



ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)

PREPRINTED ORDERS

Form No. 113-3378 (Rev. 06/09)

Page 1 of 5



Height:	Weight:	PHYSICIANS ORDERS ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)
	(KG)	

Admission

- Admission Unit: _____ Inpatient (Full Admit) Observation
- Admitting Physician: _____
- Notify Dr. _____ when patient arrives on unit
- Attending (Lead) Physician to assume care (if different than admitting): _____
- Outpatient Primary Care Physician (if different than admitting): _____
- Consult Dr. _____ Notified (MD to MD communication required)
- Regarding: _____
- Consult Dietician for Nutritional Evaluation
- Consult Social Services regarding: _____
- Consult Discharge Planner regarding: _____
- Other Consults: _____

Diagnosis

- Primary: Diabetic Ketoacidosis
- Secondary: _____

Allergies

- No Known Allergies
- Allergies / reactions reviewed in electronic medical record and are accurate as documented
- New / Undocumented Allergies / Reactions: _____

Code Status

- Full Resuscitation
- Resuscitation with Modifications (Complete Do Not Resuscitate / Resuscitation with Modifications Form #113-1378)
- Do Not Resuscitate (Complete Do Not Resuscitate / Resuscitation with Modifications Form #113-1378)

Nursing

- Scale weight in kg on admission and record in patient's electronic medical record
- Daily Weight
- Vital Signs per unit protocol
- Record strict I&O per unit protocol
- Foley catheter to gravity
- NG/OG tube Low intermittent wall suction Clamped Other NG/OG Orders: _____
- Arrhythmia Protocol (Complete Adult Arrhythmia Form #113-1127)
- Complete Diabetic Needs Assessment Tool Form #600-0000 and provide patient with appropriate diabetic education
- Provide patient with Tobacco Cessation Education if currently using tobacco or quit less than one year
- Other: _____

Physician Signature:	Dictation #:
Date/Time:	

ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)
PREPRINTED ORDERS

Form No. 113-3378 (Rev. 06/09)

Page 2 of 5



Height:	Weight:	PHYSICIANS ORDERS
	(KG)	ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)

Activity

- Strict Bed Rest
- Bed Rest with Bedside Commode
- Bathroom Privileges
- Ambulate in Hallway _____ Times a Day
- Other Activity: _____

Diet

- NPO
- NPO, Except Medications
- May have ice chips
- Other Diet: _____

Respiratory

- Continuous Pulse Oximetry
- Oxygen Administration Protocol (Titrate O₂ to saturation > or = 92% at rest)
- Respiratory nebulizer treatments:
 - Albuterol 2.5 mg q 4 hours and every hour prn
 - Atrovent 0.5mg every 4 hours and every hour prn
 - Other: _____
- Incentive Spirometer 10 times every _____ hours while awake
- Other: _____

Intravenous Fluids

1. Give fluid bolus of 1L 0.9% NaCl over _____ hour(s) Repeat X _____ liters
2. After fluid bolus, give the following fluid at _____ ml / hour until capillary blood glucose is less than 250 mg/dL
 - 0.9% NaCl (Recommended if corrected serum sodium is low)
 - 0.45% NaCl (Recommended if corrected serum sodium is normal to high)
3. When capillary blood glucose is less than 250mg/dL, change IV fluid to 5% Dextrose and 0.45% NaCl
4. Other Intravenous Fluid Orders: _____

Potassium/Magnesium Replacement

- Use Adult Electrolyte Replacements Critical Care Preprinted Orders Form #113-1858
Recommended for All Patients w/ Scr <2mg/dL and BUN <30mg/dL
- Other Electrolyte Replacement Orders: _____

Physician Signature:	Dictation #:
Date/Time:	



ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)

PREPRINTED ORDERS

Form No. 113-3378 (Rev. 06/09)

Page 3 of 5



Height:	Weight:	PHYSICIANS ORDERS
	(KG)	ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)

