Diabetic Ketoacidosis (DKA) Two Bag System Protocol [3361]

DKA: Blood glucose greater than 250 mg/dL, arterial or venous pH less than 7.3, serum bicarbonate less than 15 mEq/L anion gap greater than 12 and ketonuria or ketonemia.

Discontinue all previous insulin orders and oral diabetes medications.

Nursing

Finger Stick Blood Glucose (FSBG) Monitoring

[X] Bedside glucose monitoring	Routine, Every hour Unless otherwise specified

Notify

[X] Notify Provider	Routine, Until discontinued, Starting S, • HOLD Initiation of insulin doses if Potassium is LESS THAN 3.3 mEq/L. Treat potassium per DKA potassium replacement protocol and contact prescriber for instruction on insulin initiation. • Notify prescriber if blood glucose is LESS THAN 200 mg/dL and anion gap is LESS THAN OR EQUAL to 12 (RESOLUTION OF DKA)* to consider transition to basal-bolus insulin and advance diet OR if unable to advance diet, change DKA insulin drip to ICU insulin Drip Order Set for Target Blood Glucose 140 - 180. • Notify prescriber if glucose is LESS THAN 100 mg/dL for two consecutive times and anion gap is GREATER THAN 12 for further insulin AND/OR Dextrose containing IV fluid rate adjustment. • Notify prescriber if glucose is LESS THAN 70 mg/dL. • Notify prescriber if potassium is GREATER THAN 5.2 mEq for possible adjustments on potassium content in IVF

Diet

[X] NPO-Except meds	Diet effective now, Starting S NPO: Except meds Pre-Operative fasting options:

DKA Potassium Replacement Protocol

DKA Potassium Replacement Protocol

[X] DKA Potassium Replacement Protocol - RN will enter orders "Per Protocol"	Routine, Until discontinued, Starting S

IV Fluids

Initial IV Fluids

[X] Initial IV Fluids	**"Followed by" Linked Panel**
[X] sodium chloride 0.9 % infusion	1,000 mL, intravenous, for 60 Minutes, once, For 1 Doses

Subsequent IV Fluids (Single Response) (Selection Required)

(X) Choice # 1 with Dextrose 10 %: D10 + 1/2NS + 20 mEq/L potassium chloride and 1/2NS + 20 mEq/L potassium chloride	**"And" Linked Panel**

D10 is the preferred dextrose containing fluid (use D5W only if D10 is on backorder/unavailable)

[X] sodium chloride 0.45 % with potassium chloride 20 mEq/L infusion (for DKA)	0-250 mL/hr, intravenous, titrated Titrate both fluids per protocol for a combined rate of:
[X] dextrose 10 % and sodium chloride 0.45 % + potassium chloride 20 mEq/L infusion (for DKA)	0-250 mL/hr, intravenous, titrated Titrate both fluids per protocol for a combined rate of:

( )	Choice # 2 with Dextrose 5 %: D5 + 1/2NS + 20 mEq/L potassium chloride and 1/2NS + 20 mEq/L potassium chloride	**"And" Linked Panel**

D10 is the preferred dextrose containing fluid (use D5W only if D10 is on backorder/unavailable)

[ ]	dextrose 5 % and sodium chloride 0.45 % with potassium chloride 20 mEq/L infusion	0-250 mL/hr, intravenous, titrated Titrate both fluids per protocol for a combined rate of:
[ ]	sodium chloride 0.45 % with potassium chloride 20 mEq/L infusion (for DKA)	0-250 mL/hr, intravenous, titrated

Initial Electrolytes Replacement

Initial Electrolytes Replacement

[ ]	Oral Replacement - Potassium	**"Or" Linked Panel**
[ ]	potassium chloride (K-DUR) CR tablet	oral, once, For 1 Doses
[ ]	potassium chloride (KAYCIEL) 10 % solution	20 mEq, oral, once, For 1 Doses
[ ]	IV Replacement - Potassium (Single Response)	
( )	For peripheral line - potassium chloride 10 mEq in 100 mL IVPB	10 mEq, intravenous, for 60 Minutes, every 1 hour, For 1 Doses
( )	For central line - potassium chloride 20 mEq in 100 mL IVPB	20 mEq, intravenous, for 60 Minutes, every 1 hour, For 1 Doses
[ ]	IV Replacement - Phosphorus level LESS than 2.5 mg/dL	20 mmol, intravenous, for 3 Hours, once, For 1 Doses

