

Sports And Performance Nutrition

Prof: Geetha Ghaliyavar

Department of Sports Nutrition

IIT Madras

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Lecture-38: Personal hygiene and sanitation

Hello everybody, we have been discussing the fundamentals of nutrition, high performance recovery in athletes. We have discussed that the common things of hygiene and food safety is many times overlooked among athletes. In this lecture, let us understand what is food safety, what are ideal cooking methods, holding practices, personal hygiene and sanitation and the right protocol for the use of water bottles and cutlery among athletes. Food safety is a science that can ensure the food is safe from harmful bacteria and other adulterants. So the right food handling practices can lower the risk of food poisoning in athletes, avoid GI or gastrointestinal disturbances as loose stool and diarrhea, thereby food borne illnesses can be avoided in athletes. If you remember in the fundamentals chapter, athletes already have a high inflammation due to exercise induced side effects.

If an athlete will fall sick due to a GI distress and have loose stool or diarrhea especially in a peak season or even during a tournament that can set him back by 2 steps thereby impacting his performance. So the right approach while preparing the food, the way the food is being held or stored at home and even during the daily travel to an academy and how the athlete consumes it can influence his health. Cooking hygiene can prevent cross contamination where harmful bacteria can enter food. Once the food is exposed to harmful microbes, the bacteria or microorganisms can multiply manifold by the minutes and the larger load of a microbial intake can make the infection worse.

Any microorganism requires oxygen, food and water and a hot and humid environment for it to grow and multiply. If a food is contaminated with a larger number of the microbial load, the food borne illness can get aggravated. Common symptoms of food borne illness is abdominal pain, nausea or a feeling of vomiting and if there is a GI disturbance or a food borne illness, there can be several bouts of vomiting and diarrhea. And if you recollect in the hydration chapter where I talked about ORS which is oral rehydration solution with higher sodium content is most applicable for GI distress. So when an athlete is in a peak season or is travelling out station for a tournament, it is best for those athletes to consume only cooked meals as they are free of microorganisms as higher temperatures destroy these microbes.

In this scenario, athletes should avoid fresh fruit juices, salads and non-vegetarian dishes when they are in doubt which is not cooked thoroughly. For a day to day cooking, methods that use water are the best way to handle your meals. Steaming, boiling are good options and using a pressure cooker that can hasten the cooking time can also lower the loss of nutrients. If you remember in the chapter protein when I talked of char broiled foods, direct heat exposure especially to non-vegetarian foods can lead to cancerous compounds and these barbecued and tandoori foods are not a good option when consumed often. Stir frying, sautéing and roasting

when the meats are marinated with vinegar acids and herbs helps lower these cancerous compounds.

If you overcook the protein, the digestibility is lowered due to denaturation of the protein. Similarly, cooking lowers or destroys certain nutrients which are heat sensitive such as the B vitamins which is B and C and we discussed this I am sure in the chapter on vitamins. For those individuals who have a sensitive gut or on the competition day, consuming cooked foods especially vegetables can ease the gut symptoms as heat softens fibre and eases digestion and lowers gas. Steaming where the vegetables are exposed only to the steam and do not come in direct contact with the water can preserve more nutrients. If you are making curries and gravies, do remember boiling the vegetables and using the liquids or the broth can retain certain nutrients.

Do not discard the water in which the vegetables are boiled that way you can ensure that you are not leading to the loss of vital vitamins. In frying, a gentle stir fry of vegetables or even fish can be a good way to retain nutrients. However, deep frying can lower omega 3 in fish. An important aspect of food safety is monitoring the food temperature. This is a very important slide that talks of the temperature rule.

Keeping hot foods hot and cold foods cold. Exposing foods to the minimum duration of exposure to the danger zone where the bacteria can multiply every 15-20 minutes is dangerous. And we already know that when food is brought to a boil which is typically in the Indian setting where our curries and gravies are being boiled obviously is reaching to a temperature close to 100. Especially if you cook non-veg ensure that you are keeping the temperatures to 70 or 80 and you could monitor this by using a food thermometer if that is an option. A typical home refrigerator temperature is 4 degrees and if you do not consume the food which is refrigerated within 1 or 2 days.

The best practice is also to freeze the small batches of food immediately and you can bring it down into the refrigerator section and thaw it before consumption overnight. But do remember you can only thaw frozen food once. So you can never refreeze a frozen food again. When in doubt always discard the meal. I hope that temperature rule was very helpful for you.

