



## **Important Information about Insulin Pumps**

### **Trainers, do you have a player with Type 1 Diabetes?**

#### **What is Type 1 Diabetes?**

Type 1 diabetes is an autoimmune disease that occurs when the insulin-producing beta cells within the pancreas are gradually destroyed and eventually fail to produce insulin. Insulin is a hormone that helps the body's cells use glucose for energy. Blood glucose (or blood sugar) is manufactured from the food we eat (primarily carbohydrates) and by the liver. If glucose cannot be used by the cells, it builds up in the blood-stream instead, and high blood sugar is the result. Over time, the high blood sugar can be toxic to every system of the body.

#### **What does a Coach/Trainer need to know?**

As a trainer dealing with an athlete with type I diabetes, you need to meet with the player and their parents. You need to know what the player's normal routine is for looking after their diabetes during exercise. Do the parents attend every game and practice? If not, what is the back-up plan if the player is having difficulties with their diabetes? Does the player check his or her blood sugar values before, during and after exercise? How do they treat a low blood sugar? Does the player bring supplies to treat a low blood sugar onto the bench? Does the player use a syringe or pen to give their insulin, or do they wear an insulin pump?

#### **What is an insulin pump?**

An insulin pump is a small, battery-powered microcomputer. It is about the size of a pager and is worn clipped to a belt or waistband, or in a pouch or pocket. The pump holds a syringe or cartridge filled with rapid-acting insulin. The pump is programmed to deliver small amounts of insulin through a thin plastic tubing that is attached to a small hollow, flexible, plastic tube, called a cannula. The cannula sits in the fatty tissue just under the skin. The cannula site is changed every 2-3 days.

Contact sports such as football, soccer, hockey or basketball can create challenges for players who wear insulin pumps. If the player chooses to wear their pump during these activities, it is advisable for the pump to be protected by padding. Wearing the protective padding with the pump is up to the individual.

As a trainer you need to know if the player is wearing a pump, and where it is located. If the player takes a hit that may have come in contact with the pump, you need to have the player ensure that his or her pump is still working. The player also needs to have a back up plan if the pump is damaged during activity or is lost/ stolen when disconnecting. If the player is not wearing their pump (the pump can be disconnected for approximately 1-1 1/2 hours) are they going to take insulin half way through the game or practice? An insulin pen or syringe and insulin are mandatory for athletes on pumps.

### **Signs and Symptoms of Low Blood Sugars**

Low blood sugars can occur with no symptoms, minor symptoms, or full blown symptoms. Symptoms vary from person to person and from one reaction to another. A low blood sugar may be first recognized by the person having the reaction or by others observing it.

Symptoms: one or more of these symptoms can occur during any reaction (some may never occur):

- Sweating
- Shaking
- Irritability (mood swings, argumentative)
- Blurred Vision
- Fast Heart Rate
- Sudden Tiredness
- Dizziness and Confusion
- Numbness of the lips
- Nausea or vomiting
- Frequent sighing
- Headache
- Silliness
- Tingling

During a low blood sugar reaction, thinking becomes impaired due to lack of glucose needed for the brain to function well. Glucose is the only fuel source for the brain. Loss of coordination, confusion, and irritability usually start when the blood sugar drops below 3.1-3.3 mmol. These symptoms are more easily recognized by someone observing the player, rather than the player themselves.

In summary, as a coach/safety person you need to have a meeting with the player and their parents. You need to find out how the player looks after their diabetes. You need to know what the back up plan is if the parents are not in attendance and what supplies the player will require on the bench during a game situation. Being aware of your player's usual skill level and playing attitude is necessary to be able to recognize a change if it occurs, possibly indicating a low blood sugar re-action. Exercise sharpens the mind and tones the body. It makes the heart stronger, the lungs more efficient, increases endurance and resistance to stress and fatigue. It combats depression and creates a sense of well-being. All children need to be able to participate in sports activities. Having a good plan in place allows players with diabetes to participate.

For more information you can go to the sources of this article:  
[www.childrenwithdiabetes.com/sports](http://www.childrenwithdiabetes.com/sports)

Thanks to

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