



**FACT SHEET:**

# Managing hypoglycaemia

When blood glucose levels drop below 4 mmol/L in people with diabetes, it is called hypoglycaemia (also known as a hypo or low blood glucose level). Hypos can occur in people who use insulin and some other types of glucose-lowering medications. It is important to treat a hypo quickly to stop your blood glucose level from dropping even lower. You should always carry hypo treatment with you.

## What causes a hypo?

Hypos can be caused by a number of reasons including:

- using too much insulin or other glucose-lowering medication
- injecting insulin into a muscle
- delaying or missing a meal
- not eating enough carbohydrate (carb) foods in your last meal
- unplanned or intense physical activity
- more strenuous exercise than usual
- drinking alcohol, or not eating carbs when drinking alcohol

- if feeling unwell and unable to eat or drink
- when vomiting or having diarrhoea
- when breastfeeding.

A hypo can occur 12–15 hours after exercise, even occasionally up to 48 hours after exercise. It can also happen while you are sleeping.

Sometimes there is no obvious reason why a low blood glucose level happens. This why you need to be aware of the symptoms of a hypo and always carry a simple hypo treatment kit with you.

## What are the symptoms of a hypo?

A hypo can affect everyone differently and sometimes your symptoms can change. With time you will learn how it makes your own body feel. Early symptoms can include:

- weakness, trembling or shaking
- sweating
- lightheadedness or dizziness
- headache
- lack of concentration or behaviour change
- irritability, tearfulness or crying
- hunger
- tingling or numbness of the lips, tongue or cheek
- a fast heartbeat
- blurred vision.

If you feel any of these symptoms, check your blood glucose level. If you cannot do this, treat these symptoms as if you are having a hypo.

## How is a hypo treated?

It is important to treat a hypo quickly to stop your blood glucose level from dropping even lower. Untreated hypos can be dangerous.

The first thing to do is to be sure you are safe. For example, if you are driving a vehicle, pull over to the side of the road.

### STEP 1 – Most important!

Quickly have some easily absorbed carbs that you find easy to swallow such as:

- glucose tablets equal to 15 grams (g) of carb **OR**
- 6–7 regular jellybeans or 4 large glucose jellybeans **OR**
- 1 tube of oral glucose gel equal to 15 g of carb **OR**
- ½ a can (150 mL) of regular, not ‘diet’, soft drink **OR**
- 100 mL of Lucozade® **OR**
- 3 teaspoons of sugar or honey **OR**
- ½ a glass (125 mL) of fruit juice.

After 10–15 minutes, recheck your blood glucose level to make sure it has risen above 4 mmol/L.

If it has not, repeat step 1 and check your blood glucose level after 10–15 minutes again.

If you are using glucose-lowering diabetes medication that can cause hypos in combination with a medication called acarbose (Glucobay®), you must treat the hypo with pure glucose such as glucose tablets, glucose gel or Lucozade®.

### STEP 2

If your next meal is more than 15–20 minutes away and your blood glucose level is above 4 mmol/L, eat some longer-acting carbs such as:

- 1 slice of bread **OR**
- 1 glass (250 mL) of milk or soy milk **OR**
- 1 piece of fruit **OR**
- 4 dried apricots **OR**
- 1 tablespoon of sultanas **OR**
- 1 small tub (100 g) fruit yoghurt.

For individualised advice on hypo treatment, for example for small children or if you are using an insulin pump and/or a continuous glucose monitoring (CGM) or flash glucose monitoring (Flash GM) device, talk to your doctor, diabetes nurse practitioner or diabetes educator about how to treat and manage your hypos.

## What happens if a hypo is not treated?

If left untreated, blood glucose levels will continue to drop, and this may lead to a severe hypo. A severe hypo is one that you cannot treat yourself and where you need help from someone else. It can result in unconsciousness or seizures. It is important that your family, friends, and school and work mates know you have diabetes and what to do in case of a severe hypo.

Glucagon is a hormone, given by injection, that raises the blood glucose levels. Your doctor, diabetes nurse practitioner or diabetes educator may recommend you keep a glucagon injection at home. They may also recommend that you always carry it with you when you are away from home, and you will not have easy access to an ambulance in case of a severe hypo. You or your

doctor, diabetes nurse practitioner or diabetes educator can show your family or friends how to use it.

