



## Diabetic Kidney Disease

*Keeping Kidneys Healthy, Longer*

Type 1 diabetes (T1D) has wide-reaching effects on the body, impacting various organs and systems—including your kidneys. In fact, almost half of kidney failure cases are caused by diabetes. At JDRF, we are working toward developing treatments that can delay, prevent, or reverse diabetic kidney disease. Currently, there is no therapy approved for people with T1D who also have kidney disease.

### How it Works

The kidneys filter waste and extra water out of your blood to make urine. Your kidneys also help control blood pressure and make hormones that your body needs to stay healthy. When your kidneys are damaged, they can't filter blood like they should, which can cause wastes to build up in your body. Kidney damage caused by diabetes usually occurs slowly, over many years.

“As I get older, I think about kidney loss as much as I think about diabetes, which is all the time. To find a cure for this complication would make living with diabetes a little less challenging.”

— Ayana M., 42 years old, diagnosed at age 12

### Preventing Kidney Disease



**Get your kidneys checked** by a health care professional, who uses blood and urine tests to check for diabetic kidney disease, once a year



**Protect your kidneys** by keeping your blood sugar and blood pressure under control



**Medicines that lower the blood pressure**—typically ending in -pril or -sartan, for example, lisinopril or losartan—have been shown to slow kidney damage in people with T1D who have high blood pressure and diabetic kidney disease



Interested in taking part in a clinical trial?  
After answering a few questions, you'll be matched with clinical trials that may be right for you at [jdrf.org/clinical-trials](https://jdrf.org/clinical-trials).

## Diabetic Kidney Disease by the Numbers

**1 out of 3**  
people with T1D develop  
kidney disease

In advanced kidney disease,  
your kidneys are operating at  
**less than 15%** capacity

**Almost half** of kidney  
failure cases are caused  
by diabetes

### Our Latest Advances

JDRF has funded kidney disease research since we were established 50 years ago. Here are some of our recent advances:

- 2017 ● A JDRF trial showed that metformin—the most widely used oral medication for type 2 diabetes, on the U.S. market for more than 30 years—improved markers of kidney function in adults with long-standing T1D. The trial is the largest clinical trial of metformin therapy in T1D to date.
- 2018 ● A JDRF-funded investigator found that the gene PKM2 protects from diabetic kidney disease in the Medalist cohort. (Medalists are people that have been insulin-dependent for 50+ years.) PKM2, therefore, could be a potent therapeutic target to prevent the progression of kidney disease in people with T1D.
- 2019 ● In 2019, a JDRF-funded team found 17 proteins in the blood that were robustly associated with progression to end-stage kidney disease—a true breakthrough in predicting who with T1D may develop end-stage disease. Further testing these proteins may offer hope that people living with T1D may thwart the potentially life-threatening complication altogether.
- 2021 ● At the JDRF Center of Excellence at the University of Michigan, researchers are identifying predictive markers and therapeutic targets for kidney disease in T1D, thus providing a data-driven path toward improved kidney care.
- JDRF is partnering with the Biomarker Enterprise to Attack Diabetic Kidney Disease (BEAt-DKD), an international public-private alliance, aiming to identify biomarkers—which would help quicken clinical trials—for diabetic kidney disease.
- JDRF, with our affiliate JDRF Australia, is funding a phase II trial to test a first-in-class Nox-1/4 inhibitor in adults with T1D. If the results mirror the preclinical studies, it will represent a major breakthrough for the management of kidney disease in people with the disease.

2021

Every gift takes us one step closer to curing T1D. Find out how you can support JDRF and make a difference in the lives of people with T1D by visiting [jdrf.org/donate](https://jdrf.org/donate).

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