

Hypoglycaemia & Hypoglycaemia Related to Exercise

Information for Parents & Carers

Hypoglycaemia

Hypoglycaemia (or a 'hypo' as it is usually known) means a low blood glucose level (BGL). Hypoglycaemia occurs when the blood glucose level (BGL) is less than 4mmol/L, or when there are symptoms of a 'hypo' at a level close to this.¹

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

How to treat Hypo's

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 4 mmol/L, some quick acting carbohydrate (glucose) should be given immediately.

After the 'hypo' is treated, wait about 10 minutes for the carbohydrate to work, and then repeat the BG test. If the BGL is still less than 4 mmol/L, then give some more quick -acting carbohydrate.

Extra carbohydrate should be eaten until the blood glucose rises above 4mmol/L. If the 'hypo' has occurred near a snack or a meal-time, treat the 'hypo' to raise the BGL and then give them their usual meal or snack.

If a meal or snack is not due then, once the BGL is back above 4 mmol/L eat some slower acting carbohydrate such as a grain bread sandwich or a drink of milk and Milo®.

Examples of some quick-acting carbohydrate

- Lucozade® 100 mls
- Insta-Glucose® ½ tube (full tube 30G)
- Fruit Juice 120 mls
- Ordinary soft drink 150 mls
- Glucose & Honey mixture (Coles Home brand) 2-4 teaspoons
- Lollies

If a 'hypo' occurs in the middle of the night, treat the hypo in the usual way and once your child has recovered give some slow-acting carbohydrate to maintain the BGL's until breakfast.

Tips for Treating 'Hypo's'

Lucozade® is a glucose drink that works very quickly to raise blood glucose levels. It is better for treating 'hypo's' than ordinary soft drink or cordial as only 100mls is needed to raise the BGL. Lucozade® is not carbonated and can be drunk very quickly.

One of the problems that occurs with 'hypo's' is the need for the young person to keep eating until they feel better. Lucozade® is great because it works so quickly that it stops the need to keep eating. This is particularly good if your child is concerned about weight gain. Lucozade® is readily available at supermarkets (Coles, Woolworths) and comes in several flavours and is great to keep in the house for when you need it.

Note: Plain Lucozade® (the original) contains less glucose than the flavoured ones.

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. However, exercise can cause the blood glucose level to fall and cause hypoglycaemia. There are 2 ways to avoid exercise related 'hypo's':

1. take extra carbohydrate (CHO) to cover the exercise
2. reduce the insulin dose that is working at the time of the exercise.

Tips to help prevent 'hypo's' when exercising

- Ensure your child has quick-acting carbohydrate (CHO) drinks such as fruit juice, cordial or ordinary soft drink available when exercising
- It is a good idea to encourage your child to check their BGL **before** 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 or if the exercise is prolonged, it is also a good idea for them to check their BGL **during** exercise eg. at half time

- Either extra CHO should be taken **before** exercise or a **reduction** in insulin dose. Even if the insulin dose has been reduced, if the exercise is prolonged e.g. marathon, iron man competition, some extra CHO **during** the exercise may be needed.
- It is a good idea for your child to take a blood glucose level (BGL) **before bed** on days when they have done lots of extra exercise. Exercise can continue to lower the BGL hours after the exercise has stopped. A reduction of the night time 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 endurance sports like marathons or triathlons, sports drinks can be useful (providing they contain sufficient glucose).

For more detailed information on hypoglycaemia go to the Queensland Government Diabetes Care Advance Website: Module 5: Hypoglycaemia

www.workingwonders.com.au/rchsubsites/diabetes26042005/html/m_05..htm

References

1. Ambler, G., Barron, V., May, C., Westman, E., (1998) *Caring for Diabetes in Children and Adolescents*. A Parent's Manual. National Capital Printing, Australia
2. Stillman, J., Lang, E., Grieve, C., (2003) *Paediatric and Adolescent Diabetes Education Manual*, For Health Professionals. Queensland Health, Queensland Government Publication. Module 5