

**Safety Tip of the Month – January 2007**  
**VSI Safety Committee**

**“A Little Bit of Sugar!”**

Do you know any swimmers with diabetes mellitus? Diabetes may present as Type I (Insulin Dependent Diabetes Mellitus or IDDM) or Type II (adult onset diabetes). In both types, the primary physiologic results are a deficient amount of insulin and / or resistance by the body to any newly produced insulin. Such an insulin deficit leads to higher blood sugars with resultant fatigue, increased hunger, increased thirst, and excessive urine output. Such children with newly diagnosed Type I diabetes may present with dry mucous membranes, poor skin turgor, and dehydration. Other symptoms of newly diagnosed diabetes include weight loss, nausea, vomiting for no apparent reason, visual blurring, and persistent abdominal pain. As a coach, official, or parent of such a child, the above symptoms should be reviewed with the child, her / his parents, and then with a health care provider. Swimming will continue to serve as an excellent therapy for newly diagnosed diabetic mellitus patients. Exercise improves blood glucose regulation, lowers the “bad” low density lipoproteins, and raises the level of “good” high density lipoproteins. Once the diagnosis of diabetes mellitus is rendered, there are a number of insulin preparations that be used to bring the swimmer’s blood glucose to a normal level.

Type I diabetic swimmers may experience low blood sugar, due to vigorous aerobic exercise (warm-ups) which utilize MORE circulating glucose. Decreased eating also puts the child at risk for a lower circulating glucose. The diabetic swimmer typically demonstrates even MORE discipline and perseverance than very fast swimmers with no glucose regulatory difficulties. The diabetic swimmer needs to eat the right type and amount of food at precise time intervals to avoid extreme swings in blood glucose. Signs and symptoms of low blood glucose include weakness, irritability, short term memory lapses, and difficulty focusing. This may be treated quickly and effectively with a small bolus of concentrated sugar (e.g., candy bar, peanut butter and crackers, or grape juice).

The longer term effects of Type I diabetes include retinal (eye) damage, kidney damage, build up of cholesterol plaque inside blood vessels (atherosclerosis), loss of sensation in the feet and fingertips, decreased intestinal motility, heart disease, and increased vulnerability to infections.

As adults, we can directly address this disease when it occurs in children by:

1. Recognizing the symptoms of diabetes and encouraging the coach / parents to refer their child with such symptoms for a timely evaluation by a health care provider.
2. Supporting the diabetic swimmer’s consistent attention and vigilance with frequent high carbohydrate, low concentrated sweet meals; scheduled insulin

injections, and periodic blood glucose checks. This is a stringent routine, but it can be managed by the swimmer once she/he gets into the pattern.

3. Reminding the diabetic swimmer to wear proper footwear, even when on the deck and after practice or warm-ups are over.
4. Reminding the diabetic swimmer to drink plenty of water throughout the meet as well as during practice.
5. Being careful to not radically increase the duration or intensity of the practice workouts over a short time period for the diabetic swimmer
6. Recognize the signs / symptoms of hypoglycemia and be prepared to provide concentrated sugar (candy bar, fruit juice, etc) to the child if such symptoms occur.

Probably, most important of all, let the child talk freely about her / his diabetes to swimming teammates. Such discussion may serve as a great role model for some swimmers who may have previously taken their good health for granted. And as a coach, parent, official, or friendly volunteer; encourage your diabetic swimmer to remain proud of each of her / his accomplishments in the swimming world and share her / his goals and milestones with the teammates.