# UCSF Medical Center

## ADULT SUBCUTANEOUS INSULIN ORDER SHEET PATIENT NPO or on TPN, TUBE FEEDS

***DO NOT TRANSCRIBE ITALICIZED TEXT ADJACENT TO ORDERS***

(Check "√" in box activates orders)

| DATE: | TIME: |
|---|---|

UNIT NUMBER

PT. NAME

BIRTHDATE

LOCATION DATE

**Check only one box:**

**1.** ☐ **NPO** _____ (start date / time)
☐ **TPN** ☐ **continuous or** ☐ **cycle** _____
☐ **TUBE FEED** ☐ **continuous or** ☐ **cycle** _____

**2. Check blood glucose and give insulin every 4 hours.**

3. Discontinue previous SQ insulin order.

4. **If patient becomes NPO for procedure (i.e. tube feed held) or if TPN held:**
- **HOLD** nutritional dose of Aspart.
- Give correctional dose of Aspart if BG > 130 mg/dL.
- Give Glargine dose. If BG has been less than 70 mg/dL in last 24 hours, call MD to consider adjusting Glargine dose.
- If unplanned interruption >30 minutes, start
  ☐ **D10W IV** (standard) or ☐ **D10NS IV** (special circumstances, eg: neurology/neurosurgery/Na wasting) at rate of tube feeding/TPN. Notify MD.

**5. A. BASAL AND NUTRITIONAL INSULIN DOSE (IN UNITS):**

| **BLOOD GLUCOSE TIME** | 6:00 | 10:00 | 14:00 | 18:00 | 22:00 | 02:00 |
|---|---|---|---|---|---|---|
| Aspart (NovoLog) Nutritional Dose | units | units | units | units | units | units |
| | units | units | units | units | units | |
| Glargine (Lantus) | units | units | units | units | units | |

**B. CORRECTIONAL Insulin with ASPART Every 4 hours Check box to choose scale. Add or subtract from nutritional dose of aspart.**

| **Blood Glucose Range:** | ☐ **Sensitive BMI less than 25 and/or <50 units per day** | ☐ **Average BMI 25-30 and/or 50-90 units per day** | ☐ **Resistant BMI >30 and/or >90 units per day** | ☐ **Custom** |
|---|---|---|---|---|
| <70 mg/dL | Treat for Hypoglycemia per protocol (see order #7). Once BG ≥100 mg/dL give Aspart with following change: | | | |
| Once BG ≥100mg/dL give: | 2 units less | 3 units less | 4 units less | _____ units less |
| 70-100 mg/dL | 1 unit less | 2 units less | 3 units less | _____ units less |
| 101-130 mg/dL | Give nutritional dose Aspart as in #5A above | | | |
| 131-150 mg/dL | 0 unit | +1 unit | +2 units | +_____ units |
| 151-200 mg/dL | +1 unit | +2 units | +3 units | +_____ units |
| 201-250 mg/dL | +2 units | +4 units | +6 units | +_____ units |
| 251-300 mg/dL | +3 units | +6 units | +9 units | +_____ units |
| 301-350 mg/dL | +4 units | +8 units | +12 units | +_____ units |
| 351-400 mg/dL | +5 units | +10 units | +15 units | +_____ units |
| Greater than 400 mg/dL | +6 units | +12 units | +18 units | +_____ units |

**6. CALL MD FOR BG < 70 mg/dL OR > 400 mg/dL.**

**7. For BG < 70 mg/dL, use Hypoglycemia Protocol below. These hypoglycemia orders remain active for duration of SQ insulin administration.**

**For patient taking PO, give 20 gm of oral fast-acting carbohydrate per patient preference:**

☑ **Give 20 grams of glucose PO or** give 6 oz. fruit juice. Repeat Q15 minutes until BG ≥100 mg/dL.

☑ Give **25 mL D50W IV push** if patient cannot take PO, or 6 oz. juice per feeding tube. Repeat Q15 minutes until BG ≥100 mg/dL.

☑ Check fingerstick glucose every 15 minutes and repeat treatment until BG is ≥ 100 mg/dL.

