

SGLT2 inhibitors for heart failure

What you need to know

If you have heart failure, your doctor may prescribe an SGLT2 (sodium-glucose cotransporter 2) inhibitor to help you feel better and live longer.

SGLT2 inhibitors were first developed to treat high blood sugar in people with type 2 diabetes. But they have quickly become valuable heart medicines too.

For people with heart failure, **SGLT2 inhibitors can lower the likelihood of:**

- **Needing hospital care** due to heart failure (heart failure is a leading reason for hospitalizations among people 65 and older)
- **Dying** from heart disease
- **Worsening kidney disease** (half of people with heart failure also have kidney disease)

Because of their benefits, SGLT2 inhibitors are now approved by the U.S. Food and Drug Administration (FDA) to treat heart failure - whether you have diabetes or not. They should be taken along with your other heart medications and lifestyle changes.



There are many names for SGLT2 inhibitors. Examples of those used for heart failure care:

- canagliflozin (Invokana)
- dapagliflozin (Farxiga)
- empagliflozin (Jardiance)
- sotagliflozin (Inpefa)

More are being studied. SGLT2 inhibitors are also known as gliflozins.



Helping your heart

SGLT2 inhibitors + other **heart medicines** you take + a **healthy lifestyle** can help you stay out of the hospital and live longer without related complications.

Use this handout to learn more about SGLT2 inhibitors to treat heart failure.

Benefits of SGLT2 inhibitors



Diabetes

Reduces cardiac events and death



Heart Failure

Lowers hospital stays and the likelihood of dying



Kidney Disease

Helps slow further worsening disease or death



Did you know?

1 in 8 deaths are due to heart failure each year.

Heart failure is the #1 reason someone has to go back to the hospital within a month of leaving.

How do SGLT2 inhibitors work to help the heart?

We aren't entirely sure. There are a number of theories, which are being studied.

For example, they seem to:





- Improve the body's ability to manage blood sugar (glucose). We usually think about blood sugar as it relates to diabetes, but too much blood sugar can also trigger cell damage and inflammation, which can affect the blood vessels and heart muscle.
- Prevent blood sugar from being reabsorbed by the kidneys, helping the body flush more glucose out in the urine.
- Lower blood pressure by blocking sodium from being taken up again by the kidneys.
- Have a diuretic effect that may help people from getting congested (fluid buildup).

Researchers are also looking at:



- The effect these medications have on helping the kidneys do their job.
- If they have direct and positive effects on the heart muscle itself that may improve the heart's ability to pump blood to the body.

What are the side effects?

In general, side effects from SGLT2 inhibitors are mild and can be managed.

| In some cases, SGLT2 inhibitors can increase the chance of: | Possible symptoms | Other considerations |
|--|--|--|
|  Dehydration - when you don't have enough fluid in your body | <ul style="list-style-type: none"> • May cause you to feel faint, lightheaded or weak | <p>Let your care team know right away if you feel dehydrated. Ask how much fluid you should drink on a daily basis.</p> |
|  Urinary tract infections (UTIs) | <ul style="list-style-type: none"> • Pain or burning while urinating • Frequent urination • Feeling the need to urinate despite having an empty bladder • Bloody urine • Pressure or cramping in the groin or lower abdomen | <p>One of the main reasons is because so much sugar (glucose) is in the urine. It can be a source of infection or bacterial growth, so extra care is needed for good hygiene.</p> |
|  Yeast infections of the vagina or penis | <ul style="list-style-type: none"> • Unusual discharge that may be thick and white • itching and burning • Pain with intercourse • Pain when urinating • Redness or swelling of the skin | <p>This is due to sugar (glucose) that spills out of the urine and this can promote growth or bacteria and infection. These infections occur more often in people with diabetes, women or uncircumcised men. Careful hygiene is important to lower the chance these infections will occur.</p> |
|  Low blood sugar | <ul style="list-style-type: none"> • Shaking • Sweating • Fast heartbeat • Dizziness • Hunger • Headache • Irritability | <p>This is very uncommon, and most likely to happen if you have diabetes and take other medications that can cause low blood sugar, such as sulfonylureas or insulin.</p> |

Side effects (continued)

| In some cases, SGLT2 inhibitors can increase the chance of: | Possible symptoms | Other considerations |
|---|--|--|
|  Low blood pressure | <ul style="list-style-type: none"> • Lightheadedness or dizziness • Blurred vision • Feeling weak • Confusion • Fainting • Nausea • Cold, clammy, pale skin | <p>SGLT2 inhibitors may result in lower blood pressure. Staying hydrated can help reduce the chance of this happening.</p> |
|  Diabetic ketoacidosis, rarely - when there isn't enough insulin, ketones can build in body and cause too much acid in the blood. | <ul style="list-style-type: none"> • Being very thirsty • Urinating often • Feeling a need to throw up and throwing up • Having stomach pain • Being weak or tired • Being short of breath • Having fruity-scented breath • Being confused | <p>Ketoacidosis is very serious and needs to be treated right away. You should go to the nearest emergency department.</p> |

This is not a complete list of side effects.

If you think your medication is causing any side effects, always talk with your health care team. Your doctor may be able to change the medication or the amount (dose) you take.

How do you take it?

As with all medications, take it exactly as directed by your health care team. It's generally an easy medication to take:



Once a day in the morning



By mouth



With or without food

What can you expect taking this medication?

