

HYPOGLYCEMIA IN TYPE 1 DIABETES

Hypoglycemia is a common occurrence in the management of Type 1 diabetes mellitus.

It is a result of a mismatch between insulin administered and food consumed.

Hypoglycemia can be defined as:

1. **Clinical hypoglycemia alert:** Blood glucose <3.9 mmol/L
2. **Clinically important or serious hypoglycemia:** Blood sugar <3.0 mmol/L
3. **Serious hypoglycemia:** coma, convulsions and altered mental status

Symptoms of Hypoglycemia



Additional symptoms
include:

- ✚ Fast heart beat
- ✚ Convulsions

MANAGEMENT OF HYPOGLYCEMIA

STEP 1: Identify

Symptomatic: Recognize hypoglycemic symptoms
Asymptomatic symptoms: No symptoms (blood) glucose level <3.9 mmol/L
In any suspected hypoglycemia situation, check blood glucose
DO NOT delay treatment

STEP 2: Treat

Conscious/Able to swallow
 Treat orally (by mouth)

A. Give 15 grams of fast acting carbohydrates.
Examples: 3 Teaspoons of glucose, honey, sugar
 ½ glass of regular soft drink, fruit juice

B. Retest (blood) glucose in 15 minutes

If blood glucose <3.9 mmol/L repeat **Step A** until >3.9 mmol/L

If blood glucose above 3.9 mmol/L, give a 10-15 gram of complex carbohydrate snack.
 1 piece of fruit (small orange, ½ banana, apple)
 1 slice of bread
 1 cup of milk
 1 small tub of yoghurt

Unconscious/Unable to swallow
Do not treat orally

Non-hospital setting

Position on side & maintain airway
A. Apply a thick paste of glucose (glucose with a few drops of water) or crushed sugar OR
B. If available, administer Glucagon
 SC or IM <25kg: 0.5 mg, ≥25 kg: 1 mg

B. Retest (blood) glucose in 15 minutes

Unresponsive: Repeat Step A or B above.

Responsive: Follow conscious pathway

Hospital setting:
 5ml/kg 10% Dextrose intravenous
 Unresponsive: repeat/re-evaluate
 Observe child- increased risk of recurrent hypoglycemia

STEP 3: Prevent

Evaluate for cause of hypoglycemia e.g. missed meal, exercise, illness, incorrect insulin dose
 For severe hypoglycemia: evaluate for impaired Awareness of Hypoglycemia
 Review insulin doses and adjust regimen as per clinical need.