SECTION A, PAGE 1: PEDIATRIC HYPOGLYCEMIA MANAGEMENT ALGORITHM FOR PATIENTS WITH DIABETES

NOT FOR USE FOR HYPOGLYCEMIA TREATMENT IN INFANTS <1 MONTH OF AGE

BLOOD GLUCOSE <4 mmol/L (Unless otherwise specified in orders)

1. Assess vital signs and level of consciousness (LOC)
2. **If Airway, Breathing, vitals and/or LOC compromised, call CODE BLUE or 911 (as per site applicability) and initiate resuscitation**

CONSCIOUS

PROCEED TO PAGE 2

UNCONSCIOUS (CODE BLUE and Resuscitation initiated) OR NPO/TPN

1. Attempt to establish IV access and page MD
2. If unable to achieve IV access within **2 minutes**, proceed with giving glucagon (*No IV Access Route*)

IV ACCESS

Practice Level: RN ONLY

1A. Obtain order from MD to give 2 mL/kg D10W bolus.

***CRITICAL CARE TEAM ONLY**: Can consider using D25W/D50W for the glucose bolus at MD's discretion*

2A. Recheck blood glucose in 5-10 min

- **If <4.0 mmol/L:**

i) Patient remains unconscious and/or NPO:
Repeat Step 1A.

**NOTE: Consider giving IM glucagon (as described in Step 1B), especially if hypoglycemia is from an insulin overdose.*

ii) Patient is conscious and able to swallow:
Proceed to Step 1C, Page 2.

- **If ≥4.0 mmol/L:**

i) Patient conscious and NPO:
Ensure patient has IV dextrose-containing fluids infusing. Proceed to **SECTION B, Page 3**.

ii) Patient is conscious and able to swallow:
Proceed to **SECTION B, Page 3**.

NO IV ACCESS

Practice Level: RN/LPN/RPN

1B. Give glucagon IM (see Appendix):

- 0.25 mg for children 1 to <2 years
- 0.5 mg for children 2 to <5 years of age
- 1 mg for children ≥5 years of age

***Position patient on side, vomiting may occur.**

2B. Recheck blood glucose in 15 minutes

- **If <4.0 mmol/L:**

i) Patient remains unconscious and/or NPO:
Repeat Step 1B. Call IV team/MD to establish emergency IV/IO access.

ii) Patient is conscious and able to swallow:
Proceed to Step 1A, Page 2.

iii) Patient conscious but unable to take PO:
Proceed to Step 1D, Page 2.

- **If ≥4.0 mmol/L:**

i) Patient conscious and NPO:
Try to establish IV access and start dextrose-containing fluids. Call MD. Proceed **SECTION B**.

ii) Patient is conscious and able to swallow:
Proceed to **SECTION B, Page 3**.

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UNCONSCIOUS

GO BACK TO PAGE 1

CONSCIOUS

ABLE TO SWALLOW/ENTERAL ACCESS (INCLUDES TUBE FEEDS/MODIFIED DIETS)

1C. Give fast-acting carbohydrate orally

Children 1–12 months: 6 grams
breastfeed, 70 mL infant formula, or
30 mL 20% sucrose water

Children 1 to <5 years: 6 grams
1.5 Dex4® tabs or 45 mL juice

Children 5 to <10 years: 12 grams
2.5–3 Dex4® tabs or 90 mL juice

Children ≥10 years: 16 grams
4 Dex4® tabs or 120 mL juice

**NOTE*: *All patients with diabetes should have hypoglycemia treatment supplies in fridge upon admission and duration of inpatient stay*

Tube Feeds: If gastric (NG), use juice, and flush pre/post with water. If post-pyloric (NJ), page MD.

2C. Recheck blood glucose in 15–20 minutes

- **If <4.0 mmol/L,** Repeat Step 1C. If blood glucose remains below 4.0 mmol/L after repeating Step 1C twice, call MD.
- **If ≥4.0 mmol/L,** proceed to **SECTION B.**

UNABLE/UNWILLING TO TAKE PO NO ENTERAL ACCESS

Practice Level: RN/LPN/RPN

1D. Use "mini-dose glucagon" (see Appendix):

Glucagon 0.01 mg per year of age SC
use insulin syringe where 1 "unit" = 0.01 mg
minimum 0.02 mg (2 "units")
maximum 0.15 mg (15 "units")
Call MD.

2D. Recheck blood glucose in 15–20 minutes

- **If <4.0 mmol/L,** Repeat Step 1D. Call MD. If blood glucose remains below 4.0 mmol/L after repeating Step 1D twice, call MD again.
- **If ≥4.0 mmol/L,** proceed to **SECTION B.**

SECTION B, PAGE 3: ONGOING MANAGEMENT OF PATIENTS WITH DIABETES, POST HYPOGLYCEMIA TREATMENT

(NOTE: Blood glucose must be ≥4.0 mmol/L)

CONSCIOUS & ABLE TO SWALLOW

1. If next meal/snack is **more than 45 minutes** from the present time**,** give additional snack immediately after successful treatment of hypoglycemia. Snack should consist of carbohydrate and protein (e.g. crackers with cheese or peanut butter; or for infants, give EBM/Formula)

2. If meal (or usual snack) is **within 45 minutes** from the present time, have the patient eat the meal early, rather than adding an additional meal/snack.

TUBE-FED

1. If tube feed is continuous, continue regular feeding schedule at established rate, as per MD's orders.

2. If tube feed is intermittent and **more than 45 minutes** from present time, obtain order for bolus feed as per MD's recommendations.

IV ACCESS & UNABLE TO TAKE ENTERAL NUTRITION (E.G. NPO/UNCONSCIOUS)

1. Ensure maintenance IV fluids contain dextrose; discuss with MD and ask for new order if a solution change is necessary. [*NOTE: D10NS run at 3 mL/kg/h provides a glucose infusion rate of 5 mg/kg/min, which meets the physiological needs of most children >1 years of age.]*

2. IV rate should be adjusted to ensure the blood glucose remains in target (e.g. 4 to 10 mmol/L), as specified by orders. Discuss with MD.

NO IV ACCESS & UNABLE TO TAKE ENTERAL NUTRITION (E.G. NPO/UNCONSCIOUS)

1. Discuss treatment options and nutritional plan with MD.

- **Re-check blood glucose 2 hours post hypoglycemia treatment, to ensure it remains ≥4.0 mmol/L**

If <4.0 mmol/L, initiate appropriate hypoglycemia algorithm (**SECTION A**) and call MD
If ≥4.0 mmol/L, check blood glucose before next meal/snack, bedtime, or as per MD's orders

- **Review possible causes of hypoglycemia and discuss with MD/care team. Institute prevention measures as appropriate.**

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Last edited by Dr. Daniel Metzger and Dr. Colleen Nugent, October 12, 2021