Insulin (IF INITIAL SERUM POTASSIUM IS < 3.3mEq/L, HOLD INSULIN AND REPLACE POTASSIUM**)**

- Give Human Regular Insulin _____ units (Rec. 0.15 units/kg) IV push now X 1 dose, then begin insulin infusion within 30 minutes of IV bolus
- Human Regular Insulin infusion at _____ units/hour (Usually 0.1 unit/kg/hour or 5-10 units/hr)
- AccuChek every hour (obtain plasma glucose if needed) until goal range of 161-220 mg/dL x 4 hours, then every 2 hours
- Titrate IV insulin infusion per table below:

IV INSULIN INFUSION TITRATION TABLE

Serum Glucose/AccuChek Result	Action/Rate Adjustment
< 100 mg/dL	Decrease insulin infusion by 1 unit/hr, give 25 ml of 50% Dextrose, & call MD
100-160 mg/dL	Decrease insulin infusion by 1 unit/hr
161-220 mg/dL	No change
221-280 mg/dL	Increase insulin infusion by 1 unit/hr
> 280 mg/dL	Increase insulin infusion by 2 units/hr

5. Other Insulin Orders: _____

Notifications

- Call Physician if
 - Continuous insulin infusion is stopped
 - Blood glucose is < 100 mg/dl while on continuous insulin infusion
 - Blood glucose decreases < 50mg/dL/hr or > 100 mg/dL/hr while on insulin infusion until blood glucose is < 250 mg/dL
 - Patient has severe pain
 - Other: _____

GI Prophylaxis

- Famotidine (Pepcid) 20mg BID PO IV
- Esomeprazole (Nexium) 40mg IV Daily
- Omeprazole (Prilosec) 40 mg PO Daily
- Other:** _____

DVT Prophylaxis

- Nurse / Physician DVT (Deep Vein Thrombosis) Prophylaxis order set (Print and place on chart)
- Physician DVT (Deep Vein Thrombosis) Prophylaxis order set (Print and place on chart)

Physician Signature:	Dictation #:
Date/Time:	

ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)
PREPRINTED ORDERS

Form No. 113-3378 (Rev. 06/09)

Page 4 of 5



Height:	Weight:	PHYSICIANS ORDERS
	(KG)	ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)

Medications

- See completed Medication Reconciliation sheet
- Acetaminophen (Tylenol) 650mg po or pr q 4 hours prn for mild pain or fever greater than or = to 100.5F
- *DO NOT EXCEED 4000 MG ACETAMINOPHEN IN 24 HOURS***
- Hydrocodone/Acetaminophen (Norco) 5/325mg 1 tablet q 4 hours prn as needed for moderate pain,
- *DO NOT EXCEED 4000 MG ACETAMINOPHEN IN 24 HOURS***
- Aluminum Hydroxide/Magnesium Hydroxide/Simethicone (Maalox) 15ml po q 4 hours prn heartburn or indigestion
- Milk of Magnesia (MOM) 30ml po q 6 hours prn constipation
- Temazepam (Restoril) 15mg po q hs prn for insomnia (avoid in elderly patients)
- Zolpidem (Ambien) 5mg po q hs prn for insomnia
- Nicotine 14mg/24 hour transdermal Patch, Apply 1 patch transdermally and change daily (less than 10 cigarettes/day habit)
- Nicotine 21mg/24 hour transdermal Patch, Apply 1 patch transdermally and change daily (greater than 10 cigarettes/day habit)
- Nicotine 2 mg oral transmucosal gum; 1 Piece chewed every 2 hours while awake prn for nicotine craving.
- Other: _____

Admission Diagnostic Studies Recommended for All Adult DKA Patients: (IF not completed in the ED or outpatient office)

- Renal Function Panel now Now and q 4 hours Other frequency: _____
- (Includes BMP, albumin, and P04)
- CMP now Now and in the AM Other frequency: _____
- CBC with DIFF now Now and in the AM Other frequency: _____
- Arterial Blood Gas now Other frequency: _____
- Urinalysis **and Urine C&S**
- Urine Gram Stain
- **Recommended if clinically indicated:**
- Magnesium now Now and q 4 hours Other frequency: _____
- Ionized Calcium now Now and q 4 hours Other frequency: _____
- EKG now Now and every 8 hours X 2
- HbA1C
- CXR Portable AP Stat Routine
- CXR PA/LAT Stat Routine
- Blood Cultures x 2 sets **(if patient has central line, obtain one blood culture from central line and the other peripherally)**
- Other Diagnostics: _____