Now that leaves us to the time rule. Ideally you do not want to leave a cooked food item or a dish on the counter or a kitchen for over 2 hours and if you remember the temperature rule in the danger zone which is typically the room temperature microorganisms are multiplying and they can increase in numbers that can sometimes cause a foodborne illness or a GI distress. So if you have cooked a batch of meal if you cooked a batch of meal and would like to consume it for the future it is best that you cool it within those 2 hours of time and refrigerate it immediately. So this way by cooling small batches of food in a water bath you can hasten the process of cooling and ensure food safety by maintaining a lower temperature for consumption in the near future. So this is possible if you are at home.

What happens to an athlete who is in school, who is in college or who is travelling to an academy? At home you can ensure a piping hot meal by bringing it to a thorough boil and that option of bringing the food back to a rolling boil is only possible as I mentioned at home. For those athletes who would like to keep their meal hot you could use a hot case or a casserole if you are taking the meal with you to eat at a later time in the day and if you are using non-vegetarian foods curd or any other food that needs to be kept chilled. Another way to take care

when you pack meals is to keep an ice pack alongside to sustain a lower temperature for a longer time. The thumb rule of food safety is to avoid cross contamination. We already learnt about cooking food thoroughly to high temperatures.

What are the other ways that we can ensure food safety? Apart keeping foods at lower temperature or frozen, wash fruits and vegetables thoroughly and in fact now with the recent scare of heavy metals being found in vegetables grown around urban areas it may be best to soak your vegetables in sodium bicarbonate which is cooking soda and some vinegar. It is not uncommon practice in many households where vegetables are also soaked in salt and turmeric for about half an hour before thoroughly washing it and using it for cooking. Let us also understand what is the rule of segregating foods. You can avoid cross contamination by separating foods so that the bacteria cannot get transferred from one to the other and you can do that by separating or segregating fresh or raw ingredients away from cooked foods, vegetarian to non-vegetarian foods. By using separate kitchen tools as knives and chopping boards and definitely by not sharing water bottles and your cutlery which is your spoons for eating among friends.

If you are cooking a non-vegetarian meal it is best to separate your vegetables especially if you are preparing a salad which will not be cooked thoroughly. Another way to prevent cross contamination and ensure food safety is not only separating the tools for veg and non-veg dishes but perhaps changing the colour of these kitchen tools so that the process of cleaning them can be followed where tools used for non-vegetarian dishes is thoroughly washed in hot water. It is not an uncommon practice among athletes where they share the same bottle among teammates. There are several bacteria or viruses that can spread by the oral route. Similarly using spoons to consume from common dishes and double dipping can also pose the risk of contamination or introduce viruses and bacteria into the common dish.

For those athletes who have a sensitive gut or who are under the weather and suffer from poor immunity either due to high training load or due to a sensitive constitution it is best to take care of these basic needs of consuming water and your sports drink only from your own bottle and also by avoiding sharing your tableware and cutlery and avoid consuming meals from common boxes or dishes. A simple practice of washing your hand thoroughly can eradicate several microbes and enhance your health. We may have surpassed COVID but yet it is a reminder for each of you who is listening that hand washing is a very basic practice often overlooked and can go a long way in supporting the immunity especially for athletes. So wash your hands as often as possible especially if you handle food and especially for athletes it is extremely important to wash hands if you are involved in preparing meals or before consuming your food apart practicing personal hygiene sanitation is the safety of the surrounding that you consume your meals in. So maintaining a safe and hygienic food counter or a dining table can also be supportive for maintaining higher immunity and health.

For sports academies where the food is served from a common kitchen hiring the services of a HACCP qualified dietitian for independent kitchen audits who can make observations and recommendations can help ensure quality checks and improve hygiene and sanitation of the premises. So to summarize food safety education and knowledge can help athletes to prevent infections. Knowing the basics of cooking and understanding the knowledge of food science is a life skill for one and all practicing hygiene and following a sanitation protocol can prevent GI distress and food borne illnesses and help athletes uphold their immunity. Thank you for

listening. Hi my name is Lavanya parent of Anishas Gouda an international swimmer my son mainly is into long distance swimming fly and 400 IM and we very well know it is so much demanding when he is doing such long events and 200 fly and 400 IM we are very happy and glad to be associated with Geeta who really helps us in throughout the year during especially tournaments and travel it is very demanding for an athlete especially when we go to new city or new countries.

So the comfort and familiar food is something which I always keep in mind travel kit handy the protein bars the ragi bars the tetra pack juices and water is something which is always there because hydration is very very important. It's very important not to forget the food safety and take care of the gut health that is why I always carry a portable cooker and make sure that he always has cooked food. I completely avoid salads and fruit juices rather than I would give him a whole fruit and it is very important that we take care of an athlete during competitions because what an athlete does throughout the year is what really matters during the competitions and Geeta has always been of a great support in fact when we are in different countries even the time zones is something which I really get in touch with her and she is always there for Anish and helping us in his journey.

Thank you.