



SGLT2 Inhibitors (Sodium-glucose co-transporter 2 inhibitors)

Information for patients with type 2 diabetes

You have been prescribed or offered Sodium-glucose co-transporter 2 inhibitors (SGLT2 Inhibitors) to help with your diabetes. This leaflet will explain the following.

- What SGLT2 Inhibitors are.
- What the side effects could be.
- The reasons you may need to stop taking it.
- What to do if you have any concerns.

If you have any further questions, please speak to your diabetes nurse or doctor.

What are Sodium-glucose co-transporter 2 inhibitors?

SGLT2 Inhibitors are a class of medication that will help with your diabetes. They work by reducing reabsorption of salt and glucose (sugar) in your kidneys. As glucose passes out through your urine, your blood glucose levels reduce.

SGLT2 Inhibitors are also used for patients with certain kidney and heart problems. This medication can reduce your chance of heart failure and heart attacks. It also slows down deterioration of kidney function.

What medications fall under the classification of SGLT2 Inhibitors?

- Dapagliflozin (Forxiga, Xigduo, Qtern)
- Empagliflozin (Synjardy, Glixamb, Jardiance)
- Canagliflozin (Ivonkana, Vonkamet)
- Ertugliflozin (Steglatro)

What are the possible side effects?

Common side effects (affects between 1 in 100 and 1 in 10 people)

- **Dehydration.** This medication causes you to pass more urine. Make sure that you always drink plenty of fluids when taking SGLT2 Inhibitors.
- **Thrush or candida infections.** This can happen as the amount of glucose in your urine is increased. If you have itching or sores in your genital or anal area, please contact your doctor. Washing your genital area and avoiding tight underwear can reduce your risk.
- **Urinary tract infection.** As more glucose is passed in the urine, there is an increased risk of developing a urinary tract infection.
- **Hypoglycaemia** is when blood glucose levels are below 4 mmol/L. This happens when SGLT2 Inhibitors are used with other medications, such as insulin and sulphonylureas (Gliclazide, Glimepiride, Tolbutamide, and Glipizide). If this happens, please speak to your doctor as you may need your diabetes medications adjusted.

Uncommon side effects (affects between 1 in 1,000 and 1 in 100 people)

- **Hypotension (low blood pressure).** SGLT2 Inhibitors have blood pressure-reducing qualities. Because of this, you can experience low blood pressure and possible dizziness.

Rare side effects (affects between 1 in 10,000 and 1 in 1,000 people)

- **Foot disease or non-healing foot and leg ulcers.** Speak to your doctor immediately if you develop sores on your feet, toes, or heels, or if other parts of your feet start to change colour.
- **Increase acid in the blood** called Diabetic Ketoacidosis (DKA). This can be checked by measuring your blood ketones. If you are in hospital, the acidity of your blood can be checked as well.

DKA is a rare but potentially life-threatening condition. It can affect people who have diabetes. It is extremely rare for those taking SGLT2 Inhibitors without diabetes. It is caused by a severe lack of insulin in the body. This means the body cannot use glucose for energy and starts to use fat instead. When this occurs, acids called ketones are released and make your blood acidic. This can occur even with normal blood glucose levels.

The risk of DKA increases with the following:

- when you have an infection
- if you reduce your insulin too quickly
- if you miss or forget to administer your insulin
- in starvation and dehydration, or
- if you drink too much alcohol.

Symptoms include:

- nausea (feeling sick)
- vomiting (being sick)

- abdominal (stomach) pain
- rapid breathing
- dizziness, and
- your breath may smell of 'pear drops' or nail varnish remover.

If you believe you are developing DKA, urgently seek medical help.

- **Fournier's gangrene** is a rare but serious infection of the genital and anal area.

Speak to your doctor urgently, if you have any of the following in your genital area. You may need antibiotics and your diabetes medications will need to be adjusted.

- Soreness
 - Tenderness
 - Redness
 - Swelling
 - Severe pain
- You may also experience a high temperature or fever.

