

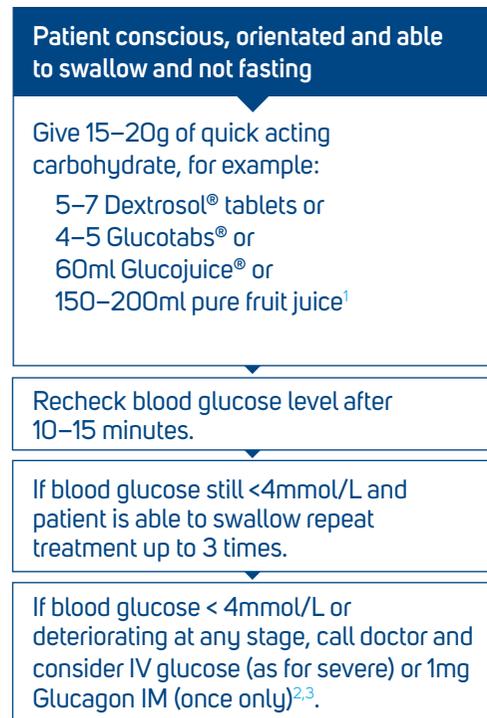
Treatment and Management of Hypoglycaemia in Adults with Diabetes Mellitus in Hospital

Hypoglycaemia Algorithm

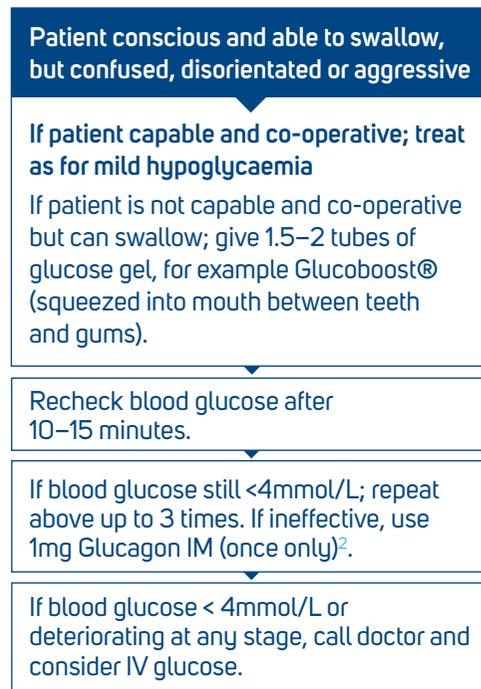
Hypoglycaemia is a serious condition and should be treated as an emergency regardless of level of consciousness. Hypoglycaemia is defined as blood glucose of less than 4mmol/L in people treated with insulin therapy and hypoglycaemic agents such as gliclazide, glipizide, glimepiride. If blood glucose is not less than 4mmol/L, but the patient is symptomatic, give a small carbohydrate snack for symptom relief.



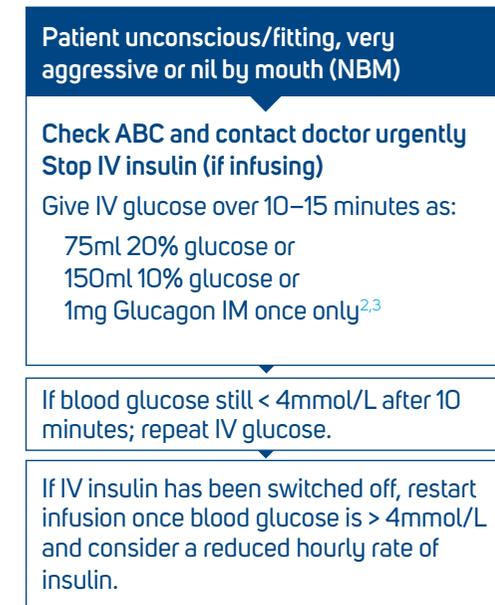
Mild hypoglycaemia



Moderate hypoglycaemia



Severe hypoglycaemia (or during fast)



Ongoing management once blood glucose level is above 4mmol/L

Give 20g of long acting carbohydrate, for example two biscuits / slice of bread / 200–300ml milk / or next meal (give 40g if IM Glucagon has been used). If NBM, once blood glucose > 4mmol/L, give 10% glucose infusion at 100ml/hour (less in patients with renal/cardiac disease) until no longer NBM or reviewed by doctor. Patients with enteral feeding tube. Give 20g quick acting carbohydrate via enteral tube, for example 50–70ml Ensure Plus® or 60ml Glucojuice®*, then flush. Check blood glucose after 10–15 minutes. Repeat treatment up to 3 times or use IV glucose if needed. If IV insulin has been switched off, restart when Blood glucose is > 4mmol/L with concurrent IV glucose. Review the indication and need for ongoing insulin management. Continue regular capillary blood glucose monitoring for 24–48 hours. Provide hypoglycaemia education or refer to the diabetes team. **RESTOCK THE HYPO BOX.**

Caution

High concentration of IV glucose (50% glucose) is not recommended due to risk of extravasation.

¹ Avoid fruit juice in patients with renal failure.

² Glucagon may take up to 15 minutes to work and may be ineffective in undernourished patients, in severe liver disease and in repeated hypoglycaemia.

³ Do not use Glucagon in oral hypoglycaemia agent induced hypoglycaemia.

Do not omit insulin, consider the cause of hypoglycaemia, treat and administer insulin as usual after dose review. Insulin omission can lead to diabetic ketoacidosis (DKA). Prevent further hypoglycaemia – review prescription for insulin and/or oral hypoglycaemia agent and adjust dose(s) if necessary.

* Updated April 2017 to remove Lucozade due to revised glucose content

Hypoglycaemia – think, check, act

Hypoglycaemia – blood glucose level <4mmol/L

- A potentially dangerous side effect of insulin therapy and hypoglycaemic agents (sulfonylureas)
- Prompt treatment is required

Think

Common causes of hypoglycaemia

- Inadequate food intake, fasting, delayed or missed meals
- Too much insulin or hypoglycaemic agents
- Insulin administration/drug administration at an inappropriate time
- Problems with insulin injection technique/injection site causing variable insulin absorption
- Increased physical activity
- Alcohol

At risk groups

- Strict glycaemic control, impaired hypoglycaemic awareness, cognitive impairment, extremes of age, breastfeeding mother with diabetes
- Conditions that increase risk of hypoglycaemia
- Malabsorption, gastroparesis
- Abrupt discontinuation of corticosteroids, hypoadrenalism, renal or hepatic impairment, pancreatectomy

Check

Assess recent pattern of blood glucose levels i.e. last 48 hours.

- Establish when and what the patient last ate
- Check insulin/diabetes medication is being prescribed and administered at correct dose, time, and in relation to food intake
- Check for signs of lipohypertrophy (lumpy areas at injection sites) which may affect insulin absorption
- Check credibility of blood glucose monitoring, for example hand washing before testing

Act

- Treat hypoglycaemia in line with protocol
- Observe patient until recovery complete
- Establish the cause of hypoglycaemia and take action to prevent recurrence. Inform patient if medication dose is changed
- Do not omit insulin in type 1 diabetes - treat hypoglycaemia and administer insulin as usual after dose review
- Blood glucose is likely to be high following hypoglycaemia; additional correction doses should not be given
- If receiving IV insulin treatment, check blood glucose every 15 minutes until above 4.0mmol/L, then restart IV insulin after review of infusion rates and requirement for IV insulin
- Provide patient information on hypoglycaemia management
- Consult diabetes team for advice if necessary, and refer all patients with severe hypoglycaemia