Insulin Management Protocol

Insulin Infusion Management (Single Response) (Selection Required)

( )	No, patient is NOT ESRD	
[ ]	insulin bolus from bag	0.1 Units/kg, intravenous, once, For 1 Doses
[ ]	insulin bolus from bag	0.1 Units/kg, intravenous, once PRN, may repeat bolus one time after the first hour

[ ] insulin regular 1 unit/mL infusion for DKA	0.1 Units/kg/hr, intravenous, continuous Start Regular Human Insulin 100 units in Normal Saline 100 mL (1 unit/mL) via an intravenous pump and dedicated line at the rate indicated. If: GLUCOSE level does not decrease by at least 50 mg/dL from the initial value after the first hour: - Administer bolus 0.1 unit/kg OR 0.05 units/kg (for ESRD). - Continue same infusion rate and follow IV fluids titration. - If blood glucose GREATER THAN 400 mg/dL by POC testing, send serum glucose to the lab for confirmation. GLUCOSE GREATER THAN OR EQUAL TO 300 mg/dL: - Continue same infusion rate and follow IV fluids titration. GLUCOSE 200 - 299 mg/dL: - Continue same infusion rate and follow IV fluids titration. GLUCOSE 150 - 199 mg/dL: - Continue same infusion rate and follow IV fluids titration. GLUCOSE 100 - 149: - DECREASE insulin infusion rate by 50% ONLY ONCE and follow IV fluids titration. - Notify prescriber if continues to be LESS than 100 with the next POC for further adjustments GLUCOSE 70 - 99 mg/dL: - DECREASE insulin rate by 50 % ONLY ONCE if not already done, follow IV fluids titration. - Notify prescriber if continues to be LESS than 100 with the next POC for further adjustments. GLUCOSE LESS than 70 mg/dL: - HOLD insulin and send blood glucose to lab for confirmation - Give dextrose 50% 25 mL and notify prescriber. - Recheck blood glucose in 20 minutes; if GREATER than 70 mg/dL and anion gap greater than 12, restart insulin at 50% of prior infusion rate. - Discontinue insulin drip 2 hours after initiation of long acting insulin. GLUCOSE LESS than 200 mg/dL and anion gap is LESS THAN OR EQUAL to 12 (RESOLUTION OF DKA) - Notify prescriber to consider transition to basal-bolus insulin
[ ] dextrose 50% intravenous syringe	25 g, intravenous, every 20 min PRN, low blood sugar, as directed for glucose less than 70 mg/dL, For 2 Doses

( ) Yes, Patient is ESRD

[ ] insulin bolus from bag	0.05 Units/kg, intravenous, once, For 1 Doses
[ ] insulin bolus from bag	0.05 Units/kg, intravenous, once PRN, may repeat bolus one time after the first hour

