

# TYPE 2 DIABETES AND DIABETIC KETOACIDOSIS

## ➤ WHY IS THIS LEAFLET FOR YOU?

Diabetic ketoacidosis (DKA) is a rare but serious condition. You have been given this leaflet because you are taking a tablet for type 2 diabetes that may increase your risk of getting DKA. This tablet belongs to a group of medicines called sodium glucose co-transporter-2 (SGLT2) inhibitors. You may be more at risk of getting this rare side-effect:

- If you have a serious illness
- If you are dehydrated
- If you have had significant weight loss and have poor appetite
- If you have an excessive alcohol consumption
- If you have a sudden reduction in insulin treatment
- During surgery<sup>1</sup>

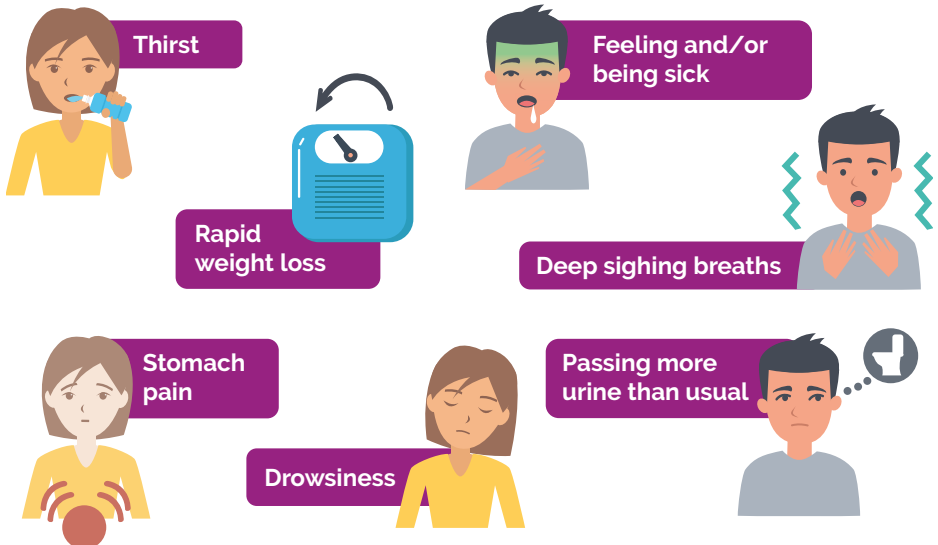
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## > WHAT IS DIABETIC KETOACIDOSIS (DKA)?<sup>2</sup>

- DKA develops due to an absolute lack of insulin in type 1 diabetes. DKA in type 2 diabetes is due to severe relative insulin deficiency.
- Insulin is needed to get glucose from the blood into cells for energy.
- DKA develops when there is not enough glucose entering the cells because there is not enough circulating insulin in the body. The body then begins to use its fat stores as an alternative source of energy. This results in acidic ketones being produced.
- Ketones are toxic and disrupt the normal functioning of the body's processes.

## > SIGNS AND SYMPTOMS OF DKA<sup>2</sup>

If you are able to test your blood glucose, you may notice it is higher than usual. However, DKA can still be present with moderately raised blood glucose levels and may include the following symptoms:



**⚠** Other people may notice that your breath smells of pear-drops or acetone. These are ketones. A nurse or doctor can test your blood or urine to detect the presence of ketones.

## > DKA AND ILLNESS<sup>3</sup>

Everyone occasionally has episodes of illness and it rarely develops into DKA. Illness can make blood glucose levels more difficult to control and make you feel thirsty, tired and pass more urine than usual.

Here are some tips to help you manage your diabetes when you are ill:

<p>&gt; Rest – strenuous exercise can make your blood glucose levels rise.</p>	
<p>&gt; If you are able to test your blood glucose levels, test at least 4 times over the day.</p>	
<p>&gt; You may need an increase in your diabetes medication if the blood glucose readings are much higher than usual. Seek medical advice about this.</p>	
<p>&gt; Prevent dehydration by drinking plenty of sugar-free fluids. Sip gently throughout the day.</p>	
<p>&gt; If you do not feel like eating normal meals, eat or drink easily digested foods such as milky drinks, ice cream, yoghurt and soups.</p>	
<p>&gt; If you think you have an infection, see your GP. You can use over-the-counter medicines for sore throats and a raised temperature if required. These do not have to be sugar-free. Ask your pharmacist for advice.</p>	
<p><b>!</b> If your symptoms are getting worse or you think you are developing DKA, stop the SGLT2 inhibitor tablet and seek urgent medical advice.</p>	

If you are going into hospital for major surgery or are admitted for an acute serious medical illness, your doctor will stop your SGLT2 inhibitor medication. It can usually be restarted once you have recovered. If you have been diagnosed with DKA, the tablet will be stopped and not re-started<sup>4</sup>.

## › THINGS TO REMEMBER:

- ⚠ Rest if you feel unwell
- ⚠ Drink plenty of fluids to prevent dehydration
- ⚠ If you have the signs and symptoms of DKA, you should get to hospital quickly for treatment.

## › USEFUL RESOURCES AND REFERENCES:

TREND-UK: [www.trend-uk.org](http://www.trend-uk.org)

Diabetes UK: [www.diabetes.org.uk](http://www.diabetes.org.uk)

Diabetes UK: ☎ 0345 123 2399

1. Forxiga (dapagliflozin) 10mg film-coated tablets: Summary of Product Characteristics available at: [www.medicines.org.uk/emc/product/7607/smpc](http://www.medicines.org.uk/emc/product/7607/smpc) (last accessed March 2019)  
Invokana (canagliflozin) 100mg and 300mg film-coated tablets: Summary of Product Characteristics available at: [www.medicines.org.uk/emc/product/8855/smpc](http://www.medicines.org.uk/emc/product/8855/smpc) (last accessed March 2019)  
Jardiance (empagliflozin) 10mg film-coated tablets: Summary of Product Characteristics available at: [www.medicines.org.uk/emc/product/5441/smpc](http://www.medicines.org.uk/emc/product/5441/smpc) (last accessed March 2019)  
Steglatro ▼ (ertugliflozin) 5mg and 15mg film-coated tablets: Summary of Product Characteristics available at: [www.medicines.org.uk/emc/product/9803/smpc](http://www.medicines.org.uk/emc/product/9803/smpc) (last accessed March 2019)
2. Diabetes UK: [www.diabetes.org.uk/guide-to-diabetes/complications/diabetic\\_ketoacidosis](http://www.diabetes.org.uk/guide-to-diabetes/complications/diabetic_ketoacidosis) (last accessed March 2019)
3. Diabetes UK: [www.diabetes.org.uk/Guide-to-diabetes/Life-with-diabetes/Illness](http://www.diabetes.org.uk/Guide-to-diabetes/Life-with-diabetes/Illness) (last accessed March 2019)
4. SGLT2 inhibitors: updated advice on the risk of diabetic ketoacidosis (2016) available at: [www.gov.uk/drug-safety-update/sglt2-inhibitors-updated-advice-on-the-risk-of-diabetic-ketoacidosis](http://www.gov.uk/drug-safety-update/sglt2-inhibitors-updated-advice-on-the-risk-of-diabetic-ketoacidosis) (last accessed March 2019)

### ▼ This medicine is subject to additional monitoring.

This will allow quick identification of new safety information. You can help by reporting any side effects you may get. See [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard) for how to report side effects.

### Reporting of side effects:

If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in the package leaflet. You can also report side effects directly via the Yellow Card Scheme at [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard). By reporting side effects you can help provide more information on the safety of this medicine.



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