



## NUTRITION PIVOTAL TO SPORTS

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### Abstract:

#### Introduction:

A reasonable consumption of carbohydrates, proteins, and fats can provide proper amount of nutrients to one's body and give an edge during a physical activity. Carbohydrates are the most important source of energy for staying power. Proteins help to build new body tissues, and fats provide energy when you are exercising at lower intensity. Study indicates that carbohydrates may be the most important nutrient for sports performance because they are the most efficient fuel for energy production. In addition to fueling our central nervous system, carbohydrates are stored in the body as glycogen, which can be used when needed during physical activities.

#### Discussion

##### Protein

Protein is what rebuilds and repairs your muscles after a tough workout or game, but it also primes the pump to make sure the right amino acids are available to your muscles during the exercises. For this reason, protein – like carbs – is needed both before and after your exercises. Protein is also used to make red blood cells, which move oxygen to muscles, and white blood cells, which help fight infections. Your body also uses protein to make hormones and enzymes.

Proteins are very important to our bodies, but try to avoid unhealthy sources of protein such as cheeseburgers, fried chicken, or bacon.

##### Fats

Fats have often been pegged as something that should be kept off of every healthy eater's plate, but some fats are good –

providing energy and essential fatty acids to your body. Fats also help your body use vitamins and phytochemicals, as well as move substances in and out of cells and keep your brain, nervous system, and skin healthy. What are the good fats and where can you find them? Try eating omega-3 fats found in fish such as salmon, which can contribute to decreased fat storage. You should also eat monosaturated fats found in meats, nuts, avocados and whole milk products. Remember, these fats are good but should still be eaten in small amounts. Avoid fats in the hours before a workout or game because they take longer to digest, and you do not want to have intestinal cramping or pain during the workout.

##### Vitamins & Minerals

Vitamins and Minerals do not give you more energy, but they help to unlock the energy stored in food so your body can use it as fuel. Our body needs calcium, magnesium, fluoride, and vitamin D to keep bones strong. You should be getting these from the food you are eating, but if you are not, try taking daily supplements.

##### Water

A human body is mostly water, comprising over 60 percent of one's weight. Water plays a pivotal role in keeping one cool, as well as in flushing toxins from your system. When you exercise strenuously, you can lose a significant amount of fluid, and it is important to replace that fluid (re-hydrate) so that your body can continue to function at its best. Signs of dehydration include feeling dizzy or wobbly, having a dry mouth and not urinating as much as usual. If you are dehydrated, you will not be as strong

and your reactions will not be as fast as they could be.

### **Fueling Strategies**

A common question among athletes is: what should I eat before and after a work out? There are no set answers because every body is different, but these tips can help you put together a fueling plan that will suit your body best.

### **Carb-Loading**

Because each fuel source provides energy for a different kind of exertion, you can imagine that what you eat at any given time can affect your performance in the next athletic event. This is why many endurance athletes do what is called "carb loading" – eating foods high in carbohydrates – for a few days before an athletic event. This process helps the muscles build up an excess of glycogen that can be called on during the competition. Be sure to check with your doctor if you plan on "carb loading."

### **Breakfast**

Breakfast replenishes your body's glycogen, which is lower in the morning due to the energy used for sleeping. Eating breakfast each morning is crucial to top performance throughout the day. Skipping breakfast can leave you feeling tired and unable to concentrate; it also leads to overeating at later meals and snacks. Student athletes who eat breakfast perform better in the classroom than those who skip breakfast. Early morning practices pose a challenge because you don't want to wake up 45 minutes early to eat. Try eating a snack right before you go to bed, such as cereal or a piece of toast, or eat something easy to digest, like a banana, right when you wake up. Then pack something to eat after your workout if you have to go straight to class.

### **Before a Workout**

You should generally try to eat one to three hours before a work out to give yourself proper fueling. If you are not energized properly, you will not perform your best. Your pre-exercise snacks should be carbohydrate-rich to top off muscle glycogen stores, include a small amount of protein to reduce post-exercise muscle soreness, and be low in fat and fiber to ensure optimal digestion.

