

## **Sports And Performance Nutrition**

**Prof: Geetha Ghaliyavar**

**Department Of Sports Nutrition**

**IIT Madras**

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### **Lecture-06: Dr Sola Athletes with celiac disease and gluten sensitivity**

Athletes with celiac disease and gluten sensitivity. What are the nutritional concerns? Hi, I'm Dr. Srikanth Sola, cardiologist and former triathlete. I've had a lot of experience taking care of professional athletes as well as performing in various race settings. When you have celiac disease or gluten sensitivity, there are certain nutritional concerns that need to be addressed. Celiac disease is a genetic condition.

It's an autoimmune disease in which gluten, when ingested, damages the villi, the small curls or the small indentations of the small intestines, and this causes flattening and then malnutrition as well as other symptoms. There's no cure for celiac disease. In fact, the only treatment is a 100% gluten-free diet, and gluten is a protein that's found in many common foods that contain wheat, rye, and barley. Now, celiac disease is one part of the spectrum of gluten intolerance.

This is an autoimmune disorder where there's damage to the intestine. There's also gluten sensitivity and wheat allergy, which lacks some of the systemic symptoms because there's no damage to the small intestine. The symptoms can vary from one to the other, but for all of them, the treatment is to 100% eliminate gluten from the diet. All of these are often underdiagnosed or often misdiagnosed as other conditions, and while the prevalence is maybe about 100% worldwide, what we see is that in India, the prevalence of these disorders is actually higher in the North, probably because of greater consumption of protein or chapati and less in the South where rice is the main grain. Athletes, as you would expect, would have the same prevalence as the general population, which means it's actually still quite common, and athletes who are more symptomatic from their celiac disease or gluten sensitivity will have higher levels of stress, higher levels of depression, and a lower perceived quality of life.

This then leads to common behaviors in these patients. You often see hypervigilance around food. They're really strict to what they eat and really concerned about what they eat because they have to be, and they tend to stick to a restricted diet. Now there are a lot of famous athletes with celiac disease and many more that are not on this page. Some of the most common ones that we know about are Novak Djokovic, who's a champion tennis player.

He advocates a gluten-free diet in one of his books, which is not the goal. Helps with celiac-free diets are only for people who have true gluten sensitivity or celiac disorder. It's not to be used for weight loss or other types of conditions. There are other players. Cedric Benson is an American football player who turned pro.

He wasn't doing very well, but then when he was diagnosed with celiac disease, eliminated gluten from his diet, his performance shot up, and he became one of the best players in his

particular specialty in football. And then in your head from UK, who's a champion hurling player. Now there's certain nutritional concerns for athletes that you need to know about. First is that their dietary requirements are the same as any other athlete, but they have nutritional deficiencies that are very common. So for example, you'll see iron deficiencies, very common, 10 to 70% of patients with celiac disease, vitamin D and calcium deficiencies are common, about 10 to 20%, and they may even have osteopenia.

These patients with true celiac disease often have short stature and they're often very low weight. Other deficiencies like the B vitamins, zinc and copper are also common and can be tested for. You also should understand that along with say gluten sensitivity, or even in the early stages of the celiac disease, when it's just been diagnosed, lactose intolerance is very common. And in celiac disease, this can go away, but may not necessarily go away in patients with gluten sensitivity. Other cross reactivities or problems that you might see, especially in the gluten sensitivity group include cross reactivity to mustard seeds or rye, which is very common in our Indian cuisines, jawar or sorghum, ragi, certain types of millets, not all millets, but some, and then some vegetables in the nightshade family like capsicum and eggplants.

Now what is gluten? As I mentioned, it's a protein that we see in certain types of foods. The problem is that we see this in foods that are high sources of carbohydrates, which athletes requires. So breads, cereals, pastas, flours, and so forth. But we also see gluten in other sources, which are often hidden like chocolate, sweets, and energy bars, fake meat or mock meat type of products, very common. Sometimes prescription and over the counter drugs and especially supplements and even sauces, soy sauce, notorious mayonnaise sometimes, as well as soup based.

All of these can cause gluten contamination and can make these patients sick. Now the healthy gluten free diet follows the same principles as general diets would take for all athletes. But what can happen is that there's certain challenges that are common. So for endurance athletes, for example, getting sufficient carbohydrates can sometimes be a challenge. If you have a college athlete who stayed away in the university campus, then food choices in the college canteens can sometimes be problematic.

And these athletes need to check their supplements and pre and post workout drinks to make sure that they are truly gluten free. The thing you need to teach your gluten free patients, whether it's celiac or gluten sensitivity, is that cross contamination is everywhere. One common source, for example, is mills or chuckies. What happens is the same chucky or mill that's used to grind, say, a basin or rice flour is also used to grind wheat. And so when someone eats basin or rice flour, they think they're getting something gluten free, but it's already been contaminated.

I learned this the hard way, and I ended up buying a small chucky electronic one at home for my own personal use. But other sources are food processing plants. If your patient is buying something, it needs to say made in a facility that does not process wheat. If it says made in a facility that processes wheat, guarantee it's contaminated. Same thing with ready meal plants, the ready to eat type of foods that are so common nowadays.

Again, gluten contamination is so easy and buffets are notorious for gluten contamination. Let's say that I'm at this buffet and I take this dal into my plate. This ladle could touch a chapati or some bread or something else. And then when I place that contaminated ladle back into this

container, it then contaminates the food for your gluten sensitivity. So these are common challenges that your patients are going to face.

They're going to have problems when they travel during team meals because someone, let's say you have a jar of peanut butter, someone takes a knife, spreads it onto their bread and puts that same knife back into the peanut butter. It's now contaminated. If your gluten-free patient will see the afterglow sensitivity, then consumes that peanut butter, bang, they've been gluten. Other things you have to concern yourself with are nutrition pre, during and post events. Now there's some practical advice you can give.

First is you can advise your patients to plan ahead. There are plenty of apps that can help patients to find gluten-free sources of restaurants and stores, carry gluten-free snacks, energy bars, dehydrated foods. I use this a lot when I'm traveling, especially internationally. I'll make food at home, send it to a dehydrating centre. These are common in Mumbai and Bangalore.

They'll dehydrate the food, put it into a packet, and then I just boil it in water for a certain amount of time. And then it's ready to eat. Ready to eat meals can be done, but in India, unfortunately, there are no ready to eat meals that are truly 100% gluten-free or made in gluten-free facilities. No buffets. They need to tell the restaurant staff in advance to keep their food separately aside for them.

Allergy cards are very useful. I make these in different languages based on what country I'm traveling to. I give it to the weight staff and then they give it to the cook too so that they understand, boss, we cannot make these foods for this particular person. And then gluten detection kits can be purchased. They're a bit expensive, but they're very useful because you can actually test your food samples before you need to make sure there's no gluten in them.

Finally, you've got to educate your patients. Educate the athlete and their family on what a gluten-free diet comprises and what's not. But you also need to educate the athletic training staff and coaches, their teammates, and finally suggest that the patient goes to a sports psychologist because having the diagnosis of a gluten-free diet, whether it's gluten sensitivity or celiac disease is often life changing, both for the patient and their family. Take-home messages. Celiac disease and gluten sensitivity are common.

A gluten-free diet is the only treatment and it's very important that you address nutritional deficiencies, nutrition pre, during, and post events, as well as avoidance of cross-contamination. Thank you so much for your attention. Thank you. Thank you.