Other Orders: _____

Physician Signature: _____	Dictation #: _____
Date/Time: _____	

ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)
PREPRINTED ORDERS

Form No. 113-3378 (Rev. 06/09)

Page 5 of 5



Height:	Weight:	PHYSICIANS ORDERS ADULT ICU / INTERMEDIATE ADMISSION: DIABETIC KETOACIDOSIS (DKA)
	(KG)	

GENERAL INFORMATION FOR PHYSICIANS/NURSES

DKA Diagnostic Criteria: Blood glucose > 250mg/dl, pH < 7.3, CO₂ < 18 meq/l, presence of moderate serum and/or urine ketones, and anion gap > 14. [Anion gap = ([Na⁺] + [K⁺]) - ([Cl⁻] + [HC0₃⁻])]

IV Fluids Guidelines: Average fluid loss in DKA is 3 – 6 L. Fluid bolus of 0.9% NaCl at 15 – 20 ml/kg/hr is recommended the first hour. Continue 0.9% NaCl for large fluid deficit and if corrected serum Na⁺ is low. The average rate of decrease in serum osmolality should not be more than 3mOsm/hr. Once the major fluid deficit is corrected, and corrected serum Na⁺ is normal or high, use 0.45% NaCl at 4 - 14 ml/kg/hr. Maintenance fluids are usually infused at 150 – 200 ml / hr until DKA is resolved and po intake is resumed. Fluids must be adjusted for hemodynamic status, cardiac, and renal function.

$$\text{Corrected serum sodium} = \text{serum sodium} + (\text{glucose}-100) / 100 \times 1.6$$

Insulin Guidelines: During the continuous insulin infusion, the blood glucose goal is 160 – 220mg/dl until the DKA is resolved. Sufficient glucose intake is necessary during the insulin infusion to prevent hypoglycemia. Do not stop the insulin infusion until the ketoacidosis and dehydration resolve and the patient can tolerate po intake, use 10% dextrose if needed. If the glucose decreases by < 50 -75 mg/dl/hr, consider doubling the dose of the insulin infusion. When the DKA is resolved and SubQ insulin is administered, the insulin infusion can be decreased to 0.05units/kg/hr. Discontinue the insulin infusion 2 hours after intermediate or long acting insulin is administered. A physician order is required to stop the insulin infusion.

Potassium Replacement: Although patients may be initially hyperkalemic, it is common for DKA patients to require replacement. Adding Potassium Chloride to maintenance fluid bags may be warranted as well as additional potassium boluses for some patients. Utilizing Electrolyte Replacement Protocols is the preferred method for ordering boluses.

Phosphorus: If P₀₄ is < 1mg/dl, consider administering Potassium Phosphate or Sodium Phosphate. Please refer to the Guide to Medication Use for SFMC Clinicians portal under Medication Use Guidelines for specific dosing instructions.

<http://myosf.osfhealthcare.org/sites/SFMC/pharm/PandT/default.aspx>

***Phosphorus Replacement May Cause Severe Hypocalcemia, Serum Calcium Levels Must be Monitored.**

Mgmt of Severe Acidosis: If the pH is 6.9 – 7 and/or there is presence of severe/symptomatic hyperkalemia or cardiovascular instability, give Sodium Bicarbonate 8.4% 50meq/50ml I.V. push over 3 to 5 minutes. If the pH is < 6.9 give Sodium Bicarbonate 8.4% 50meq/50ml I.V. push over 3 to 5 minutes times two doses. Repeat every 2 hours until pH is >7. **Replace potassium as indicated to prevent hypokalemia.**

DKA Resolution: Serum glucose < 200mg/dl, C0₂ > or = 18mEq/L, anion gap < 14, and venous pH > 7.3.

Physician Signature:

Dictation #:

Date/Time: