DIABETES FACT SHEET

Diabetes is one of the most common chronic diseases of school-age children. In the United States, approximately 215,000 children and youth under the age of 20 have diabetes\(^1\). The number of children with diabetes who require accommodation during the school day to do blood glucose monitoring (by finger stick or a continuous glucose monitoring system), have between meal snacks, and administer insulin (by injection with a syringe, injection pen, or an insulin pump) has dramatically increased as medical science recognizes the need for careful control of this disease. Self-management by the child of his/her disease is an important component of that control. Diabetes is NOT a communicable or contagious disease. Diabetes is a chronic disorder that can result in long-term complications such as damage to the eyes, kidneys, and vascular and nervous systems if not managed properly.

There are two types of diabetes: Type 1 diabetes usually has a rapid onset and is caused by an autoimmune disorder in which the insulin-producing cells of the pancreas are destroyed. Insulin is a hormone that is essential in allowing sugar to move into the cells and be used for energy by the body. People with Type 1 diabetes must take insulin injections (via syringe, injection pen, or pump) every day. Type 2 diabetes usually has a gradual onset and is caused by an insufficient production of insulin by the body or an inefficient usage of insulin by the body’s cells. People with Type 2 diabetes may take insulin injections, take oral medication, follow a meal plan, and engage in physical activity to control his/her blood glucose levels, or any combination of these methods.

Type 2 diabetes in youth is a rapidly growing health problem. Risk factors for this type of diabetes include obesity, inactivity, and a family history of diabetes.

Children with diabetes are taught it is a self-managed disease. This means that the child or adolescent (depending upon the child’s age and abilities) may be giving themselves insulin with a syringe, injection pen, or insulin pump, taking oral diabetes medications, monitoring his/her blood glucose levels with a meter, testing urine, keeping written records, and taking snacks as needed between meals in the school setting and at school functions. Treatment is individualized based on the student’s needs. Schools should refer to the student’s diabetes medical management plan (DMMP).

It is critically important to know the management of diabetes on a day-to-day basis is maintaining a balance between insulin intake or production, food intake, and physical activity. All three (insulin, food, and activity) have a major effect on diabetes control and the prevention of acute complications such as hypoglycemia (low blood glucose) and hyperglycemia (high blood glucose). Both of these complications can occur during

school hours, but a hypoglycemic (low blood glucose) reaction is the most common, can happen very quickly, and requires immediate attention.

Hypoglycemia (low blood glucose) occurs when the student with diabetes has taken insulin or a medication to increase insulin production, and either food is not eaten in the amount needed or extra exercise or physical activity has increased the body’s need for energy. The student may or may not recognize the early warning symptoms of low blood glucose, but the student needs immediate attention: a quick-acting source of glucose (sugar), followed by a less rapidly absorbed source of carbohydrates and proteins (see student’s DMMP).

Mild to moderate hypoglycemia has a number of symptoms such as shakiness, hunger, and sleepiness and can usually be treated with 15 grams of carbohydrate such as 3-4 glucose tabs or 4 ounces of fruit juice. Hypoglycemia (low blood glucose) can progress quickly and the student may lose consciousness and exhibit seizures. This is a medical emergency and calls for an injection of glucagon (a hormone that naturally releases sugar from the liver) and an immediate call for emergency medical care. Never give an unconscious student anything by mouth – foods or liquids. Never leave a child alone who is experiencing hypoglycemia symptoms. (See Hypoglycemia Quick Tip Sheet in Appendix A)

Hyperglycemia means blood glucose levels are above target range and occurs more slowly than hypoglycemia, but school personnel need to be alert to the early signs and symptoms of this condition. Almost all children with diabetes will experience blood glucose levels above their target range at times throughout the day, but these episodes are usually short in duration. Other children will experience daily spikes of their blood glucose levels which are of longer duration requiring extra insulin. In children, a minor illness such as a cold or the flu can upset the balance of insulin, food, and activity and result in a build-up of extra sugar in the blood stream. If a student tests his/her blood and it shows a high blood glucose reading, the student may need to do a test for ketones. Ketones are an acid produced when the body is using fat for energy because the available insulin cannot properly feed the cells glucose. Ketone tests are done via a urine sample or a meter with special strips for ketone testing. Hyperglycemia is treated with the intake of water or another sugar-free beverage and sometimes insulin. (See Hyperglycemia Quick Tip Sheet in Appendix A)