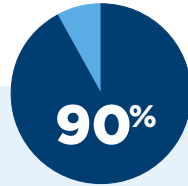


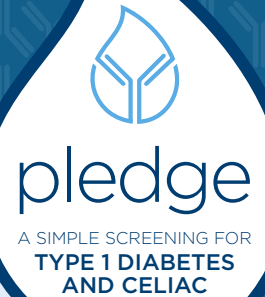
# TYPE 1 DIABETES (T1D)

One in 200 people in the U.S. has T1D.

T1D is an autoimmune disease where the immune system attacks its own body – making antibodies that destroy the cells in the pancreas that produce insulin, which the body uses to turn food into energy. Without insulin, blood sugars increase over time to a dangerous, life-threatening level if left untreated. Though there is currently no cure, people with T1D can stay healthy and control their blood sugar levels with lifelong insulin shots.



OF CHILDREN WITH T1D DO NOT HAVE A FAMILY HISTORY OF T1D.



## T1D progression

<b>STAGE 1</b>	<b>The start of T1D</b> <ul style="list-style-type: none"><li>• The body still makes enough insulin.</li><li>• The body begins producing antibodies.</li><li>• There are no symptoms.</li></ul>
<b>STAGE 2</b>	<b>Abnormal blood sugar levels</b> <ul style="list-style-type: none"><li>• Less insulin is made.</li><li>• Blood sugar levels start fluctuating.</li><li>• The child may not notice or have symptoms.</li></ul>
<b>STAGE 3</b>	<b>Clinical diagnosis</b> <ul style="list-style-type: none"><li>• The body stops making enough insulin.</li><li>• Blood sugar levels are high, and symptoms are present.</li><li>• The condition is life-threatening if untreated.</li></ul>

T1D may take months or years to progress.

## Diabetic ketoacidosis (DKA)

At Sanford, about 70% of children get DKA, a life-threatening condition requiring hospitalization, at the time of diagnosis. DKA has long-term effects on the brain and body's ability to regulate blood sugars. Research shows that by identifying T1D and intervening early, DKA rates can be reduced to about 5% and prevent long-term effects on the brain and blood sugar control.

## Symptoms of T1D



INCREASED THIRST



INCREASED URINATION



NEW BEDWETTING



WEIGHT LOSS



FEELING VERY TIRED

## Take the PLEDGE

Through the PLEDGE study, we can detect stage 1 and stage 2 early by screening children for T1D antibodies before they have symptoms. Early identification allows us to monitor them more closely and provide treatment sooner to prevent DKA, improve long-term health and offer clinical trial opportunities that might slow the progression to stage 3.

Visit [sanfordhealth.org/PLEDGE](http://sanfordhealth.org/PLEDGE) or call (877) 878-4825 to join the study or learn more.



## Terms to know

### Immune system

The body's defense against outside infections and germs, protecting you to keep you healthy.

### Antibodies

Protective proteins made by the immune system that attack and destroy harmful substances.

### Autoantibodies

Antibodies that target healthy parts of the body. Autoantibodies can be an early sign of T1D.

### Autoimmune disease

A condition where the body's own immune system attacks itself.

### Glucose

The main sugar found in your blood that the body uses for energy.

### Beta cells

The cells in the pancreas that make insulin.

### Insulin

This hormone allows cells to use glucose for energy.

THE LEONA M. AND HARRY B.  
**HELMSLEY**  
CHARITABLE TRUST

**SANFORD**  
HEALTH