

High blood glucose in type 2 diabetes (hyperglycaemia)

Blood glucose levels can sometimes go out of your target range. Knowing your target range is important in managing diabetes.

Am I at risk of high blood glucose?

Yes. Any person with diabetes can have high blood glucose (hyperglycaemia). Over time, people with type 2 diabetes require changes in their medication to stay in their target range.

What causes high blood glucose?

- > not enough diabetes medication (tablets or injectables)
- > missing diabetes medication/insulin doses
- > increase in carbohydrate food and fluid intake
- > miss match of carbohydrate intake and diabetes medication
- > decrease in physical activity
- > increase in weight
- > stress, illness, infection or surgery
- > other medications (eg prednisolone).

What is the risk of high blood glucose?

High blood glucose is when your blood glucose is greater than your target level. Occasional higher readings are expected and should not cause long term problems.

Taking action to improve your blood glucose levels will reduce your risk of infection, illness, and hospital admission and diabetes related complications.

Should I test my blood glucose and ketones more often?

Symptoms of high blood glucose may include thirst, tiredness, lack of energy, passing lots of urine (eg especially at night), weight loss or blurred vision. These symptoms can be mistaken or overlooked. Home blood glucose monitoring will identify high blood glucose.

- > Check your blood glucose level more often to see if the higher reading is a one off or not.
- > Monitor your blood glucose at least 4 times a day (eg before meals and at bedtime).

You may also have been instructed to test ketones. If so,

- > Check your blood ketone if you are feeling unwell or if your blood glucose is greater than 15.0mmol/L.
- > If your blood ketones are greater than 0.6mmol/L, please refer to your **sick day action plan**.
- > Recheck your blood ketones if nausea or vomiting persist. Please refer to your **sick day action plan**.



Should I continue my usual diabetes medications?

In most cases you should continue to take your usual medications as prescribed, even if you are eating little or have vomiting and/or diarrhoea. Some medications may need to be stopped, please refer to your **sick day action plan**.

Check that you are taking your diabetes medication as directed. Try to remember if you:

- > took your correct diabetes medication at the correct time
- > stored your medication correctly and that it is within the expiry date
- > gave the injectable medication dose correctly and that the delivery device was working.

Can I use extra diabetes medication?

Adjustments to your diabetes medication (tablets or injectables) may be possible but can also be very dangerous if diabetes medications are taken incorrectly. Please refer to your **sick day action plan**.

Can I use extra insulin?

Adjustments to your insulin doses or an extra dose (eg called a 'correctional' dose) of rapid acting insulin can help control high blood glucose.

Please refer to your **sick day action plan** for your correctional dose/s of insulin during:

- > unexpected illness
- > as part of a treatment plan (eg when another medical condition causes your blood glucose to rise for an expected period of time (eg asthma requiring prednisolone, on renal dialysis days).

What should I eat and drink?

Keeping up your usual food and fluid intake will reduce the risk of hypoglycaemia and maintain energy requirements. ½ to 1 cup of fluid (125-250ml) every hour to avoid dehydration. If you are nauseated and unable to eat, have:

Blood Glucose	Type of Fluids
Less than 15.0mmol/L	Carbohydrate containing fluids (eg soft drink, juice, ordinary jelly)
Greater than 15.0mmol/L	Carbohydrate-free fluids (eg diet drinks, diet jelly, diet ice blocks)

When should I seek help?

Starting your **sick day action plan** early is recommended if you:

- > are a child, are pregnant or are elderly
- > have another medical condition/s
- > live in a rural or remote area some distance from medical support.

Contact your doctor if your blood glucose is more than 14.0mmol/L for more than 24 hours.

Go to your nearest hospital if:

- > you are unable to eat or drink or you have been vomiting for more than 4 hours
- > symptoms such as drowsiness, confusion, disorientation, heavy breathing, dehydration or severe abdominal pain
- > blood glucose stays below 4.0mmol/L and you cannot get it up
- > too unwell to stay home.