There are a few things to keep in mind:

- **Your doctor may check how well your kidneys are working** before and after you start taking an SGLT2 inhibitor. Other blood and urine tests also may be needed.
- **You will take the SGLT2 inhibitor in addition to your other heart failure medications.**

These may include one or more of the following:

- » Mineralocorticoid antagonist (for example spironolactone or eplerenone)
- » ARNI (combination of sacubitril and valsartan), an ARB or ACE inhibitor
- » Beta blocker
- » Diuretic(s) or water pill to remove excess fluid from the body, when needed



Together, these medications can help to ease symptoms, keep you out of the hospital, and alive longer.

SGLT2 inhibitors can make you urinate more. If you are also on a loop diuretic (such as furosemide or torsemide), your care team may need to adjust the amount (dose) you take. It's a good idea to weigh yourself before starting an SGLT2 inhibitor to see if your weight drops quickly soon after you start the drug. If this occurs, it could mean you are losing too much fluid.

- **It may take a little time to feel the effects.** Some people who take an SGLT2 inhibitor for heart failure shared that it took a few weeks to notice a difference. For many, it has given them more energy to play with their kids, go up a flight of stairs without being as winded, and feel better overall.
- **As with other medications, you should watch for and report any new symptoms or side effects.** Be sure to tell your care team if you have bothersome or unusual symptoms that you think may be related to the medication. The information page or insert that comes with your medication lists common side effects.
- **Some people can get dehydrated when taking these medications.** Ask your care team how much water you should be drinking each day. If you feel dry, try to stay away from drinks with caffeine or added sugar. With heart failure, it's important to limit alcohol too.
- **Plan ahead.** If you need to fast for a period of time, or you're having a colonoscopy or any other surgery or procedure, you will need to stop your SGLT2 inhibitor for a short period - usually 3-4 days beforehand. Tell your care team in advance so that you can make a plan together for when to stop and restart the SGLT2 inhibitor and any other medications (for example, blood thinners).

- **SGLT2 inhibitors can be expensive.** What you pay for an SGLT2 inhibitor may be higher than your other medications. It will depend on your health plan. Talk with your care team if you are having trouble paying for your medicines. You can also:
 - » Call your health insurance company using the phone number on the back of your insurance card or go online to find out which SGLT2 inhibitor is on its formulary or preferred drug list and what it will cost you. Be sure to have your insurance plan number, and the name and dose of the medication being prescribed handy.
 - » Find out if you qualify for a prescription savings, co-pay cards or pharmaceutical assistance program. Many makers of manufacturers of drugs offer financial assistance.

[Farxiga SavingsRx Card](#)

[Invokana CarePath](#)

[Inpefa Together Savings Card](#)

[Jardiance Savings Card](#)

- **If you have type 2 diabetes and take diabetes medicines, it's a good idea for both your heart doctor (cardiologist) and diabetes doctor (endocrinologist) to know you are taking an SGLT2 inhibitor.** The SGLT2 inhibitor is being prescribed for the added heart benefits, but because it also lowers blood sugar, you'll want to keep a close eye on your blood sugar levels. Your care team may need to change your medications slightly.
- **If you don't have diabetes, remember that you are taking the SGLT2 inhibitor for your heart.** Make sure to tell your primary care and other providers too so they know why you are taking it.



Medications can go a long way to help you feel better. Remember that - as with adding an SGLT2 inhibitor to the other medications you are taking - there will be times when your care team may add, take away or change a medication.

Sharing your goals for treatment

Whenever you change or add a new medication, it's a good time to revisit and talk with your health care team about your goals for managing heart failure and protecting your heart health. You may find that your goals change over time, depending on how your heart condition is affecting your day-to-day and life events.

Think about how you'd answer these questions:

- When it comes to treating heart failure, **what matters most to you?**
- How important is it that you are able to stay out of the hospital?
- What about being active with family, friends or with hobbies?
- What's your understanding of how adding an SGLT2 inhibitor might help you achieve your goals?
- Is cost a concern for you?
- What about taking multiple medications? Is that difficult for you?

Share your thoughts and feelings with your care team.



Questions to ask

It's always important to ask questions when starting and/or changing any of your medications. Here are some ideas to get you started:

- What is this medication for? Why are you recommending it?
- I've read this is a diabetes medication, so how will it help my heart or kidneys?
- How will we know if it's working?
- When and how do I take it?
- Are there medications, supplements or foods that can affect the way it works?
- What side effects should I watch for and report right away? Who should I contact if I'm having any issues?
- Why are we checking my kidney function?
- What do I do if I miss a dose?
- Are there occasions when I might need to stop taking my SGLT2 inhibitor?
- How much does it cost? Are there resources to help if I can't afford this medication?
- I have diabetes and take other diabetes medications. Will we need to make adjustments to my other medications once I start on an SGLT2 inhibitor?

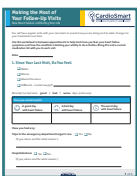
Helpful resources

CardioSmart has information and tools to help you manage your heart failure and feel better. Visit [CardioSmart.org/HeartFailure](https://www.cardiosmart.org/HeartFailure).



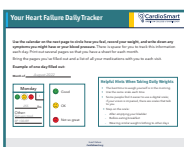
[Action Plans for Heart Failure](#)

Use an action plan to learn how to best manage your type of heart failure – [reduced ejection fraction \(HFrEF\)](#) or [preserved ejection fraction \(HFpEF\)](#).



[Making the Most of Your Follow-Up Visits](#)

A worksheet to track how you feel and your heart failure symptoms in between health visits.



[Your Heart Failure Daily Tracker](#)

Use this calendar each day to record how you feel, any symptoms and your blood pressure.



[Your Heart Failure Checklist](#)

Steps you can take to manage your heart failure.