

Pediatric DKA Management

(see CHaD DKA protocol on Intranet for full details)

Definition of DKA:

- Blood glucose ≥ 250 mg/dl AND
- Ketonuria AND
- Serum bicarbonate < 15 mEq/L AND/OR
- Capillary pH ≤ 7.30

Consult Pediatric Endocrinology
Arrange for PICU admission

Fluid deficit replacement:

- Assume fluid deficit of 7.5% (= 75 cc/kg)
 - If hypotensive or \downarrow peripheral pulses, give 20 cc/kg NS and assume fluid deficit of 10% (= 100 cc/kg)
- Calculate to replace fluid deficit over 48 hours
- Type of fluids: Normal Saline, plus
 - Dextrose (goal blood glucose 100-200 mg/dl while on insulin drip)
 - For blood glucose >300 mg/dl \rightarrow add no dextrose
 - For blood glucose ≤ 300 mg/dl \rightarrow add 5-10% dextrose
 - Potassium: Add 40 mEq/L of potassium once pt is urinating

Maintenance fluids (in addition to fluid deficit replacement):

- Maintenance fluid requirements =
 - 4 cc/kg/hr for 1st 10 kg
 - + 2cc/kg/hr for next 10 kg
 - + 1 cc/kg/hr for remaining kg
- Type of fluids: based on Corrected Na = measured Na + $0.016 \times (\text{glucose} - 100)$
 - For Corrected Na > 145 mmol/L \rightarrow use Normal Saline
 - For Corrected Na ≤ 145 mmol/L \rightarrow use $\frac{1}{2}$ Normal Saline

Insulin drip:

- Regular insulin at 0.1 units/kg/hr (no insulin bolus)

Labs:

- Lytes, BUN/creat, VBG every 2 hrs
- Blood glucose every 60 min
- All urine for glucose and ketones
- Beta-hydroxybutyrate initially and after 4 hrs
- Hgb A1C, IgA and TTG on admission

Watch neurologic status closely
(risk of cerebral edema)