



# Capital Health

## PRE-PRINTED ORDER

Department of Medicine, Endocrinology, Diabetes Case Management

### Adult Diabetic Ketoacidosis (DKA)

Patient: \_\_\_\_\_

Allergies: \_\_\_\_\_

#### THE FOLLOWING ORDERS:

- **Are to be used with DKA Flow Sheet**
- May be used on any nursing unit and will be carried out by a qualified health professional ONLY ON THE AUTHORITY OF AN AUTHORIZED PRESCRIBER
- All orders to be carried out must be **checked/completed** as appropriate. An order preceded by a bullet is mandatory and must be carried out. An order preceded by a checkbox is only to be carried out if checked.
- **All dates must be written yyyy/mm/dd. All times must be on the 24-hour clock (hhmm hr).**

#### 1. Assess Severity<sup>1</sup>

- Vitals q2h x 24 hrs then reassess
- Strict in and out until IV discontinued
- Weigh daily
- STAT glucose, electrolytes, urea, Cr, serum ketones, profile with differential, anion gap
- ABG with ionized Ca, lactate
- HbA1C
- Electrolytes q2h until total CO<sub>2</sub> greater than 20 mmol/L, then daily x 3

#### 2. Precipitating Cause<sup>2</sup>

- CXR
- EKG
- Blood cultures (2 aerobic from 2 different sites)
- Urinalysis and urine for C&S

#### 3. Fluids and electrolytes<sup>3</sup>

- Bolus 1 L sodium chloride 0.9% IV (without KCl) **then**
- 1 L sodium chloride 0.9%/h (KCl as below) x 1 **then**
- 500 mL/h sodium chloride 0.9% (KCl as below x 4 hours then reassess IV rates
- OR**  Alternative \_\_\_\_\_
- Adjust K+ supplementation based on q2hourly electrolytes as described:
  - If K+ less than 3.3mmol/L, add 40 mEq KCl/L to IV sodium chloride 0.9%
  - If K+ 3.3–5.5 mmol/L, add 20 mEq KCl/L to IV sodium chloride 0.9%
  - If K+ greater than 5.5 mmol/L, **do not** add KCl to IV fluid

#### 4. Insulin Orders<sup>4</sup> – DO NOT use Sliding Scale Insulin

- Chemstrips q1h while on IV insulin; q4h when glucose 12–15 mmol/L for two consecutive readings

#### 4. Insulin Orders Continued...

- BOLUS Humulin R or Novolin Toronto \_\_\_\_\_ units (0.1 units/kg) by IV push, then start insulin drip:
- Mix 100 units (Humulin R or Novolin Toronto) in 100 mL normal saline (discard 15 mL before starting drip (to prime the line). Run insulin drip at \_\_\_\_\_ units/h (0.1 units/kg/hr) to be adjusted based on q1h chemstrips as follows:
  - If chemstrip decreases 1–2 mmol/L, continue current drip rate
  - If chemstrip fails to decrease on 2 consecutive readings, double insulin drip rate
  - If chemstrip decreases by more than 2 mmol/L, reduce rate of insulin drip by half
- When chemstrip is 12–15 mmol/L for two consecutive readings, change IV to dextrose 5% in 0.45% sodium chloride at 50 mL/h and maintain insulin drip
- When total CO<sub>2</sub> is greater than 20 mmol/L and oral intake is resumed, call housestaff for a new subcutaneous insulin order. **(NOT SLIDING SCALE)**

#### 5. Sodium Bicarbonate<sup>5</sup>

- If blood pH is Less than 6.9 on initial ABG:
- 50 mEq NaHCO<sub>3</sub> IV push
  - Repeat ABG 1 hour after IV NaHCO<sub>3</sub>

#### 6. Consults

- Internal Medicine
- Discharge Planning Nurse
- Diabetes Case Management Coordinator

#### 7. If Admission required, follow above orders and:

- Consult Endocrinology
- Diabetic Diet \_\_\_\_\_ kcal; **OR** \_\_\_\_\_
- Activity as tolerated
- Weigh daily
- Call housestaff on patient's arrival to floor

#### USE AS A GUIDE ONLY

DKA Diagnostic criteria: glucose greater than 15 mmol/L; ketones present; pH less than 7.25, patient appears ill.

1. See DKA Flowsheet for severity assessment. Consider causes of anion gap metabolic acidosis.
2. Establish precipitating cause.
3. Cautious fluid replacement for anuric patients. Consider use of sodium chloride 0.45% if serum sodium is greater than 148 mmol/L. Most patients are 3–5 mEq/kg deficient in potassium; use caution in replacing in renal failure.
4. Aim for 10% drop in glucose per hour or 1–2 mmol/L per hour. As acidosis is corrected, less insulin may be required.
5. Use of bicarbonate is controversial.



Physician's Orders

Prescriber's Signature: \_\_\_\_\_ Date (yyyy/mm/dd): \_\_\_\_\_

Prescriber's Name \_\_\_\_\_ Reg. No. \_\_\_\_\_

## **ESTABLISHING CAUSE (Document in the History and Physical)**

- **What is the precipitating cause of this illness?**
  - Patient NOT sick but did not take insulin
  - Patient sick; did not take usual insulin dose
  - Patient sick; took usual dose of insulin
  - Myocardial infarction
  - Stroke
  - Infection
  - Unknown
  - Other
- **Also determine and chart:**
  - Is this the only admission for diabetes in the past 6 months?
  - Has this patient been followed by an endocrinologist in the past – who – when seen last?
  - Has this patient had diabetes education in the past?– from whom?

## **FOLLOW-UP / DISCHARGE PLANNING**

Diabetes Case Management Coordinator will coordinate the follow-up diabetes plan. At discharge patient has a clear diabetes follow-up plan which includes at least one of the following:

- Endocrinology clinic or community Endocrinologist / Internist appointment
- HCNS – VON
- Diabetes Management Center appointment
- Social Worker
- Psychology

## **CONTACT NUMBERS**

*Diabetes Case Management Coordinators (for VG and HI Sites) will coordinate inpatient plan/consults and discharge plan Monday to Friday*

Vanessa Donnelly – phone 473-7905; hospital pager 6078; fax 473-6117

Mary Lou Martin – phone 473-7674; hospital pager 1677; fax 473-6117

*Patient Family Learning Centre Nurse Educators (for VG and HI Sites)*

Florence MacLennan – phone 473-7460; fax 473-5925

Helena MacKinnon – phone 473-2660; fax 473-5925

*Diabetes Management Centre*

Irene Higgins-Bowser, Team Leader/Diabetes Case Management Coordinator – phone 454-1605; fax 473-3770