# SAMPLE DIABETIC KETOACIDOSIS (DKA) CLINICAL ORDER SET

**Adult**

## PATIENT POPULATION

- Patient has DKA
  - For example blood glucose (BG) is > 14 mmol/L, anion gap is > 12, carbon dioxide < 18 and positive serum or urine ketones

## INVESTIGATIONS

### Initial

- Hematology profile, sodium, potassium, chloride, carbon dioxide total, creatinine, random glucose
- Hemoglobin A1C
- Urine macroscopic
- Arterial BG for pH (recommended if carbon dioxide is < 12)  OR  Venous blood gases
- Serum ketones  Phosphorous  Lactate  Troponin
- Serum hCG
- Blood culture and sensitivity
- Urine culture and sensitivity
- Urine drug screen
- ECG
- Chest x-ray
- Other: 

### Subsequent Investigations

- Sodium, potassium, chloride, carbon dioxide total, creatinine q2h x _____ h or until BG is < 14 mmol/L
- Bedside Blood Glucose (BBGM) q1h x _____ h or until blood glucose is < 14 mmol/L, then BBGM q _____ h
- Notify physician managing DKA if:
  - Glucose less than 14 mmol/L
  - Glucose does not decrease by 6 mmol/L in the first 2 hours of IV insulin therapy
  - Glucose increases from one test to the next
  - Anion gap has normalized

## IV FLUIDS

### Bolus

- 0.9% sodium 1 L over _______ hours (30 min to 2 hours depending on degree of shock)
- Repeat 0.9% sodium chloride 1,000 mL bolus x _____ over _____ hour(s) (until patient is euvoletic)
Maintenance

- Start after all boluses have been administered (once patient is euvoletic)

Patient’s corrected sodium: current sodium + [0.3 x (current glucose - 5)] = _______ mmol/L

- Corrected sodium greater than 140 mmol/L then 0.45% sodium chloride at _______ (100 to 500 mL/h) to match urine output
- Corrected sodium less than or equal to 140 mmol/L: then 0.9% sodium chloride at _______ (100 to 500 mL/h) to match urine output

- When BBGM is < 14 mmol/L change maintenance fluids to D5 in 0.45% sodium chloride at _______ mL/h (suggest 100 to 200 mL/h)

ELECTROLYTE REPLACEMENT THERAPY

- Initial potassium replacement added to IV fluids, if IV fluid rate is less than or equal to 1000 cc/hr, and if passing urine

- Potassium greater than 5.0 mmol/L: no replacement, continue q2h monitoring
- Potassium 4.1 to 5.0 mmol/L: administer KCl 20 mmol/L IV added to maintenance fluids, reassess in 2 hours
- Potassium 3.3 – 4.0 mmol/L: consider cardiac monitoring and administer: KCl 40 mmol/L added to maintenance fluids, reassess in 2 hours
- Potassium less than 3.3 mmol/L: place on cardiac monitor and administer: KCl 10 mmol in 100 mL minbag over 30 minutes x 2; reassess after 2nd infusion (and hold IV insulin)

- Routine replacement of bicarbonate and phosphorus not recommended
- Subsequent potassium replacement is individualized according to patient response

INSULIN

- Ensure potassium over 3.3 mmol/L before starting insulin
- Insulin regular IV infusion (e.g. 50 units in 250 mL 0.9% sodium chloride for 0.2 units/mL) at _____ u/hr (suggest 0.1 units/kg/h)
- Subcutaneous insulin – Adult Inpatient Acute Clinical Order Set- MRP to complete; to be used once anion gap is normalized and patient tolerating diet, administer basal subcutaneous insulin at least 2 hours before insulin infusion discontinued

OTHER MEDICATIONS:

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