

## Contact details for more information

### Monday to Friday 9am-5pm

- Diabetes doctors can be reached via the paediatric secretaries on **01952 641222**, ext. **5980** or **5981**
- Diabetes nurses on **01743 450855 option 2**, text via **ChatHealth 07312 263102** or email **Shropcom.pdsn@nhs.net**
- Diabetes Dietician on **01952 641222** extension **4874**

### In an emergency/out of hours

In an emergency during working hours when you cannot reach one of the team above or for out of hours support i.e. after 5pm or at weekends.

All patients requiring advice should contact the Princess Royal Hospital switchboard on **01952 641222** and ask to speak to the paediatric registrar for diabetes advice.

### References:

- NICE (2022) Diabetes (type 1 and type 2) in children and young people. NICE guideline NG 18 [www.nice.org.uk/guidance/ng18](http://www.nice.org.uk/guidance/ng18)
- ISPAD Clinical Practice Consensus Guidelines 2018 – Assessment & management of hypoglycaemia in children & adolescents with diabetes. Abraham M et al *Pediatr Diabetes*. 2018 *Pediatric Diabetes* October 2018; 19(suppl.27):178-192)
- Association of children's Diabetes Clinicians Management of Hypoglycaemia in Children and Young People with type 1 Diabetes Version 5 August 2022

# Managing Type 1 Diabetes

## Hypoglycaemia



## What is hypoglycaemia?

Hypoglycaemia is the full name for a 'hypo' or low blood glucose level. Hypos occur when

blood glucose levels fall too low for the body to work normally. For most people this happens

when their blood glucose levels fall below 4 mmol/l.

## What causes hypos?

Hypos are caused by one or more of the following:-

- Too much insulin
- Not enough food (carbohydrate)
- Delayed or missed meals or snacks
- More exercise than usual
- Hot/cold weather
- Alcohol
- Stress or illness

## Signs and symptoms of a hypo

The signs and symptoms of a hypo vary from person to person and people soon learn to recognise their own early warning signs. Hypos are described as being Mild, Moderate or Severe. Everyone with diabetes will have hypos at some time, but they will not become severe if they are recognised and treated early.

## Hypos at night

In most cases night time hypos will cause the person to become agitated, wake, and call out as if they have had a bad dream. However, it is possible for someone to sleep through a hypo, and signs that this is happening may include:-

- Frequent nightmares.
- Feeling lethargic/headache first thing in the morning.
- Glucose levels of less than 4mmols/l before breakfast.
- Frequent high glucose levels before breakfast despite increases to the insulin dose in the evening.

If any of the above occurs, check glucose levels at 3am and phone your diabetes team for advice, as adjustments to insulin doses may be needed.

## General Tips

- Always carry some form of fast acting glucose (sugar) with you.
- Avoid using chocolate to treat a hypo as it needs longer to break down and the high fat content slows the release of the sugar into the blood stream.
- To avoid hypos try not to miss meals & snacks.
- Always have a snack before unplanned exercise if your glucose levels are below 7mmol/l, or if on Insulin Pump, consider use of exercise mode of pump.
- Try to teach family and friends how to manage a 'hypo'.
- Always carry identification to let others know you have diabetes.

**Severe Hypo** – Happens very occasionally. Child/young person may become very drowsy or lose consciousness and possibly have a fit.

**How to treat**    **Do not give anything by mouth!**



1. Place young person into the recovery position. Do NOT place anything in their mouth.
2. Take blood glucose level. Expect it to be under 4.0mmol (but it may be higher).
3. Dial 999 and state that this is a 'Diabetes Emergency' and follow their steps and advice.
4. If you are able to, give the Glucagon kit (orange box) / Ogluo Prefilled Glucagon Pen you have from your G.P. Follow the manufacturer's guidelines on how to use.
5. The young person should begin to respond in 5 minutes.
6. Continue to monitor blood glucose level every 10mins and continue to treat as a mild or moderate hypo as soon as the young person is able to swallow.
7. Please contact the diabetes team once the child has recovered as doses of insulin may need to be adjusted.

Notes:

- After having a dose of glucagon / Ogluo Prefilled Glucagon Pen, it is common for people to vomit due to the rapid change of blood sugar levels, this is the reason we advise using the recovery position.
- An ambulance may not have glucagon / Ogluo Prefilled Glucagon Pen on board and may choose to administer glucose directly into a vein as an alternative.

Please contact the team if you would like a refresher/update on using the glucagon / Ogluo Prefilled Glucagon Pen.

**Mild Hypo** – usually recognised by the person experiencing the hypo.

### Signs & Symptoms

- Hunger
- Pallor or paleness
- Dizziness
- Trembling
- Tingling hands, feet, lips or tongue
- Sweating
- Blurred vision
- Difficulty in concentrating
- Palpitations

**Moderate Hypo** – may not be recognised by the person experiencing the hypo.

### Signs

- Odd behaviour e.g. Rudeness or silliness
- Bad temper or moodiness
- Confusion
- Aggressive behaviour
- Refusal to cooperate

**How to treat:- DO NOT LEAVE THE CHILD / ADOLESCENT ALONE and check glucose level.**

**NB.** When blood glucose testing, wash your hands before each blood glucose check to remove any traces of food. Check blood glucose level as you can get similar signs when your blood glucose levels are high. **If below 4mmols/l**, immediately eat or drink something sugary (10-20 grams of fast acting carbohydrate) depending on age and weight such as:-

Amount required of fast acting glucose			
	Carbohydrate	10g	15g
Glucotabs	3.7g per tablet	3	4
Bassett's Jelly Babies	5g per Jelly Baby	2	3
Glucose tablets e.g. Dextro Energy	3g per glucose tablet	3	5
LIFT 60ml bottle (was glucojuce)	15g per whole bottle	40ml	60ml
Glucogel	10g per tube	1 tube	1.5 tubes

After eating the sugary food, wait 15 minutes, then re-check glucose levels. If still below 4mmols/l, have more sugary food or drink as above and repeat process until glucose levels are above 4mmols/l.

**After 15minutes:**

If glucose levels are 4.0-5.5 mmols/l after you've eaten the sugary carbohydrates, eat your next meal if due, with insulin as usual. Or, if you are on Insulin Injection regime and a meal is not due, have some starchy food such as:-

- Sandwich or toast (1 slice of bread)
- Glass of Milk (200mls)
- Cereal bar (Max 15g carbohydrate)
- Crisps
- Piece of fruit (medium apple or small banana)
- 1 plain biscuit such as digestive, oat biscuit. 2 rich tea, bourbon
- crumpet

**Re-check your glucose level after 30 minutes to check it's not fallen too low again.**

**N.B.**

If glucose level are above 5.5 mmols/l after you've eaten the sugary carbohydrates, you do not need to eat a starchy snack but should **re-check your glucose level after 30 minutes to check they haven't fallen too low again.**

**NB.** If you use an insulin pump, you do not need to have a snack as part of your hypo treatment unless it has taken more than 2 treatments to raise your glucose level above 4mmol/l or you plan to do exercise.

On your pump, if you have a combo, dual wave, multi wave or extended bolus running or a Temporary Basal Rate increase in place, you should cancel these as part of your hypo treatment.