

Getting the most from your Sodium Glucose Co-transporter-2 Inhibitors (SGLT2i)

What are SGLT2 Inhibitors?

You are being treated with one of the SGLT2 inhibitors medicines, sometimes known as 'gliflozins' or 'flozins'. These include: canagliflozin (Invokana®), dapagliflozin (Forxiga®), empagliflozin (Jardiance®) and ertugliflozin (Steglatro®).

These medicines were initially developed to treat people with diabetes as they lower blood glucose by increasing the amount of glucose in the urine. They have added benefits that include protecting the kidneys and heart, slowing the decline in kidney function and reducing the risk of heart failure and heart attacks in individuals at most risk. These kidney and heart benefits apply to all individuals, not just those with diabetes.

Side effects of SGLT2 Inhibitors

Common:

- **Hypoglycaemia** (low blood glucose) – this usually only occurs in people with diabetes if SGLT2 inhibitors are used together with other diabetic medicines and your doctor may, therefore, need to reduce other diabetes medicines. However, never stop insulin all together if you are already on this. Hypoglycaemia is uncommon in people without diabetes
- **Dehydration** – these medicines increase your urine volume so may cause dehydration. To prevent dehydration, drink fluids when you feel dehydration symptoms and also so your urine is a pale, clear colour
- **Fungal genital infections** – as the medicines increase the glucose in your urine, there is an increased risk of infection, such as thrush around the vagina and penis. However, this is easily treated and a pharmacist or your GP can give you advice if irritation or itching occurs in these areas. Washing your genital area with warm water using non-perfumed soap and avoiding wearing tight underwear will reduce your risk.
- **Bacterial genital infections** -There is a condition called **Fournier gangrene** to be aware of which is an infection of the scrotum, penis or perineum area that can cause pain, redness, swelling and tenderness accompanied with fever or tiredness. Please seek urgent medical attention if you experience this. There is also a higher risk of developing urinary tract infections; if this happens frequently please consult your GP.

Uncommon:

An increase of acid in the blood – SGLT2 inhibitors may cause certain acids (ketones) to build up in the blood. This is called **diabetic ketoacidosis (DKA)**. This is a rare event in people with diabetes and is extremely rare in people treated with SGLT2 inhibitors without diabetes. DKA can happen **even when your blood glucose is normal**. Symptoms include nausea and vomiting, abdominal (stomach) pain, rapid breathing and dehydration e.g. dizziness and thirst. The breath smells like pear-drops or nail varnish remover. The risk of DKA is increased if you do not eat for long periods, become

dehydrated, reduce your insulin dose too quickly, drink too much alcohol or are unwell. **Please seek medical advice from your GP/Pharmacist/NHS 111 before starting any new diet** particularly very low carbohydrate diets (also called ketogenic diets) as these can increase the ketones in the blood. DKA is a serious health condition. If you believe you are developing symptoms of DKA then please seek urgent medical help and tell the doctor about the medication you are taking.

- Foot disease - if you have been told you have an 'at risk foot', an active foot ulcer or circulatory problem in your leg, you should confirm with your doctor if you should stop or continue this medication.

When to stop taking SGLT2 inhibitors if you become unwell

It is best practice to use **good sick day guidance** with these medicines. You should stop taking SGLT2 inhibitors if unwell especially with vomiting, diarrhoea or fever (high temperature) or if you are fasting e.g. before an operation. If you are taking these medications for heart failure, please contact your heart failure specialist nurse or specialist pharmacist for advice about whether to stop these medications.