My Sick Day Action Plan

Commence immediately if you are feeling unwell OR if your blood glucose is greater than 15.0mmol/L for more than 8-12hours.		Medical Record No: _____ Name: _____ Date of Birth: ___/___/_____
Doctor: _____ CDE: _____	Ph: _____ Ph: _____	Health Direct (24hr health advice line) Ph: 1800 022 222
My blood glucose target range is:	Fasting: _____ Pre meal: _____	Before bed: _____ Overnight: _____
Blood glucose (BG) monitoring instructions*	Monitor BG at least 4 times a day (eg before meals and at bedtime). Monitor BG at any time if low blood glucose (hypo) is suspected. Monitor BG at 02:00hrs if low blood glucose (hypo) overnight is suspected. Check BG 1-2hours after correctional insulin dose/s.	
Blood ketone monitoring instructions*^ <i>Risk of diabetic ketoacidosis or taking SGLT2 medication</i>	Monitor blood ketones daily. Check blood ketones 1-2hours if nausea and vomiting persist.	
Usual diabetes medications instructions* <i>Consider risk of renal failure, cardiac failure, pancreatitis and diabetic ketoacidosis.</i>	Continue usual medications or hold _____ _____	
Correctional rapid acting insulin instruction* <i>Calculated on Total Daily Dose TDD _____ 5% of TDD _____ 10% of TDD _____</i>	Administered immediately but no closer than 2hours to the previous dose/s at main meal times. Limited to 2 correctional doses. Seek urgent medical assistance if blood glucose remains greater than 15.0mmol/L.	
Foods and fluid instruction	Alternative food:- _____ _____ If unable to eat, have ½ to 1 cup of fluid (125-250ml) every hour to avoid dehydration. If BG less than 15.0mmol/L, have carbohydrate containing fluids. If BG greater than 15.0mmol/L, have carbohydrate-free fluids.	
Hypo action plan	Updated: _____ Not applicable: _____	
When to visit your nearest hospital	<ul style="list-style-type: none"> > BG greater than 15.0mmol/L for more than 24hours despite additional oral medications or 2 correctional insulin doses. > Blood ketones greater than 1.5mmol/L. > Symptoms of drowsiness, confusion, breathing difficulties or severe abdominal pain. Vomiting persists for more than 4hours. > Hypoglycaemia or if the BG cannot be kept above 4.0mmol/L. > Unable to self-care and support person unable to assist. 	
Dated:	CDE Name:	Sign:

*ADEA 2016 Clinical guiding principles for sick day management of adults with type 1 and type 2 diabetes

^SA Health 2018 SGLT2 Inhibitors - Medication for type 2 diabetes Factsheet

For timely management of any illness, a Sick Day Management Kit at home and when travelling is recommended.

<p>Home Kit</p>	<ul style="list-style-type: none"> > List of all medication/s > Vaccination history > A copy of this Sick Day Action Plan > A copy of the ADEA (2014/15) Sick Day Management Guidelines for Adults with type 2 diabetes Consumer Resource available at https://www.adea.com.au/wp-content/uploads/2015/12/sick-day-booklet-type-2-single-pages-final.pdf > Telephone numbers to call eg Support People, General Practitioner, local Diabetes Service/Hospital, Credentialed Diabetes Educator, and Endocrinologist. <p>Extra</p> <ul style="list-style-type: none"> > Food and Fluid (both carbohydrate containing and carbohydrate free) > Finger pricker lancets > Lancet device and batteries for blood glucose meter > Blood glucose monitoring strips > Blood ketone monitoring strips (if instructed) > Sharps container > Hypo treatment including carbohydrate containing snacks > Glucagon Hypo Kit (if prescribed) > Rapid acting insulin (if prescribed) > Insulin pens and needles or insulin syringes (if instructed) > Alcohol swabs > Thermometer.
<p>Travel Kit</p> <p><i>Contents should be discussed with your General Practitioner or Endocrinologist as prescriptions for certain medications will be required.</i></p>	<ul style="list-style-type: none"> > Antiemetics > Antidiarrhoea agents > Paracetamol > Broad-spectrum antibiotics > Oral Rehydration Solution (ORS) > Betadine™ > Basic wound dressing product. <p>Further advice on emergency treatment when travelling can be obtained from the Smart Traveller website: www.smartraveller.gov.au</p>

Where can I go for more information?

Diabetes Australia

www.diabetesaustralia.com.au

National Diabetes Services Scheme

www.ndss.com.au

Australian Diabetes Educators Association

www.adea.com.au

Department of Health

www.health.gov.au

For more information

Diabetes Service

Rural Support Service

PO Box 287, Rundle Mall

ADELAIDE SA 5000

Telephone: (08) 8226 7168

www.chsa-diabetes.org.au

