

Fairview Health Services
Subcutaneous INSULIN Management Orders
ADULT (>45 kg)

PATIENT IDENTIFICATION

MD Resource: See back of this page for *FV Guidelines for Initial Dosing of Sub-Q Insulin*.

A. BLOOD GLUCOSE MONITORING

If PO (eating meals or on bolus enteral feedings):

- Glucose Monitoring – Nursing. **Within 30 minutes prior to each meal and at bedtime.**
Blood Glucose Pre-Prandial Goal: 90-130 mg/dL, or _____ mg/dL
- Glucose Monitoring – Nursing. **2 hours after each meal.** Do NOT correct this value.
Blood Glucose 2 hour Peak Post-Prandial Goal: <180 mg/dL, or _____ mg/dL
- Glucose Monitoring – Nursing. **Between 2 a.m. – 3 a.m.** Do NOT correct this value.
- Other: _____

If NPO, on TPN, or on continuous enteral feeding:

- Glucose Monitoring – Nursing. Q4H if on Aspart (Novolog) Insulin
- Other: _____

B. LABORATORY TESTS

- Hemoglobin A1C **Note: Obtain if no available result within the past 60 days.**
- Basic Metabolic Battery (Sodium, Potassium, Chloride, CO₂, Glucose, BUN, Creatinine, Calcium, Anion Gap)
- Hepatic Panel (Albumin, Alk Phosphatase, ALT, AST, Bilirubin (Conjugated, Delta, Total), Total Protein)
- Other: _____

C. BASAL INSULIN MD Instruction: Select 1 or 2 doses / 24 hr

- Detemir (Levemir) Insulin: _____ units Sub-Q qAM _____ units Sub-Q q Bedtime
- Glargine (Lantus) Insulin: _____ units Sub-Q qAM _____ units Sub-Q q Bedtime
- NPH Insulin: _____ units Sub-Q qAM _____ units Sub-Q q Bedtime

D. BOLUS INSULIN – If PO (eating meals or on bolus enteral feedings)

- Aspart (NovoLog) Insulin Do not give if pre-prandial glucose is <60 mg/dL.
- Other: _____ Do not give if pre-prandial glucose is <60 mg/dL.

Prandial Schedule

MD Instruction: 1 CHO Unit equals 15 grams of carbohydrate (CHO). Select fixed dose (units/meal) or calculate dose based on meal carbohydrate units (insulin units/CHO unit).	Breakfast	Lunch	Supper	Other
	_____ units / meal	_____ units / meal	_____ units / meal	
	or _____ units: CHO unit	or _____ units: CHO unit	or _____ units: CHO unit	

Correction Schedule MD Instruction: Select schedule below based on patient's level of insulin resistance

Glucose Level	<input type="checkbox"/> Very Low	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	<input type="checkbox"/> Custom
120-149 mg/dL	0 units	0 units	1 units	2 units	_____ units
150-199 mg/dL	0.5 units	1 units	2 units	3 units	_____ units
200-249 mg/dL	1 units	2 units	3 units	4 units	_____ units
250-299 mg/dL	1.5 units	3 units	5 units	7 units	_____ units
300-349 mg/dL	2 units	4 units	7 units	10 units	_____ units
350 or greater	2.5 units	5 units	8 units	12 units	_____ units

Bedtime Correction:

- If blood glucose <200 mg/dL, DO NOT give correction dose
- If blood glucose ≥200 mg/dL, give 50% of correction dose rounded down to whole number

E. BOLUS INSULIN – If NPO, on TPN, or on continuous enteral feeding

- Aspart (NovoLog) Insulin Check blood glucose Q4H and administer insulin dose based on Correction Schedule.
- Other: _____

Guidelines for Initial Dosing of Subcutaneous Insulin in Hospitalized Patients.

1. **Total Daily Insulin Dose (TDD) Requirement (estimate).** - Typically 0.5 – 0.7 units/kg per day. For a hospitalized patient eating meals, a total daily insulin dose of 0.6 units/kg is reasonable.

EXAMPLE: 90 kg patient
 $90 \text{ kg} \times 0.6 \text{ units/kg/day} = 54 \text{ units insulin/day}$

2. **Basal Insulin Requirement (estimate).** Typically 40-50% of total daily insulin dose.

EXAMPLE: 90 kg patient
 $0.5 \times 54 \text{ units insulin/day} = 27 \text{ units insulin as basal component (long or intermediate-acting insulin)}$

3. **Prandial Insulin Dose (estimate)** to be given at each meal for patients who are eating. Typically, 50% of the total daily insulin dose divided equally over the three meals, or 10-20% of the total daily insulin dose given at each meal.

EXAMPLE: 90 kg patient
 $0.5 \times 54 \text{ units insulin/day} = 27 \text{ units insulin/3 meals} = 9 \text{ units insulin/meal (rapid-acting insulin)}$

4. **Correction (supplemental) Insulin Dose** to be given at each meal in addition to prandial dose, or to be given every 4-6 hours as needed for patients who are not eating. Typically, 1 unit of insulin will lower blood glucose 50 mg/dL. (This corresponds to the “Low” correction schedule in the order set).

Alternatively, use the “Rule of 1700” to determine the patient’s sensitivity to insulin: $1700 / \text{total daily insulin dose} = \text{decrease in blood glucose by 1 unit of insulin}$.

EXAMPLE: 90 kg patient with total daily insulin dose of 54 units
 $1700/54 \text{ units insulin} = 31$.

