



# INCLUSIVE 4-H



96007

## Youth and Diabetes

Patricia Tatman, M.S.  
Department of  
Family and Consumer  
Sciences, University of  
Wyoming

### What is Diabetes?

Diabetes is a disease in which the pancreas does not produce insulin, or the body does not effectively use the insulin produced. Insulin is the hormone needed to convert sugars into energy. Complications of diabetes can be life threatening when blood sugar goes either too low or too high.

### What Are the Types of Diabetes?

There are three types of diabetes:

1. **Type 1 Diabetes**—This type results from the body’s inability to produce insulin. It is the most common form of diabetes in children. Type 1 diabetes occurs at a higher rate in Caucasians. Usually the onset for this type is between the ages of 10 and 14. Symptoms of type 1 can be mistakenly identified as the flu.
2. **Type 2 Diabetes**—This occurs when the body has a resistance to insulin. It is most prevalent in adults who are inactive and overweight, but it can also occur in children. It is also more prevalent in African Americans, Hispanic/Latinos, American Indians, and Pacific Islanders.
3. **Gestational Diabetes**—This type occurs during pregnancy. Control of gestational diabetes is important for the health of both the mother and the baby.

### What Causes Diabetes?

Type 1 diabetes can be caused by genetics, autoimmune disorders, illness, or injury that affect how much insulin is generated by the pancreas. Type 2 diabetes is associated with obesity and a lack of exercise. There also seems to be a genetic predisposition toward type 2 diabetes. Additionally, diabetes can be caused by medications and surgery.

### What are the Symptoms of Diabetes?

Before diabetes has been diagnosed, or in cases of untreated or poorly treated diabetes, symptoms include:

- Frequent urination,
- Excessive thirst,
- Extreme hunger,
- Unusual weight loss,
- Increased fatigue,
- Irritability,
- Blurred vision.

UNIVERSITY  
OF WYOMING  
Cooperative Extension Service  
*The University of Wyoming  
is an equal opportunity,  
affirmative action institution.*



After a diagnosis has been made, some of these symptoms can still be present. Additionally, people with diabetes can get hypoglycemia (low blood sugar) for a variety of reasons including incorrect dose of insulin, over exercising, or stress. Symptoms of hypoglycemia include:

- Anxiety,
- Tremors,
- Sweating,
- Hunger,
- Nausea,
- Rapid heart beat,
- Mental confusion,
- Dizziness,
- Headache,
- Slurred speech,
- Disorientation,
- Confusion,
- Irrational behavior,
- Loss of consciousness,
- Seizures.

Long-term effects of diabetes include heart disease, stroke, high blood pressure, blindness, kidney disease, impaired sensation in the extremities, slow digestion, gum disease, pregnancy complications, and susceptibility to other disease.

### How is Diabetes Treated?

People with type 1 diabetes must receive insulin by either pump or injection. People with type 2 diabetes can possibly eliminate the need for insulin supplementation by making lifestyle changes to their diet and losing weight. However, this is not the case for all people with type 2 diabetes. Some will need insulin supplementation. People with either type can benefit from exercise. Exercising at the same time each day will make it easier to monitor blood sugar levels. Other important treatments include education on how to manage diabetes, medication to control high cholesterol and blood pressure, early laser eye treatment, a foot-care program, and early detection of kidney disease.

### Important Issues for Extension Educators and 4-H Leaders to Consider:

1. Have contact information for parents or guardians and the member’s doctor in accessible places. An example of this would be behind the child’s nametag and in the medical forms box in the main office at 4-H events. This form should include information such as what kinds of medications the child is taking, allergies, if any adaptive devices are used, and other health conditions.
2. Visit with the member and his or her parents to find out more about the member’s particular case of diabetes. Questions that can be asked include:

- “Which type of diabetes do you have?”, “Do you use an insulin pump or take insulin injections?” and “Are you able to give your own insulin injections?”
- 3. Stress can cause fluctuations in insulin levels. This is important to keep in mind because 4-H events can often cause stress (both good and bad), especially if it is a new experience to the member. The member may start showing some early signs of diabetes-related problems, so it is important to familiarize oneself with them.
- 4. Exercise can be beneficial to those with diabetes, but unexpected exercise can create some problems for a child with diabetes. Try to plan activities so that a child can adjust his or her insulin amounts.
- 5. In the event that a child has low blood sugar it is important to have quick doses of sugar available. Examples are hard candy and soda (not diet).
- 6. Make appropriate arrangements and modifications before any event which includes food.

### For More Information Contact:

**American Diabetes Association**  
 ATTN: National Call Center  
 1701 North Beauregard St.  
 Alexandria, VA 22311  
 Phone: (800) 342-2383  
 Web site: [www.diabetes.org](http://www.diabetes.org)  
 (Web site active as of May 5, 2005)

### Acknowledgements:

Appreciation is extended to the following reviewers: Matthew Cavedon, trustee, National 4-H Council; Terri Dawson, director, Parent Information Center, Buffalo, Wyoming; Roger Tormoehlen, head, Department of Youth Development and Agricultural Education, Purdue University; and Karen C. William, associate professor and head, Department of Family and Consumer Sciences, University of Wyoming.

Special thanks is also given to David K. Carson, former professor of Family and Consumer Sciences at the University of Wyoming and Kent Becker, associate professor of Counselor Education at the University of Wyoming for comments on earlier versions of the articles in this series.

*Inclusive 4-H* coordinator, Randolph R. Weigel, professor and human development specialist, University of Wyoming Cooperative Extension Service.