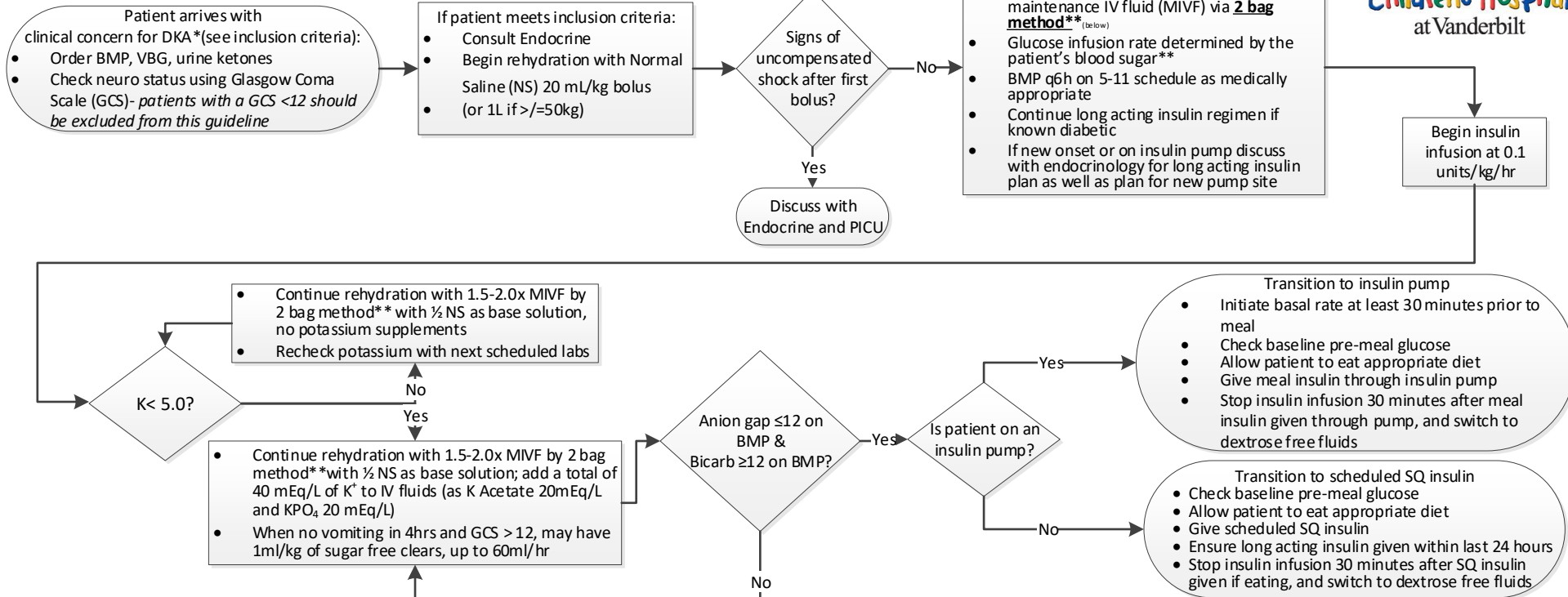


Diabetic Ketoacidosis

Clinical Practice Guidelines



*Inclusion Criteria

Patient must meet *all* of the following:

- pH < 7.3
- Bicarb on BMP ≤ 15
- Glucose ≥ 200
- Ketosis by urine or blood testing (send with first void, but do not delay initiation of insulin infusion if patient meets other criteria for DKA)

AND *any* of the three listed below:

- History of previously diagnosed Insulin Dependent Diabetes Mellitus (IDDM)
- History of significant Non-Insulin Dependent Diabetes Mellitus
- History consistent with new onset IDDM (polyuria, polydipsia, polyphagia)

**2 Bag Method: Total IV Fluid (TIVF) = 1.5-2xMIVF

| Patient's Glucose | 1 st Bag (D ₀ solution) | 2 nd Bag (D ₁₀ solution) |
|-------------------|--|--|
| BG <200 | 0% TIVF | 100% TIVF |
| BG 200-300 | 50% TIVF | 50% TIVF |
| BG >301 | 100% TIVF | 0% TIVF |
| BG <70 | <ul style="list-style-type: none"> Maintain insulin infusion Give 15 g carbs (ex. juice cup), If altered mental status give D25 Check blood glucose in 15 minutes | |

Warnings and emergency therapies

Symptomatic Cerebral Edema from DKA is a clinical emergency

Pediatric DKA is associated with a higher incidence of cerebral edema and stroke

- Monitor electrolytes during treatment closely, rapid changes in glucose and/or sodium may indicate rapid fluid shifts and increase risk for cerebral injury
- For concern of cerebral edema, consider hypertonic saline administration: 3-5ml/kg (1.5-2.5 meq/kg) over 10 minutes (max of 500ml), use caution if corrected Na ≥ 150mEq/L as hypertonic saline may worsen hyponatremia/hyperosmolality
- If fever of > 38 C is present, the work up should include a fever/ infection evaluation while treating DKA

Bicarbonate administration is associated with increased morbidity/mortality from cerebral edema and should be reserved for dire situations after consultation with a Pediatric Endocrinologist

Exclusion Criteria

- Age < 3 years
 - GCS < 12
 - If corrected sodium ≤ 130 mEq/L
 - If corrected sodium ≥ 150 mEq/L
- Corrected plasma sodium =**
measured plasma or serum sodium concentration +
(2*(serum glucose-100)/100)
- Hyperosmolar Hyperglycemic Syndrome with or without DKA
 - Significant dehydration/ketosis without insulin deficiency from any other cause, such as:
 - Appendicitis or other abdominal crisis
 - Steroid induced hyperglycemia
 - Ketosis from other metabolic/genetic causes

Diabetic Ketoacidosis

Clinical Practice Guidelines



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