

# Hockey Nutrition Tips

## 6 Classes of Nutrients Essential for Top Performance

1. Carbohydrates
2. Fat
3. Protein
4. Vitamins
5. Minerals
6. Water

**Carbohydrates:** are a source of energy that can be either simple or complex in form. The best source is found in fruits, vegetables, breads and grains. This is the main source of energy when you exercise hard and it should form about 60% of your daily calorie intake.

### What we suggest

1. Become a wise athlete and choose breads, rolls and buns that are 100% whole grain. Although white breads, buns and rolls use enriched flour (i.e. a few nutrients are added back), the refining of grains removes key nutrients only found in whole grains.
2. Drink fruit juices. Most soda pops and fruit drinks are loaded with sugar and with almost no other nutrients. The word "drink" on the bottle is generally a good sign that what you are getting is inferior to a real juice in terms of nutrients.

Yes, we need carbohydrates, but it is best to get them through whole foods and fruit juices.

**Fat :** is a source of stored energy that is burned most by resting muscles and by doing prolonged low intensity activities, such as walking. Since fat provides at least twice the food energy of carbohydrates and proteins, it is easy to pack on body fat when scrumptious fat-rich foods are eaten.

### What we suggest

Eat vegetable fats such as extra virgin olive oil instead because they are usually unsaturated providing essential fatty acids. Make sure that your daily intake does not exceed 25% of the total daily calories.

Be aware that there are hidden fats that are easily obtained but not noticed in potato chips, donuts and salad dressings. Many muffins and cookies are high in fat as well.

**Protein :** provides the building blocks to make and repair muscle and key enzymes that make our bodies work. It is also a form of energy that gets called upon when the carbohydrate stores have been used up. When you emphasize carbohydrates and low fat protein sources, it is easy to have a diet with the right proportion of carbohydrate and protein. Focus on meats, low fat dairy products, beans and whole grains.

#### What we suggest

Get the best sources for protein in your food consumption by including fish, poultry, meats, dairy products (but, watch the fat in ice cream) and beans. Your daily intake should be about 15% of your day's calories.

**Vitamins** : are metabolic catalysts that regulate chemical reactions in the body. The body does not manufacture these and so they need to be acquired through proper foods. The main vitamins are the B complex, A, C , D, E and K.

#### What we suggest

By eating a wide variety of foods, especially grains, vegetables and fruits, you will ensure that you get your daily intake of vitamins.

**Minerals:** are elements obtained from foods that help form structures of the body (e.g. calcium in bones) and regulate body processes (e.g. iron in the blood). There are at least 15 key minerals.

#### What we suggest

Choose a diet from a variety of foods and be aware of hidden fats and sugars. This will help give you all the minerals you need for performance.

**Water:** is the essential substance that makes up about 65 % of the body weight of a lean athlete. The more body fat you have, the less the proportion of water in your body since fat cells, loaded with fat have a low water content. Water helps the body balance its temperature. It is a major constituent of the blood and the fluid that is inside and outside of the body cells. Therefore it carries nutrients to cells and waste materials from cells.

#### What we suggest

Always keep yourself hydrated. Without water balance in the body, you will not perform well.

### **Food to fuel - The Simple Process**

Food contains many complex molecules that must be digested to small components that can be absorbed into the blood. Digestion can start in the mouth but the stomach and intestines are the most important areas for this. During digestion carbohydrates are broken down to simple sugars and proteins to their individual components known as amino acids. Vitamins and minerals are freed from the complexes that make up food. Simple sugars, amino acids, vitamins and minerals are absorbed into the blood in the small intestine. Most of the food energy in dietary fat is in the fatty acids. Because most of these are not water soluble, they delay the absorption process.

Amino acids in the blood are available to all cells, but athletes are most concerned with them being available to grow and repair muscle proteins. Simple sugars can be used by cells as an immediate fuel, but excess sugar molecules are stored in liver and muscle as a complex known as glycogen. Between meals, liver glycogen is constantly being broken down to provide sugar (glucose) for the blood. The brain depends entirely on glucose as its fuel. Muscle glycogen is broken down to create the energy when we work, play or train at moderate or higher intensities.

Get it now?

This is why it is important to eat proper foods at an appropriate time prior to exercise, so that the food can be digested and stored ready as an energy source for exercise. Eating foods that take time to digest too soon prior to exercise means that the body will not get any energy from them.

### **The Energy Process**

When we play a game, practice or work out, carbohydrate that is stored in muscle as glycogen is the most important fuel. The body also uses blood sugar (glucose) as well as well as some fat. If we used no other fuel, the amount of stored fat we have could provide the energy for at least 50 games, but we would have to play at less than half speed. This means that a fast game or hard practice uses up muscle glycogen. After the game or practice, this must be replaced to allow us to perform well the next day. The reason for this is that we have a very limited capacity to store muscle glycogen. When it gets used up completely, it takes about 24 hours to refill this fuel tank. Knowing these facts is helpful for planning your food intake - when to eat, what to eat and how much to eat.

