

Hypoglycaemia & Exercise-related Hypoglycaemia

Hypoglycaemia

Hypoglycaemia (or a 'hypo' as it is usually known) means a low blood glucose level (BGL). 'Hypos' occur when the BGL is less than 3.5 mmol/L, or when there are symptoms of a 'hypo' at a level close to this.

Typical Causes

- not enough, or missed carbohydrate at meals or snacks (for the dose of insulin taken)
- exercising without eating extra carbohydrate, or exercising without reducing your insulin dose
- having too much insulin for the amount of food eaten
- having too much insulin (either accidentally or dose needs changing)
- when sick and not being able to eat or if unable to keep food down because of vomiting

Signs & Symptoms

How young people feel and behave when they are 'hypo' is different for everyone. Listed are some of the common things you may experience or feel:

shakiness	blurred vision	nausea	headaches
pallor	abdominal pain	dizziness	irritability
sweatiness	hunger	aggression	inability to concentrate

How to Treat Hypos

It is a good idea to encourage your child to do a BGL if they think they are 'hypo'. If the BGL is less than 3.5 mmol/L, or they are symptomatic, one exchange (15 grams of carbohydrate) of quick-acting carbohydrate (glucose) should be given immediately.

After the 'hypo' is treated, wait about 15 minutes for the carbohydrate to work, and then repeat the BGL test. If the BGL is still less than 3.5 mmol/L, then give another one exchange of quick-acting carbohydrate. Re-check in 15 minutes and treat again if necessary.

If the 'hypo' has occurred near a snack or a meal-time, treat the 'hypo' to raise the BGL and then give the young person their usual meal or snack.

If the hypo has occurred with **exercise**, then follow up the 'hypo' treatment with an exchange of longer acting carbohydrate, such as a piece of fruit, biscuit, milk or muesli bar.

If your child is unable to swallow, or is unconscious, place them in the recovery position. Call an ambulance on "000" stating diabetes emergency. Give Glucagon as an intramuscular injection into the thigh, if available. It may take up to 15 minutes for your child to regain consciousness. They will complain of nausea and headache. Then give them a carbohydrate.

Hypoglycaemia and Exercise

If a 'hypo' seizure has occurred, inform your diabetes team at the next opportunity.

Examples of 1 exchange of quick-acting carbohydrate

Fruit Juice - 120 mLs
Lucozade® - 100 mLs
Ordinary soft drink - 100 to 150 mLs
Glucose & Honey mixture (Coles Home brand) - 2 to 4 teaspoons

Examples of 1 exchange of long acting carbohydrate

250 mLs of milk
1 banana
1 muesli bar
6 Jatz® biscuits

Exercise & Hypoglycaemia

For young people with diabetes, regular exercise helps insulin work more effectively and may even help reduce the amount of insulin that is required. When activity goes for longer than 30 minutes, or is of high intensity, adjustments to food and/or insulin are likely to be required. There are two ways to help avoid exercise-related 'hypos':

- take extra carbohydrate to cover the exercise
- reduce the insulin dose that is working at the time of the exercise.

Tips to prevent 'hypos' when exercising

- Ensure your child has carbohydrate available when exercising
- Encourage your child to check their BGL before, during and after exercise so they will get to know how much their BGL is likely to change with different types of exercise
- When performance is really important it is recommended that your child have an individualised exercise care plan
- Even if the insulin dose has been reduced, if the exercise is prolonged e.g. marathon, iron man competition, some extra carbohydrate **during** the exercise will be needed
- It is a good idea for your child to do extra BGLs on days of prolonged exercise, including before **bed** and **overnight**. This is because exercise can continue to lower BGLs for hours after exercise has stopped
- A reduction of the night time basal insulin may be needed to prevent a 'hypo' during the night
- If the exercise is being done at a time when your child is usually resting (evening) either **less** insulin or **extra** carbohydrate is needed.

For more information speak with your child's diabetes team or visit

<http://www.diabetesaustralia.com.au/Understanding-Diabetes/What-is-Diabetes/Hypoglycaemia/>