

Patient information

Diabetes: Hypoglycaemia

What is hypoglycaemia?

Hypoglycaemia is defined as a blood glucose level of less than 2.2 mmol/l, however, for practical purposes consider blood sugars of less than 4 mmol/l as unsafe. Remember 'four is the floor'. When your blood sugar drops, the body produces a range of 'counter-regulatory' hormones which strive to raise your blood sugar. Sometimes these mechanisms are overwhelmed and you drop your blood sugar with resulting symptoms.

Why does hypoglycaemia occur in diabetes?

Diabetes does not cause hypoglycaemia. Hypoglycaemia occurs in people with diabetes, due to treatment with insulin or tablets. There are various reasons why hypo's happen:

- taking too much insulin
- missing a meal or delaying a meal
- vigorous exercise
- drinking too much alcohol

Glucose is vital for the function of the brain and the symptoms of hypoglycaemia occur in order to warn you to 'take in some food quickly'. All too often these warnings are ignored with resulting loss of consciousness. Some people with diabetes do not experience good warnings and this is more common in people who have either had diabetes for a long time or those who have been tightly controlled with frequent hypos.

What are the dangers of hypoglycaemia?

- Having an occasional hypo will do no harm. Sustained hypoglycaemia which results in coma may result in lasting or sometimes fatal brain damage.
- Having a hypo while driving, swimming or working at heights has obvious implications.

How do I recognise the symptoms?

The symptoms of hypoglycaemia are very variable and can start to manifest at widely varying levels of blood glucose. The earliest effects are hunger, feeling shaky and anxious and starting to sweat and you may have a slight headache. As your blood glucose

concentrations fall further these symptoms become more intense; you may feel weak and dizzy, coordination may suffer and vision will start to blur. You may also notice you are behaving strangely and, though you may not be aware of it at the time, you will become confused. Some individuals with hypoglycaemia become aggressive.

Many of these symptoms mimic the effects of alcohol and if your friends do not know you have diabetes they may think you are drunk! If these symptoms are ignored you will rapidly progress to loss of consciousness and hypoglycaemic coma.

Sweating at night or awakening with headaches in the morning may indicate night time hypos; check your blood sugars at night.

Why do some people lose their warnings?

Loss of the usual warning symptoms of hypoglycaemia may sometimes occur. Sudden loss of consciousness due to hypoglycaemia, with little or no warning, can happen. This can be very distressing for patients and bystanders alike. The reasons why some people lose their warning symptoms is not entirely understood. It is thought that the brains of people who are very tightly controlled and those who have frequent hypos may become less sensitive to the effects of low blood sugar. A sudden drop in blood sugar may also result in the usual warning symptoms being bypassed.

How do I avoid hypos?

- Being familiar with the warning symptoms of hypoglycaemia is the most important defence against hypos. If you are unsure always test your sugar levels bearing in mind that conventional finger prick glucose monitoring devices are not very accurate at low level of blood glucose.
- Always carry a source of sugar with you - glucose tablets or a sweet drink will do. With mild symptoms it is not necessary to take a large amount of sugar. Eating a meal or having a snack will do.
- Ensure regular meals. Avoid missing meals at all costs. Take snacks between meals if you find your levels tend to drop before your next meal.
- Avoid binge drinking. If you plan to drink alcohol, make sure you eat a meal beforehand. When you return home at night, take a snack before going to bed.
- If you are going to exercise, measure your levels before and after. Very strenuous exercise may require you lowering the preceding dose of insulin.
- Regular snacks on 'sick days'.

Are there any types of insulin more likely to cause hypos?

All preparations of insulin may cause hypos. Typically, human insulins and the short acting

insulins are more likely to drop blood sugar levels rapidly.

How do I treat a hypo?

Mild hypoglycaemia, where you are aware of your symptoms, is easily treated by taking a sweet drink or glucose tablets; 15 g of glucose is more than sufficient. Avoid over treating, such as by taking an entire bottle of Lucozade or several Mars Bars, as this only leads to wild swings of your blood sugar. Remember your body has its own mechanisms for dealing with a hypo which are also working away in the background. A carbohydrate meal is by far the best way of sorting out mild warning symptoms.

The following forms of quick acting carbohydrate may be used:

- half a glass of Lucozade, Coca-cola or lemonade
- 2-3 glucose tablets
- 5 fruit pastilles
- follow this up with a glass of milk and a biscuit or a sandwich.

If you are confused but still able to drink, a friend should give you a sweet drink. If you cannot or will not swallow, hypostop gel can be placed in your mouth. This should be absorbed from the lining of the cheek rather than swallowed. It is ideally placed between the jaw and the cheek. It should not be used if you are unconscious.

If you have lost consciousness, you may be given Glucagon, pending the arrival of the emergency services.

What if I have a hypo when my injection is due?

It is difficult to give precise advice about this situation as there are a number of factors which may be relevant. As a general rule, first make sure your blood sugar levels are restored to normal. You may then take a reduced dose of insulin and your usual meal. Do not miss your dose of insulin as this is likely to lead to a large 'swing' of your blood glucose concentrations.

What should I do about recurrent hypos?

Recurrent hypoglycaemia can sometimes be a difficult problem to solve. Identifying the cause is important which may include one or more of the following factors

- skipping meals
- alcohol
- exercise
- hypoglycaemia unawareness (loss of warning symptoms)

What should I do if I am driving?

- You should stop your vehicle as soon and as safely as possible
- Take a tablet of glucose or a glucose drink
- Remove the ignition key and move to the passenger seat.
- If on the motorway, leave your car with hazard warnings on and move to a position of safety

For further information go to: www.diabetesuffolk.com

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