Do it now!

Here are some smart things you can do to be sure that your carbohydrate fuel tank is as full as can be to ensure you can play at a high level.

- Since carbohydrate is brain fuel and fills most of the energy needs for games and practices, emphasize carbohydrates in your diet.
  - Fruits
  - Grains
  - Vegetables
  - Low fat dairy products
  - Beans are also good sources of carbohydrates and have good protein too!
- Consume whole grains rather than the white stuff - you'll get more nutrients and perform better.
- Concentrate on keeping your fat intake low to help you fill up on more carbohydrates.
- Since it takes almost 24 hours to fill an empty muscle glycogen tank, start eating as soon as the game or practice is over. Remember, right after the game or practice your muscle glycogen fuel tank is easier to fill. So keep a snack in your bag.

### **Key Points about Fluids**

When you work hard, you sweat. The hotter it is the more you sweat. If you are wearing a lot of hockey equipment then you will also sweat more. Sweating is a process the body uses to help keep you from becoming overheated. Sweat contains mostly water, but also minerals known as electrolytes, including sodium. If you do not replace what you lose in sweat, you can negatively affect a variety of systems in your body, especially your circulatory system. Replacement of sweat losses is very important and allows you to perform at a higher level. Be aware that a very large sweat loss that is not replaced can put your lives in danger.

### A Little More About Water

All life depends on water. Your body is made up of water. Every day, you lose about 6 to 7 cups (1.5 litres) of water through sweating, breathing and other body processes. During intense activities, you will lose more. A goalie can lose up to 2 litres an hour.

We've heard that we "should" drink 8 glasses of water a day but is this really good advice? The quantity of water you drink should really depend on your size, how active you are and the type of weather where you live. An easy way to figure this out is to drink half of your body weight in ounces.

For example, if you weigh **140 lbs**, half of your weight is 70.

Therefore, you should drink **70 ounces** of water every day.

Divide that amount by 8 ounces to get the number of cups (glasses).

In our example, a 140 lb person should drink about **9 glasses** of water per day.

For someone who plays hockey or is active in any way, that amount will increase as well as for those living in warm climates.

Don't sweat it! Drink it!

Here are a few pointers to help you stay hydrated:

- Drink as much fluid as you comfortably can before, during and after exercise.
- Sweat replacement should be mostly water plus a few key electrolytes, especially namely sodium. Add small amounts of ordinary table salt to your water for a good source of sodium.
- If you are concerned with weight loss, then weigh yourself before and after an event and for every pound lost, drink two cups of fluid. Since water represents about 2/3 of your body weight, short term changes in body weight tell us more about your body water situation.
- Don't rely on your thirst. It has little to do with whether you need fluid or not.

### Recommendations for Before, During and After Activity

- The best muscle stores are built from carbohydrates taken on a regular basis in the days leading up to the event and starting in the hour following an event. Large meals should be consumed no closer to 3-4 hours prior to the event.
- Do not experiment with something new prior to an event. Test it out at a less important time to assess its affects and results.
- Carbohydrates taken in the hour prior to the event will stave hunger, but will not likely add much as far as muscle energy. They should be sources that will digest easily and quickly, such as orange juice, bananas and digestive biscuits. The more intense the exercise event, the more time that should be allowed for digestion. Don't forget to wash down your food with fluid.
- Food may not be necessary during an activity, but fluid intake is.
- Immediately following a workout such as a game or practice, it is vital to consume fluids and carbohydrate snacks such as bananas, bagels, yogurt or digestive biscuits to start the replenishment process for muscle glycogen. Snacks are used immediately, simply because they are easier while efficient.

- Something more substantive should follow within 1-2 hours of the event. Muscular storage of carbohydrate is at its best when carbohydrate is consumed right after a game or practice.

### **Plan Ahead - Balance Food, Exercise and Rest**

- Rest is a key ingredient of a training regimen. Tired muscles need time to heal and rejuvenate, as well as to replenish the glycogen stores depleted by constant activity. If you're a coach, trainer or player in hockey, it is important that you constantly review your schedule to assess where the proper placement of a rest day will enhance your performance.
- Looking ahead over the hockey schedule at least a week in advance will also help you to figure out where your peaks of energy usage will occur. This way, you can ensure replenished and full stores of glycogen by consuming carbohydrate-rich foods.
- For those who are involved in Tournament events or extensive travel, you must take even more time to evaluate the schedule in conjunction with clear plans for food and fluid consumption. The extra demand on your energy stores and the challenge of "non-home" meal preparation need to be recognized. This could be the key to success where over such a short period of time, such a large demand is placed on the stamina of the muscles and body. Time between activities (time for food digestion) is the deciding factor on the type of carbohydrate to be consumed

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