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DKA/Insulin Drip Protocol		Page 1 of 4
Manual	Effective Date	Revise Date
Drug Room	04/18/18	NA
Department	Reference	
Drug Room	NA	

DKA: Moderate ketonemia, arterial pH <7.3, serum glucose >250 mg/dL, serum bicarbonate <18 mEq/L

HHS: Serum glucose >600 mg/dL, minimal ketonemia or ketonuria, serum bicarbonate >15 mEq/L, pH \geq 7.3

Monitor and Record:

1. Vital signs & I&O every hour until stable, then every 2 hours x 24 hours
 - Insert Foley if no urine output within first hour or within hours
2. STAT finger stick (capillary) blood glucose
 - (Use venous or arterial draw if glucose >450 or <45 mg/dL or SBP <60 mmHg)
3. Accuchecks every hour and as needed
4. Neuro checks every 2 hours (maintain seizure precautions) x 24 hour
5. Initiate and complete Insulin Drip Flowsheet until patient is transitioned off insulin drip

Diet:

- NPO
- NPO except Ice Chips
- Other_____

Admission Labs:

- CBC with Differential
- Comprehensive Metabolic Profile

- Serum ketones
- Serum Magnesium and Phosphorus level
- Venous blood gas
- Blood cultures x 2
- Urine C&S
- A1C
- TSH
- β -hydroxybutyrate
- Serum osmolarity (measured)
- Record acidosis-ketosis gap (AKG = arterial pH – plasma β -hydroxybutyrate. AKG >3 may indicate drug abuse)
- Other_____

Adult DKA Every 4 hour Labs for 24 Hours:

- Basic Metabolic Panel with Total Calcium, Magnesium, Phosphorus
- Serum ketones
- Venous Blood Gas

Additional Diagnostic Tests:

- EKG
- CXR
- Portable CXR

Initial IV Fluids:

- Consider IV Bicarbonate therapy for pH less than or equal to 7
- Bolus Sodium Chloride 0.9% IV to run at 999ml/hr for _____ liters

Maintenance IV Fluids:

- Dextrose 5% - Sodium Chloride 0.45% to run at _____ ml/hr
- Sodium Chloride 0.9% IV to run at _____ mL/hr
- Sodium Chloride 0.9% with KCl 20mEq/L IV to run at _____ mL/hr
- Sodium Chloride 0.9% with KCl 40mEq/L IV to run at _____ ml/hr
- Sodium Chloride 0.45% to run at _____ ml/hr

Insulin Bolus and Infusion:

- Regular insulin 0.15 units/kg IV x 1 dose now
- Regular insulin ____ units IV x 1 dose now (Typically dosed 10-15 units)
- Regular insulin 100units/100mL IV to start at 0.1units/kg/hr
- Regular insulin 100units/100mL IV to start at maintenance dose
(Initial rate typically dosed based on glucose level divided by 100)

Insulin Infusion Rate Algorithm:

Blood Sugar Level	Insulin Drip units/hour
< 60	Treat Hypoglycemia
61-69	Turn IV Drip Off
70-109	0.5
110-119	1
120-149	1.5
150-179	2
180-209	3
210-239	4
240-269	5
270-299	6
300-329	7
330-359	8
> 360	12

Treatment of Hypoglycemia:

- Glucose < 40mg/dL: Give 1 ampule D50W (25 grams) by slow IV push over 30 seconds
 - Decrease insulin infusion by moving down 1 algorithm?
 - Recheck glucose in 15 minutes; repeat D50W if necessary
- Glucose 40-59mg/dL: Give ½ ampule D50W by slow IV push over 30 seconds
 - Recheck glucose in 15 minutes; repeat D50W if necessary

Electrolyte Supplementation:

- Magnesium Supplementation
 - Magnesium sulfate 1gm IVPB x 1 dose
- Phosphate Supplementation
 - Potassium phosphate 10mmol IVPB x 1 dose
 - Potassium phosphate 20mmol IVPB x 1 dose
- Potassium Supplementation
 - Potassium chloride 20mEq IVPB x 1 dose

Stress Ulcer Prophylaxis:

- Carafate 1gm NG Tube every 6 hours
- Protonix 40mg IV Push daily
- Pepcid 20mg IV every 12 hours