Breakthrough T1D®
Formerly JDRF

SGLT2 INHIBITORS

Improving Health for People with Type 1 Diabetes and Kidney or Heart Complications

People with type 1 diabetes (T1D) have increased risks of kidney and heart complications. Sodium-Glucose Co-Transporter 2 (SGLT2) inhibitors are medicines that can help reduce the risk of these complications developing or getting worse. Some SGLT2 inhibitors are already FDA-approved to treat heart failure and chronic kidney disease in T1D based on their demonstrated benefits in both people with type 2 diabetes (T2D) and people without diabetes. Major trials are underway further evaluating the benefits of SGLT2 inhibitors for heart and kidney health in T1D.

This handout provides information and considerations for use of SGLT2 inhibitors in people with T1D and heart or kidney disease.

What are SGLT2 inhibitors?

SGLT2 inhibitors, such as dapagliflozin, empagliflozin, canagliflozin, and ertugliflozin, as well as a closely related therapy called sotagliflozin, are oral medications taken once daily. These medications help promote excess glucose excretion in the urine and have demonstrated positive effects on the heart and kidneys in people with diabetes. SGLT2 inhibitors improve kidney and heart health by normalizing functions in the kidney. The improved kidney health in turn helps the heart by allowing blood to move more easily throughout the body.

What effects do these medicines have on kidney and heart health?

Research has shown that SGLT2 inhibitors can lower rates and severity of complications in both the kidneys and the heart in type 2 diabetes, and this benefit is being studied in T1D.

In chronic kidney disease, these medications can lower a marker of kidney stress (urine albumin) as well as the overall risk of kidney failure. They may also reduce hospitalizations for heart failure as well as the risk of major heart-related events (like heart attack or stroke).

With your support, we are creating a movement to improve and change life with T1D, advancing breakthroughs on the way to cures.

To find out more, **visit BreakthroughT1D.org.**

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Unique considerations for people with T1D using SGLT2 inhibitors

For people with T1D, diabetic ketoacidosis (DKA) is the biggest concern when using an SGLT2 inhibitor. These medications can lead to decreased insulin therapy needs and can sometimes lead to ketone formation, even if blood sugar levels are normal. SGLT2 inhibitors increase the amount of glucose in the urine, which can lead to more frequent urination and may be confused for a sign of high blood sugar. This can also lead to a higher risk for a yeast infection. Regular consultation with a healthcare provider is important to navigate changing insulin needs in the context of risk for DKA.

Risk factors for DKA include:

Which people with T1D may benefit from an SGLT2 inhibitor?

Some SGLT2 inhibitors are approved to treat chronic kidney disease and heart failure in people with T1D. These medications may be safest for people with T1D who use a continuous glucose monitor (CGM), have access to ketone monitoring, and have not recently experienced DKA. It is important to consult with a healthcare provider when making insulin therapy adjustments and learning how to manage and monitor ketones.

Although these medications can lower blood sugars in people with T1D, they are not specifically approved for this use.

Tips to Support Safe Use of SGLT2 Inhibitors

Work closely with a healthcare provider to develop a safe plan for SGLT2 inhibitor use.

The following should be considered:

- Regular use of a CGM
- Stay well hydrated and avoid prolonged fasting
- Discuss with a healthcare provider when it may be necessary to temporarily stop using an SGLT2i (e.g. during periods of illness or for medical procedures)
- Understand that DKA can happen even when glucose levels are <200 mg/dL
- Know when to monitor ketone levels
- Have supplies to monitor ketones as directed by a healthcare provider
- Have a ketone action plan in place in case ketones develop