

## DEHYDRATION AND REHYDRATION FOR HOCKEY

One of the most overlooked aspects of a hockey player's conditioning is hydration. Just because you play in a cold atmosphere, you have to realize that the intensity of the game and all of the equipment that you wear creates a great amount of fluid loss. This means you need to drink fluids throughout the entire practice or game.

Water makes up a large percentage of your body and when you workout you can lose a lot of it which you need to replenish. Muscles are made up of 80% water and blood is more than 90% water. If you do not have enough water, your performance will suffer.

Water is the main transport to deliver nutrients into your cells and remove waste from them. Water is mandatory for proper joint lubrication and it is one of the main components of keeping our body temperature in control. A hydrated athlete will be able to play longer and with a greater intensity than a dehydrated athlete. The risks of injury or illness are also reduced in the athlete who has adequate fluid to prevent the body from overheating.

Some professional players can lose 8-10 pounds during the course of a game or practice. At one pint of water per pound, that is 160 ounces of fluid over a 3-hour period. Athletes in competition do not get thirsty until they have lost 2% of their bodily fluids. At that level of dehydration, performance will noticeably suffer. That is why it is so important to drink fluids all the way through a game or practice even if you are not thirsty. Once you are thirsty, it is too late. A 4% loss of fluid, which is 6 lbs. for a 150 lb. athlete, will result in a 30% decrease in physical work capacity. In a game like hockey, the loss of one step or reaction time that is a second or two slower can make the difference in winning or losing.

Adequate hydration will prevent the three major problems a fluid shortage can create: Dehydration, Overheating, and Electrolyte Imbalances.

### **Dehydration:**

Numerous studies have shown that when an athlete is even mildly dehydrated, performance will suffer. A hockey player will have less strength. Less stamina, a longer reaction time, and a loss of quickness. Due to fluid loss, a dehydrated athlete's blood is thicker. Thicker blood requires the heart to pump harder and faster thus putting greater strain on the heart. This in turn reduces the length of time it takes for the athlete to reach an exhausted state. Once an athlete is dehydrated it will take longer to rehydrate because in the body's effort to conserve fluids, dehydration slows down the rate that the stomach empties into the intestines.

### **Overheating:**

The body's normal temperature is 98.6°. Hard exercise like hockey increases heat production in the muscles, which in turn increases internal body temperature. As internal heat increases, the blood transports the heat to the skin, where it is then released from the body as sweat. The loss of fluid through sweating reduces the volume of blood, which in turn means there is less blood available to deliver oxygen and other nutrients to the muscles. This results in muscular fatigue. As fluid losses during exercise continue, the rate of overheating accelerates. Energy normally utilized by the muscles must instead fuel the cooling process. With less energy, muscle strength, power and endurance are reduced.

### **Electrolyte Imbalances:**

Electrolytes are minerals. They include sodium, potassium, chloride, magnesium, and calcium. All of these minerals are in sweat and exercising athletes will lose these minerals when they are performing a rigorous activity such as hockey. Adequate amounts of minerals are critical for optimum athletic performance. The most important electrolytes for athletic performance based on the amount lost in sweat are sodium and chloride. Low sodium levels can cause cramping and weakness and lead to excessive sweat loss; excessive sweating in turn results in dehydration.

**Guidelines for Hydration:**

Day before competition: 1/4 ounce of water per pound of body weight over and above normal intake divided evenly throughout the day (multiply your body weight by .25).

Four hours before competition: If dehydration has been a problem, one ounce of a sport drink per 10 pounds (divide your body weight by 10).

Three hours before competition: One ounce of a sport drink or water per 10 pounds of body weight.

Two hours before competition: One ounce of a sport drink or water per 10 pounds of body weight.

One hour before competition: One ounce of water per 10 pounds of body weight.

During competition: Sport drink or water. Consume as much as comfortably possible.

Recovery: Water or a sport drink. Drink 16 ounces per pound lost of body weight. Use a sport drink if:

It is the 2nd game in 2 days

It is the 3rd game in 4 days

You feel flat or fatigued

You have cramped within 72 hours

You have missed time due to injury and are de-conditioned

You are sick or have been sick in the previous 72 hours with a cold or flu.