If you have experienced a severe hypo, notify your doctor as soon as possible. It is important to try and find the cause of the hypo and to review your diabetes management plan. You should also discuss when you should return to your normal activities, such as driving.

### What to do if the person is unconscious, drowsy or unable to swallow

**THIS IS AN EMERGENCY!** Do NOT give any food or drink by mouth.

- Place the person on their side and make sure their airway is clear.
- Give an injection of glucagon if available and if you know how to give it.
- Phone for an ambulance (dial **000**) and explain that the person is unconscious and has diabetes.
- Wait with the person until the ambulance arrives.

### Preparing a hypo treatment kit

Hypos can happen without a lot of warning so it is best to be prepared. Keeping a hypo treatment kit with you when you are out will help stop your blood glucose level from dropping even lower and you becoming seriously unwell. A hypo treatment kit needs to contain a few essential items:

- a blood glucose meter, blood glucose strips and lancet device
- 2 or 3 quick acting glucose treatments such as jellybeans, glucose tablets or gels in pre-packaged portions of 15 g, or non-diet soft drink or fruit juice
- follow up, longer acting carbs such as a sandwich, fruit, muesli bar or packet of dry crackers
- a Glucagon injection if recommended by your diabetes health professional.



### Impaired awareness of hypos

Sometimes people do not feel the early warning symptoms of a hypo and only realise they are having a hypo when their blood glucose levels drop very low. Some people have no symptoms at all and only realise they are having a hypo when they check their level and see it has dropped very low. This can lead to fear of hypos.

If you have had diabetes and experienced hypos for many years, the risk of not feeling the symptoms of hypos is greater. Impaired awareness of hypos can be dangerous because by the time you realise you are having a hypo you may find it hard to treat it. You could become unconscious.

If you have hypos without symptoms, or your symptoms change, you may need to check your blood glucose levels more often. Always treat a hypo when your blood glucose level is 4 mmol/L or below, even if you feel fine. If your blood glucose levels are low without any symptoms, you need to discuss this with your doctor, diabetes nurse practitioner or diabetes educator.



### Other things to consider

- Wear identification that says you have diabetes.
- Always carry a hypo treatment kit with you.
- Make a note of any hypos you do have to discuss these with your diabetes health professional.
- It is important not to over-treat hypos, for example, by eating more than the recommended amount of carb. This may cause your blood glucose level to rise too high and make it difficult to keep within the target blood glucose range.
- Make sure the people around you – such as your family, friends, co-workers, school staff or carers – know how to recognise and treat hypos.
- Alcohol can increase the risk of hypos. Have a meal containing carb foods before drinking alcohol and eat carb snacks while drinking alcohol. Check your blood glucose level and eat another carb snack before going to bed. Talk to your doctor, diabetes nurse practitioner or diabetes educator about alcohol and diabetes.



- Check your blood glucose level before driving a motor vehicle and operating heavy machinery. Do not drive if it is under 5 mmol/L. If you have had a hypo, wait at least 30 minutes and your blood glucose level is above 5 mmol/L before driving to make sure you are safe to drive.
- Make an appointment to see your doctor if you have had a severe hypo with loss of consciousness. You may need a change in medication. You may also need to stop driving for several weeks.



### More information and support

- Go to [ndss.com.au](https://www.ndss.com.au) to access the Carb Counting program online and other NDSS programs and services in your state or territory, or online.
- Go to [ndss.com.au](https://www.ndss.com.au) and search for the 'Blood glucose monitoring', 'Alcohol', 'Carbohydrate counting', 'Living with type 2 diabetes – what to do when you are sick' or 'Living with type 1 diabetes – what to do when you are sick', 'Continuous glucose monitoring', 'Flash glucose monitoring' and other fact sheets.
- Find out more about diabetes and road safety. Go to [ndss.com.au](https://www.ndss.com.au) to download the 'Diabetes and driving' booklet or watch the 'Diabetes and driving' video.
- Call the NDSS Helpline on **1800 637 700** and ask to speak to a diabetes educator or go to [adea.com.au](https://www.adea.com.au) to find a diabetes educator.
- Go to [healthdirect.gov.au](https://www.healthdirect.gov.au) to find diabetes health professionals near you.