Modification can be made based on clinical judgment for factors such as severity of illness, fragility, renal function, body weight, expected nutritional intake, medication effects (e.g., glucocorticoid medications), etc. If patient’s insulin requirements (sensitivity) are uncertain and there is concern for hypoglycemia, consider initiating therapy at 80% of above calculated doses and adjust as necessary

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F. OTHER DIABETIC MEDICATIONS

- _____
- _____
- _____
- _____
- _____

G. TRANSITION FROM IV INSULIN INFUSION TO SUB-Q INSULIN

- Med Instruction** – Transition from IV Insulin Infusion to Sub-Q Insulin: Administer Sub-Q BASAL Insulin dose TWO HOURS PRIOR to D/C of insulin infusion according to the patient's basal insulin orders. Check bedside blood glucose prior to BASAL Insulin administration.
- Med Instruction** – Transition from IV Insulin Infusion to Sub-Q Insulin: Administer Sub-Q BOLUS Insulin dose IMMEDIATELY PRIOR to D/C of insulin infusion according to the patient's bolus insulin orders as needed for prandial coverage and/or correction. Check bedside blood glucose prior to D/C of insulin infusion.

H. NUTRITION SERVICES

- Low Consistent Carbohydrate Diet (1200-1500 calories / 3-5 CHO units per meal)
- Moderate Consistent Carbohydrate Diet (1600-1900 calories / 4-6 CHO units per meal)
- High Consistent Carbohydrate Diet (2000-2400 calories / 4-7 CHO units per meal)
- Very High Consistent Carbohydrate Diet (2500-3000 calories / 6-9 CHO units per meal)
- Other: _____

I. CONSULTS

- Endocrinology Consult – **UMMC, FSH Only**. Reason for consult: _____
- Diabetes Clinical Nurse Specialist Consult – **UMMC Only**. Reason for consult _____
- Diabetes Education Consult. Inpatient Survival Skills. Reason for consult: _____
- Diabetes Education Consult – Outpatient. Reason for consult: _____
- Nutrition Services Consult – Reason for consult: _____

MD/CNM SIGNATURE: _____ DATE: _____ TIME: _____

MD/CNM NAME (printed): _____ PAGER #: _____

Fairview Health Services Hypoglycemia Orders; ADULT (>45 kg)

GOAL: Identify and Treat Hypoglycemia (< 70 mg/dL)

PATIENT CARE

ASSESSMENT: Assess patient for signs and symptoms of hypoglycemia.

ADRENERGIC Symptoms: Diaphoresis, tremor, tachycardia, hypotension, anxiety, hunger, pallor, increased respirations, circumoral tingling, tingling in extremities, possible nausea/vomiting

NEUROGLYCOPENIC Symptoms: Dizziness, headache, clouding of vision, blunted mental activity, loss of fine motor skills, confusion, slurred speech, abnormal behavior, numbness, fatigue/sleepiness, convulsions/seizures, loss of consciousness

GLUCOSE MONITORING

Blood Glucose Monitor, Nursing - at Bedside – PRN for symptoms of hypoglycemia

Blood Glucose Monitor, Nursing - at Bedside – PRN Q15 mins during treatment for hypoglycemia, until patient stabilized and glucose value >100 mg/dL

IMMEDIATE TREATMENT

A. MILD Hypoglycemia (Glucose value 60-70 mg/dL; patient symptomatic, alert). Give 15 gm CHO:

Glucose - oral gel 40% (15 gm) **PO** Q15 min PRN mild hypoglycemia

or Glucose tabs 3 tablets (15 gm) **PO** Q15 min PRN mild hypoglycemia

or 4 ounces juice (15 gm) **PO** Q15 min PRN mild hypoglycemia

B. MODERATE Hypoglycemia (Glucose value 45-59 mg/dL; patient alert). Give 20 gm CHO:

Glucose - oral gel 40% (20 gm) **PO** Q15 min PRN moderate hypoglycemia

or Glucose tabs, 4 tablets (20 gm) **PO** Q15 min PRN moderate hypoglycemia

or 6 ounces juice (20 gm) **PO** Q15 min PRN moderate hypoglycemia

IF patient NPO:

Dextrose 50% 25 mL **IV** Q15 min PRN moderate hypoglycemia until glucose value >70 mg/dL

C. SEVERE Hypoglycemia (Glucose value <45 mg/dL; patient conscious/alert, may be disoriented). Give 30 gm CHO:

Glucose - oral gel 40% (30 gm) **PO** Q15 min PRN severe hypoglycemia

or Glucose tabs, 6 tablets (30 gm) **PO** Q15 min PRN severe hypoglycemia

or 8 ounces juice (30 gm) **PO** Q 15 min PRN severe hypoglycemia

IF patient NPO

Dextrose 50% 25 mL **IV** Q15 min PRN severe hypoglycemia until glucose value >70 mg/dL

D. SEVERE Hypoglycemia (Glucose value <45 mg/dL; patient **UN**conscious/**NOT** alert)

IF IV Access

Dextrose 50% 50 mL **IV** Q15 min PRN severe hypoglycemia until glucose value >70 mg/dL

IF NO IV access

Glucagon 1 mg -In Pyxis **Sub-Q / IM** x 1 dose. May repeat x 1 in 15 minutes if patient does not respond.

Note: Glucagon can cause nausea and vomiting. Roll patient on their side when administering to prevent aspiration.

E. NOTIFY MD

If severe hypoglycemic episodes and review insulin/oral hypoglycemic agents and caloric sources (PO intake, CHO units, IV fluid, TPN, Enteral Feedings).

MD SIGNATURE: _____ **DATE:** _____ **TIME:** _____

MD NAME (printed): _____ **PAGER #:** _____

**FAIRVIEW HEALTH SERVICES – PHYSICIAN ORDERS
HYPOGLYCEMIA ORDERS, ADULT (>45 KG)**