Are there any reasons that I should stop taking SGLT2 inhibitors?

You should stop taking SGLT2 Inhibitors if you have any of the following symptoms.

- Dehydration, which can include a high temperature / fever.
- Becoming unwell.
- Nausea (feeling sick) and vomiting (being sick).
- Diarrhoea (your stools (poo) are loose and watery).

What if I am having surgery?

If you are having a planned surgery, talk to your surgeon as SGLT2 Inhibitors must be stopped before surgery.

- Canagliflozin, Empagliflozin or Dapagliflozin should be stopped three days before your surgery.
- Ertugliflozin should be stopped four days before your surgery.

Once you start eating your usual diet, you can start taking them again. This is usually 48 hours after your surgery.

Can anyone take SGLT2 Inhibitors?

No. SGLT2 Inhibitors are less likely to be suitable and you should discuss with your doctor if you:

- have had a previous reaction to one of the other SGT2 Inhibitors.
- are less than 18 years old, or less than 10 years old for Empagliflozin.
- are pregnant.
- drink excessive alcohol.
- are breastfeeding.
- have a history of DKA (diabetic ketoacidosis) or are prone to having ketones.
- are on a low carbohydrate or ketogenic diet.
 - A **low carb diet** is less than 20 to 50 grams of carbohydrates a day.
 - A **ketogenic diet** is when you eat less than 100 grams of carbohydrate, and replace them with a high fat diet.
- have a history of peripheral vascular disease (PVD) or reduced circulation to parts of your body, due to narrowing or blockage of blood vessels.
- have frequent urine infections.
- have sores on your feet, that are taking longer to heal or are not healing.
- have sores forming on and around the genital area. This includes sores that are taking longer than normal to heal.
- have a BMI of less than 25kg/m².
- have reduced kidney function (reduced eGFR).

If you have reduced kidney function, talk to your doctor or diabetes team.

If you have a prostate enlargement, talk to your doctor as SGLT2 Inhibitors can increase how often you urinate.

If you or someone you know has dementia and is being prescribed SGLT2 Inhibitors, talk to your doctor as dehydration is a common side effect.

Things to remember

- With diabetes, it is important to keep your feet healthy. You must have your annual feet checks.
- When using SGLT2 Inhibitors, check your feet regularly.
- If you have non-healing sores on your feet, legs or groin area, you must talk to your doctor.
- It is important that you stay hydrated when using SGLT2 Inhibitors. Make sure you drink plenty of fluids.
- Keep your genital area clean.

- Always tell healthcare professionals that you are taking SGLT2 Inhibitors.

What if I have any concerns?

If SGLT2 Inhibitors are not for you, please talk to your doctor or diabetes team. There are other options to help with your diabetes and improve your quality of life.

If you need urgent treatment, please call 111 or emergency care 999.

If you are using SGLT2 Inhibitors for your heart condition, please speak to your cardiologist.

This leaflet has been produced with and for patients.

Please let us know:

- If you have any accessibility needs; this includes needing a hearing loop or wanting someone to come with you to your appointment.
- If you need an interpreter.
- If you need this information in another format (such as Braille, audio, large print or Easy Read).

You can let us know this by:

- Visiting the Trust web site (<https://www.ekhuft.nhs.uk/ais>).
- Calling the number at the top of your appointment letter.
- Adding this information to the Patient Portal (<https://pp.ekhuft.nhs.uk/login>).
- Telling a member of staff at your next appointment.

Any complaints, comments, concerns or compliments, please speak to a member of your healthcare team. Or contact the Patient Advice and Liaison Service on 01227 783145 or email (ekh-tr.pals@nhs.net).

Patients should not bring large sums of money or valuables into hospital. Please note that East Kent Hospitals accepts no responsibility for the loss or damage to personal property, unless the property has been handed into Trust staff for safe-keeping.

Further patient information leaflets are available via the East Kent Hospitals' web site (<https://www.ekhuft.nhs.uk/patient-information>).

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