

Red Flags: Pediatric Diabetic Ketoacidosis (DKA)

Recognition:

DKA Clinical features: Polyuria, polydipsia, weight loss, dehydration, headache, Kussmaul breathing, abdominal pain, vomiting

- Random blood glucose ≥ 11.1 mmol/L
- Acidosis: pH < 7.3 or HCO_3^- mmol/L < 15 on venous or capillary blood gas

CEREBRAL EDEMA Clinical Features:

- Early: Headache, vomiting, mild irritability/lethargy
- Late: Worsening headache and neurological status (\downarrow GCS, restlessness, irritability, \uparrow drowsiness, incontinence), specific neurological signs (nonreactive pupils, cranial nerve palsies), \downarrow heart rate, \uparrow BP, \downarrow RR

Management

- Point of care blood glucose at Triage
- Rehydrate with IV NS until glucose < 15 mmol/L or decreases by > 5 mmol/L/hour. Then change to D10NS
- Start insulin infusion AFTER 1 hour of IV fluid administration
- Add 40 mmol/L KCl into IV fluid if K $^+$ < 5 mmol/L and patient has voided in ED

Provide a fluid bolus

10 mL/kg NS over 30 min, and reassess perfusion; repeat 10 mL/kg NS if needed

Do not bolus IV fluid if suspect cerebral edema

Do not bolus IV insulin

Do not administer sodium bicarbonate

Pediatric Diabetic Ketoacidosis (DKA) IV Rehydration Table

Weight	mL/kg/hr
5 - <10 kg	6.5
10 - <20 kg	6
20 - <40 kg	5
≥40 kg	4 (MAX 250 mL/hr)