[ ] insulin regular 1 unit/mL infusion for DKA	0.05 Units/kg/hr, intravenous, continuous Start Regular Human Insulin 100 units in Normal Saline 100 mL (1 unit/mL) via an intravenous pump and dedicated line at the rate indicated. If: GLUCOSE level does not decrease by at least 50 mg/dL from the initial value after the first hour: - Administer bolus 0.1 unit/kg OR 0.05 units/kg (for ESRD). - Continue same infusion rate and follow IV fluids titration. - If blood glucose GREATER THAN 400 mg/dL by POC testing, send serum glucose to the lab for confirmation. GLUCOSE GREATER THAN OR EQUAL TO 300 mg/dL: - Continue same infusion rate and follow IV fluids titration. GLUCOSE 200 - 299 mg/dL: - Continue same infusion rate and follow IV fluids titration. GLUCOSE 150 - 199 mg/dL: - Continue same infusion rate and follow IV fluids titration. GLUCOSE 100 - 149: - DECREASE insulin infusion rate by 50% ONLY ONCE and follow IV fluids titration. - Notify prescriber if continues to be LESS than 100 with the next POC for further adjustments GLUCOSE 70 - 99 mg/dL: - DECREASE insulin rate by 50 % ONLY ONCE if not already done, follow IV fluids titration. - Notify prescriber if continues to be LESS than 100 with the next POC for further adjustments. GLUCOSE LESS than 70 mg/dL: - HOLD insulin and send blood glucose to lab for confirmation - Give dextrose 50% 25 mL and notify prescriber. - Recheck blood glucose in 20 minutes; if GREATER than 70 mg/dL and anion gap greater than 12, restart insulin at 50% of prior infusion rate. - Discontinue insulin drip 2 hours after initiation of long acting insulin. GLUCOSE LESS than 200 mg/dL and anion gap is LESS THAN OR EQUAL to 12 (RESOLUTION OF DKA) - Notify prescriber to consider transition to basal-bolus insulin
[ ] dextrose 50% intravenous syringe	25 g, intravenous, every 20 min PRN, low blood sugar, as directed for glucose less than 70 mg/dL, For 2 Doses

Labs

Laboratory STAT (if not previously done)

[X] Blood gas, venous	STAT For 1 Occurrences
[X] Serum ketones (Beta hydroxybutyrate)	STAT For 1 Occurrences
[X] Lactic acid level	STAT For 1 Occurrences
[X] Comprehensive metabolic panel	STAT For 1 Occurrences
[X] Magnesium	STAT For 1 Occurrences
[X] Phosphorus	STAT For 1 Occurrences

[X] DKA electrolytes and glucose test

[X] DKA electrolytes and glucose test	Now then every 2 hours For 3 Occurrences STAT and Every 2 Hours x2 (Followed by DKA electrolytes and glucose test every 4 hours x3) This test includes: Sodium, Potassium, Chloride, CO2, Anion Gap, and Glucose

[X] DKA electrolytes and glucose test	Every 4 hours For 3 Occurrences (To follow DKA electrolytes and glucose test STAT and every 2 hours x2) This test includes: Sodium, Potassium, Chloride, CO2, Anion Gap, and Glucose
[ ] Amylase	STAT For 1 Occurrences
[ ] Lipase	STAT For 1 Occurrences
[X] CBC with differential	STAT For 1 Occurrences
[X] Urinalysis screen and microscopy, with reflex to culture	STAT For 1 Occurrences Specimen Source: Urine Specimen Site:
[ ] Sputum culture	STAT For 1 Occurrences, Sputum
[X] Blood culture x 2	**"And" Linked Panel**
[X] Blood Culture (Aerobic & Anaerobic)	Once, Blood Collect before antibiotics given. Blood cultures should be ordered x2, with each set drawn from a different peripheral site. If unable to draw both sets from a peripheral site, please call the lab for assistance; an IV line should NEVER be used.
[X] Blood Culture (Aerobic & Anaerobic)	Once, Blood Collect before antibiotics given. Blood cultures should be ordered x2, with each set drawn from a different peripheral site. If unable to draw both sets from a peripheral site, please call the lab for assistance; an IV line should NEVER be used.
[X] Hemoglobin A1c	STAT For 1 Occurrences
[ ] Creatine kinase, total (CPK)	STAT For 1 Occurrences
[ ] Troponin I	STAT For 1 Occurrences

Other Diagnostic Tests

ECG

[X] ECG 12 lead	STAT, Once Clinical Indications: Other: Other: DKA Interpreting Physician:

Imaging

[ ] Chest 1 Vw Portable	Routine, 1 time imaging For 1

Consults

Pharmacy Consults

[X] Consult to Pharmacy - Notification of DKA Patient	Routine, Until discontinued, Starting S Specify reason: Notification of DKA patient