian form of omega 3 is called alpha-linolenic acid and the conversion is inefficient to as little as even perhaps 3% to up to 15%.

What the body uses as the potent omega for its function is EPA and DHA and not ALA. So vegetarian and vegan athletes must consume very large portions of the vegetarian form of the ALA being chia seeds, walnuts, avocados, olive oil, olives, dark green leafy vegetables, nuts to make up for a good intake of omega 3. Seaweed, kelp is also a very good source of omega 3. Since vegetarian vegan athletes do not consume any animal products, creatine which is a very important compound which can support the regeneration of energy or ATP is lacking in vegetarian athletes. But the advantage of a high carbohydrate meal you could already guess.

Since carbohydrate fuels exercise performance, vegetarian and vegan athletes who have the tendency by the default setting to take larger portions of carbohydrate foods have an edge to perform better. During tournaments and travel especially some athletes who practice and adhere to a very strict vegetarian meal plan can be faced with the challenge of limited food options. In that situation a supplementation can be a wise approach. Athletes generally have better gut microbiota as they consume plant based food with high fibre content which supports the growth of good bacteria. A good gut health not only helps in the absorption of nutrients better but also has a profound influence on good immunity.

It is best for vegetarian and vegan athletes to address the nutritional needs from higher intakes of food and many times even these supplements to meet adequate requirement. Nutritional deficiencies can be very challenging in athletes causing fatigue, tiredness, weakness, poor recovery and definitely lower exercise capacity. By routinely doing a blood test vegetarian and vegan athletes can evaluate the blood parameters of these vital nutrients and can bridge this deficiency by the right supplementation protocol under the guidance of a sports nutritionist or a sports physician. The protein requirement of a vegetarian athlete is very high and it may be challenging to consume a very large portion of dals or even choli. In that situation adding a protein supplement can be useful.

Do keep in mind if you are not doing the way isolate which has high amounts of leucine which helps muscle protein synthesis plant protein source such as pea and soya lack one essential amino acid methanin. So blends with a cereal or a grain such as quinoa or rice protein mixed with pea and soya protein which lacks methanin can be useful in improving the amino acid profile. So vegetarian athletes get the maximum benefit by consuming a mixed protein supplement. A typical Indian thali consumed as a mixed meal can be very ideal to meet the requirement of daily needs of athletes. When there is a need for higher nutritional requirement for either a peak competition season or in the case of a nutritional deficiency vegetarian and vegan athletes can have the advantage by the right supplements.

Other than the intake of protein supplements vegetarian and vegan athletes can get the maximum bank for the buck by consuming creatine monohydrate which can be planned for high intensity workout and for an age appropriate requirement. Creatin is found in red meat since veg and vegan athletes lack this food supplement. Supplementing creatine monohydrate can be extremely useful. In fact rather it is better for athletic performance in vegetarian and vegan athletes and also creatine monohydrate absorbs best with a high carbohydrate meal of at least 50 grams. So it's the ideal situation to enhance exercise capacity.

So for those athletes who have a high need of powerful bursts of energy in higher intensity exercise or in sprint types of sports creatine monohydrate can be very very beneficial especially in vegetarian and vegan athletes. To summarize vegetarian and vegan athletes can meet the requirement of daily protein need provided they eat a very large portion of the protein serving. When an athlete is unable to meet larger intake of dals or pulses using a mixed rice and a protein supplement can be very convenient and useful to get larger portion of protein in a smaller scoop. Iron, vitamin B12 or even vitamin D deficiencies are very common in vegetarian and vegan athletes. These nutrients are sometimes always very difficult to get it only from food especially when there is a deficiency and the requirement of this nutrient is manifold.

In those situations it is best vegetarian and vegan athletes consume nutritional supplements to improve their nutrient profile. I hope this lecture has helped several of the vegetarian or vegan athletes who are tuning in. Thank you for listening. My name is Rujala. I am a competitive swimmer from the past 6 years.

I do sprints long distance in freestyle. With the few options of protein in the vegetarian cuisine it was quite a challenge for Gita Man since I don't even eat it. It was important to focus on quality protein in my diet which Gita Man helped me with. A few months back I had a wrist inflammation which was a huge challenge for me since I had my states coming up. I could not train properly and it hampered my performance in the states.

Later it was diagnosed as tendonitis in the wrist and Gita Man suggested a good quality marine collagen to be consumed daily for 3 months with vitamin C. Taking collagen helped me in the quick recovery and I was able to get back into training. My name is Abhishek Verma and I am an Olympian and Arjun of Aadeen Shooting. Recently I have represented India at Tokyo 2020 Olympics in 10 meter air pistol event.