INTRODUCTION

Diabetes is a health condition that affects how the body turns food into energy. Most food is broken down into glucose (sugar). When sugar increases in your bloodstream, your pancreas releases insulin. Insulin acts like a key to let the sugar into your body's cells to use as energy. When there isn't enough insulin or when cells stop responding to insulin, too much sugar stays in your bloodstream. Over time, this can cause serious
health problems such as heart disease, vision loss, and kidney disease. There is no cure for any type of diabetes.

For both types, managing weight, eating healthy food, being active, and getting enough rest can really help. Taking medicine as prescribed, getting diabetes self-management education and support, and keeping health care appointments can also reduce the negative impacts of diabetes.

**TYPE II DIABETES**

Type-II diabetes is when your body can’t use the insulin it makes as well as it should. It is the most common form of diabetes in adults, and is becoming more common in children, especially overweight teens. It is estimated that one in three children born in the US after the year 2000 will develop type-II diabetes.

Type-II diabetes can be prevented or delayed through lifestyle changes and medical intervention, and it is treatable. Eating healthy foods in the correct amounts and exercising regularly (at least 60 minutes every day) can help children achieve or maintain a normal weight and normal blood glucose levels.

The first step is to visit a doctor who can determine if your child is overweight. A doctor can prescribe medication if appropriate and can order tests of a child’s blood glucose to see if the child has diabetes or pre-diabetes (may lead to full onset type-II diabetes).

**TYPE I DIABETES**

Type I diabetes is when your body simply doesn’t make enough insulin. Type-I diabetes is not preventable, but it is manageable. It is an autoimmune disease that may be caused by genetic, environmental, or other factors. It is usually first diagnosed in children or young adults, but it can occur at any age.
RISK FACTORS:

It is recommended that students displaying or possibly experiencing the risk factors and warning signs below see a doctor to be screened for type-I and/or type-II diabetes:

1. **Being overweight** -
   The single greatest risk factor is excess weight. In the US, almost one out of every five children is overweight. The chances are more than double that an overweight child will develop diabetes.

2. **Family history of diabetes** -
   Many affected children and youth have at least one parent with diabetes or have a significant family history of the disease.

3. **Inactivity** -
   Being inactive further reduces the body's ability to respond to insulin.

4. **Specific racial / ethnic groups** -
   Native Americans, African Americans, Hispanics / Latinos, or Asian/ Pacific Islanders are more prone than other ethnic groups to develop type-II diabetes.

5. **Age / Puberty** -
   Type-I diabetes usually occurs in the early years, and before reaching puberty. Type-II diabetes is more likely to develop during or near puberty, probably because of normal rises in hormone levels that can cause insulin resistance during this stage of rapid growth and physical development.

WARNING SIGNS AND SYMPTOMS:

There are usually warning signs when a child might have diabetes. Not everyone with diabetes develops these symptoms, and not everyone who has these symptoms necessarily has diabetes. Type II symptoms generally develop slowly over time. Type I symptoms show up quickly - in a matter of weeks or even days, and are much more severe.
* Increased hunger, even after eating
* Unexplained weight loss
* Increased thirst, dry mouth, and frequent urination
* Feeling very tired
* Blurred vision
* Slow healing of sores or cuts
* Dark velvety or ridged patches of skin, especially on the back of the neck or under the arms
* Irregular / no menstrual periods, and / or excess facial and body hair growth in girl
* High blood pressure or abnormal blood fats levels
* For type I, nausea, vomiting, and / or stomach pain

Parents / guardians of children displaying warning signs should immediately consult with the student’s primary care provider to determine if screening for diabetes is appropriate. Following a diabetes’s diagnosis, parents / guardians should work with the primary care provider to develop a lifestyle and medical treatment plan, which may include consultation with and examination by a specialty care provider, including, but not limited to, a properly qualified endocrinologist.
**DIABETES SCREENING TESTS:**

Your doctor may have your child take one or more of the following blood tests to confirm the diagnosis:

1) **Glycated hemoglobin (A1C) test** - A blood test measures the average blood sugar level over two to three months
2) **Random (non-fasting) blood sugar test** - A blood sample is taken at a random time; this test must be confirmed with a fasting blood glucose test
3) **Fasting blood sugar test** - A blood sample is taken after an overnight fast; a high level on two separate tests indicates diabetes
4) **Oral glucose tolerance test** - A test measuring the fasting blood sugar level after an overnight fast with periodic testing for the next several hours after drinking a sugary liquid

If the primary care provider thinks your child has type-I diabetes, blood may also be tested for autoantibodies (substances that indicate the body is attacking itself) that are often present in type-I diabetes but not in type-II. The child’s urine might be tested for ketones (produced when the body burns fat for energy), which may also indicate type-I diabetes instead of type-II diabetes.

**REFERENCES**

1. California Department of Public Health [www.cdph.ca.gov](http://www.cdph.ca.gov)
2. Centers for Disease Control and Prevention [www.cdc.gov](http://www.cdc.gov)

(The information provided in this booklet is intended to raise awareness about this disease. Contact your child’s primary care provider, school nurse, or school administrator if you have questions).