UCSF Medical Center

ADULT MEDICAL SURGICAL INSULIN INFUSION ORDERS

[Not For Acute Diabetic Ketoacidosis (DKA OR ICU)]

DO NOT TRANSCRIBE ITALICIZED TEXT ADJACENT TO ORDERS

(Check "√" in box activates orders)

DATE:	TIME:

UNIT NUMBER

PT. NAME

BIRTHDATE

LOCATION DATE

1. ☐ D/C previous insulin orders including glucose tablets and D50W

2. ☐ D/C _____ *(hypoglycemic agents).*

3. **Maintenance IV Fluids** ***(IV Dextrose infusion must be maintained while the patient is on insulin infusion. Minimum rate of 10mL/hour.)***

- ☐ D5 NS at 100 mL/hour
- ☐ D5 1/2 NS at 100 mL/hour
- ☐ D10 NS at _____ mL/hour (for patients with fluid restrictions or renal failure)
- ☐ Additive: KCl 20 meq/liter *(generally 20 mEq/L)*
- ☐ other_____ at _____mL/hour

4. **Regular Insulin Infusion 100 units Regular insulin in 100mL NS (1 unit = 1 mL)**

A. Flush first 20mL of infusion through tubing before connecting to patient.

B. Before beginning infusion, check Blood Glucose (BG) with glucose meter.

5. **Start Insulin Infusion Rate as follows (when BG ≥100 mg/dL):**

- ☐ 0.3 unit/hour taking <30 units insulin daily *(recommended for Type 1; Pancreatectomy)*
- ☐ 1 unit/hour for patients previously diet controlled, taking oral hypoglycemic agent, or <30 units insulin daily
- ☐ 1.5 units/hour for patients taking >30 units insulin daily
- ☐ other _____ units/hour

6. **Adjust Insulin Infusion Rate as follows:**

☐ **Standard adjustment**		☐ **Sensitive adjustment** (for Type 1; Pancreatectomy)	
BG <80 mg/dL	Stop infusion and **Call MD; see #8 below** *Do not restart insulin infusion until BG ≥ 100 mg/dL*	BG <80 mg/dL	Stop infusion and **Call MD; see #8 below** *Do not restart insulin infusion until BG ≥ 100 mg/dL*
BG 80-120	Decrease drip by 0.5 unit/hour	BG 80-120	Decrease drip by 0.2 units/hour
BG 121-180	No change in drip rate	BG 121-180	No change in drip rate
BG 181-250	Increase drip by 0.5 unit/hours	BG 181-250	Increase drip by 0.2 units/hour
BG >250	Bolus 5 units regular insulin IV and increase drip by 0.5 unit/hour	BG >250	Bolus 2 units regular insulin IV and increase drip by 0.2 units/hour

7. Check BG every hour with glucose meter until stable (range 100-180 mg/dL) for two consecutive readings and then every 2 hours.

8. **For a BG <80 mg/dL or >400 mg/dL on insulin infusion, call MD.**

- ☑ BG <80 mg/dL but >60 mg/dL, stop insulin infusion. Check BG every 15 minutes.
- ☑ BG ≤60 mg/dL, stop insulin infusion; give **50 mL D50W IV push**; check BG every 15 minutes and repeat treatment until BG ≥100 mg/dL. When BG ≥100 mg/dL, call MD for new insulin infusion rate.
- ☑ BG >400 mg/dL, call MD to reassess insulin infusion rate.

9. ☑ **If TPN or tube feeds are interrupted for longer than 30 minutes, start D10W at 50 mL/hour.**
Notify MD about change and future action.

10. When converting to subcutaneous (SQ) insulin, give prescribed SQ dose 30 minutes prior to discontinuing insulin infusion. Then use Adult SQ Insulin Order Sheet.

11. If patient eating meals give _____ units aspart SQ after patient eats carbohydates and continue insulin infusion.

12. Discontinue insulin infusion maintenance IV fluids when insulin infusion discontinued.

Signature _____ **Provider No.** __ __ __ __ __ **Date** _____ **Time** _____ **Pager** _____

ORDERS MUST INCLUDE LEGIBLE PROVIDER NUMBER, DATE, AND TIME

Orders checked by _____ **R.N.** **Date** _____ **Time** _____

602-028 (Rev. 10/08) WorkflowOne ORIGINAL-MEDICAL RECORD WHITE-PHARMACY YELLOW-NURSING

INDICATIONS AND GUIDELINES FOR INSULIN INFUSION

RATIONALE

Predictable delivery and short biological effect (about 40 minutes) of intravenous insulin allows for rapid dose adjustment and more stable glucose levels. The risk of hypoglycemia is reduced and glycemic control is maintained even when the operative procedure is delayed.

INDICATIONS

1. All insulin-taking patients (Type 1 and Type 2) who are undergoing major surgery (general anesthesia, invasion of body cavity, surgical duration > 2 hours, NPO postoperatively).

2. Type 2 DM patients who are not taking insulin but are chronically hyperglycemic (fasting blood glucose > 150 mg/dL & HbA1C > 10%) and undergoing major surgery.

3. To establish insulin requirements for TPN & tube feeding.

GUIDELINES FOR DETERMINING INITIAL INSULIN DOSAGE

1. For Patients on < 30 units/24 hours insulin and Type 1 DM or s/p pancreatectomy, consider starting at 0.3 units/hour

2. For patients treated with < 30 units/24 hours, have Type 2 DM on oral agents or diet, consider starting on 1 unit/hour

3. For patient taking > 30 units insulin daily, consider starting at 1.5 units/hour

4. Insulin requirements are predictably increased in certain clinical conditions: severe infections, steroid therapy (doubles insulin needs), morbid obesity; and hepatic disease.

STOPPING INSULIN INFUSION AND INITIATING SUBCUTANEOUS REGIMEN (Patient eating)

1. Calculate the cumulative 24-hour dose (x = cumulative 24 hour total dose)

2. Divide the cumulative total dose by 2.5 to determine the Glargine dose (x/2.5 = y = Glargine dose).

3. Divide the cumulative dose to determine the basic Aspart dose before meals (x/7 = basic Aspart dose).

4. Write a high glucose correction premeals; bedtime, 2 am.

Endocrine / Metabolism service is available for advice on all aspects of diabetes care.
Endocrine Fellow 443-9125; Clinical Nurse Specialist 443-2951.