You can eat a heavy meal four to five hours before a workout with generous amounts of carbohydrates, moderate protein, and moderate fat. An example may be baked chicken, potatoes/rice, fruit, and bread.

Two to three hours before exercise try, a light meal with a moderate amount of carbs and protein and almost no fat. Then, in the hour before exercising, keep your intake small. At all times, make sure to keep in-taking fluids to ensure you are properly hydrated.

### **During Breaks**

If you have a long game or practice and are allowed to break in the middle, drink water or your favorite sports drink. Both will keep you hydrated; a sports drink will give you some fuel and replace sodium that is lost in sweat. The sodium in the sports drink will help your body hold only fluid.

### **After the Game**

After strenuous physical activity, your body needs to rebuild and repair, and you need to replenish all the fluids you lost through sweating. The most essential thing to do is re-hydrate. Check the color of your urine. If it is dark, you are dehydrated and need to drink more; if it is light yellow or clear then you are getting enough fluids through your body. Drink three cups of water to every pound of body weight that you lost while active – you usually lose a pound or two in every tough workout (that's six cups of water). During the workout your body use stored energy (glycogen) in your muscles to power through. As soon as possible post workout, get carbs and protein into your body to allow your muscles to replenish the glycogen that was used and rebuild/ repair any damage done. Post-workout food is especially important if you train hard every day to avoid soreness and injury. Depending on the time of day, post-workout meals could be anything from a small snack– to a meal of potatoes, rice, and milk. Just make sure that your post-workout food intake contains a fair amount of both protein and carbohydrates regardless of the time of day.

### **Sports Drinks & Nutritional Supplements**

Sports drinks, bars, and powders contain mostly carbohydrates and proteins. Your body uses the carbohydrates and proteins

from these items the same way it uses other carbohydrates or proteins.

These "sports foods" won't really help you any more than any other sources of protein or carbohydrate. But they won't hurt you, either. It just depends on what you prefer to eat and drink

#### **"Performance-Enhancing" Supplements**

The promise of increased strength and endurance in athletic performance can be tempting. Many supplements are available without a prescription, and claim to provide unparalleled performance. It is important to remember that even if such supplements are marketed as "safe," they are tested on adults, not on growing teens. Some supplements, such as anabolic steroids, are legally available only by prescription. Supplements that claim to increase athletic performance can have adverse effects on growing bodies. Several are derived from hormones that are already being produced by the body. This is effectively disrupting your body's natural hormonal balance and may severely compromise both physical and mental health.

They can increase your body's production of cholesterol, cause the body to produce sex characteristics found more commonly in people of the other gender (for example, breast growth in males and baldness and increased facial hair in females), and damage your liver, kidneys, and heart. "Protein" drinks or powders can have many of these unhealthy ingredients and should be avoided.

#### **Tips for Maintaining Athletic Figure**

Exercise makes our bodies feel amazing, but proper care of your body before and after is important. Make sure to eat before, during, and after your sport. This helps maintain blood glucose levels, which in turn will help enhance your sports performance. One needs to drink water two to three hours before your sport during breaks, and especially afterwards to replenish your body. Eat fat sounds crazy but fats are a source of fuel for your body. Healthy fats are powerfully advised – such as peanut butter or avocado. Before exercising, eat a meal with complex carbohydrates. After your exercise, make sure to replenish some of the

calories lost. Stock up on vitamins and minerals; Iron (for girls) and calcium (for everyone) are two essentials that are often neglected. A daily multivitamin is usually enough to get all the vitamins and minerals that you are not getting in your food. Sports drinks, bars, and powders contain mostly carbohydrates and proteins. Your body uses the carbohydrates and proteins from these items the same way it uses other carbohydrates or proteins. These "sports foods" won't really help you any more than any other sources of protein or carbohydrate. But they won't hurt you, either. It just depends on what you prefer to eat and drink.

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