**8. Discontinue above monitoring and intervention orders when SQ insulin is discontinued.**

***NOTE: Glargine (Lantus) CANNOT be mixed with any other insulin. Give Glargine as a separate injection.***
***If patient is on tube feeds, give insulin at the start of tube feeds.***

**If patient is receiving Extraneal, Gamimune N, Octagam, D-xylose, WinrhoD SDF, Hepagam B, Orencia, or Adept adhesion reduction solution, do not use glucose meter for BG checks. All BGs must be sent to the laboratory.**

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

**ORDERS MUST INCLUDE LEGIBLE PROVIDER NUMBER, DATE, AND TIME**

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

105-0144 (Rev. 10/10) WorkflowOne ORIGINAL - MEDICAL RECORD COPY YELLOW - NURSING COPY

Endocrine fellow 443-9125
Diabetes Nurse Specialist 443-2951

# Adult Inpatient Insulin Dosing Guidelines

***Basal*** - amount of insulin needed when patient is not eating (use NPH or Glargine – dose ~ 0.1 to 0.4 units/kg/day).
***Nutritional*** - insulin for food or TPN or tube feeds. Hospital meals 60-75 grams carbohydrates per meal.
***Correctional*** - insulin for high BG – to bring BG to target range of 130 mg/dL premeals and 200 mg/dL bedtime, 2am.

## Insulin Regimens

**I. Patient controlled on diet only at home but needs insulin in hospital because of hyperglycemia.**

*Day 1:* 1) Write correctional with Aspart based on BMI - refer to Table 1.
*Day 2*: 1) If BG pre meals >150mg, add nutritional insulin with Aspart based on appetite - refer to Table 2.
2) If FBG>150mg, add Basal insulin NPH or Glargine 0.1 unit per kg body weight.
*Day 3:* 1) Adjust insulin dosing based on BG pattern. Increase or decrease basal (Glargine, NPH) based on FBG. Adjust nutritional (Aspart) needs based on premeal BG levels.

**II. Patient on oral agent at home but requiring insulin in hospital because of hyperglycemia or difficulties using the oral agents in the hospital.**

*Day 1*: 1) Start Aspart TID based on appetite – refer to Table 2.
2) Write correction with Aspart based on BMI – refer to Table 1.
*Day 2:* 1) If FBG >150mg, add basal, start NPH/Glargine 0.1 unit/kg at bedtime.

**Table 1. CORRECTIONAL Insulin with Aspart Pre Meals or every 4 hours Check box to choose scale.**

| **Blood Glucose Range:** | ☐ **Sensitive** **BMI less than 25 and/or <50 units per day** | ☐ **Average** **BMI 25-30 and/or 50-90 units per day** | ☐ **Resistant** **BMI >30 and/or >90 units per day** | ☐ **Custom** |
|---|---|---|---|---|
| <70 mg/dL | Treat for Hypoglycemia per protocol (see order #5). Once BG ≥100 mg/dL give Aspart with following change when patient eats: | | | |
| Once BG ≥100mg/dL give: | 2 units less | 3 units less | 4 units less | _____ units less |
| 70-100 mg/dL | 1 unit less | 2 units less | 3 units less | _____ units less |
| 101-130 mg/dL | Give nutritional dose Aspart as in #2A above | | | |
| 131-150 mg/dL | 0 unit | 1 unit | 2 units | _____ units |
| 151-200 mg/dL | 1 unit | 2 units | 3 units | _____ units |
| 201-250 mg/dL | 2 units | 4 units | 6 units | _____ units |
| 251-300 mg/dL | 3 units | 6 units | 9 units | _____ units |
| 301-350 mg/dL | 4 units | 8 units | 12 units | _____ units |
| 351-400 mg/dL | 5 units | 10 units | 15 units | _____ units |
| Greater than 400 mg/dL | 6 units | 12 units | 18 units | _____ units |

**Table 2. Nutritional Aspart insulin (Write in section 2 of SQ Insulin Order Sheet.)**

| **Appetite** | **Aspart (or Regular) pre meals** |
|---|---|
| Not eating | 0 units |
| Eats < 50% | 1 unit |
| Eats 50-75% | 2 units |
| Eats > 75% | 3 units |

**III. Patient on insulin at home.**

1. Assess home BG control, appetite, creatinine, hypoglycemia.
2. Basal Need: continue home regimen if satisfactory or start 0.2 units/kg insulin Glargine or NPH.
3. Nutritional Need: Aspart with dose based on appetite – refer to Table 2.
4. Correctional: write correction if BG >130mg based on BMI – refer to Table 1.

**IV. Patient NPO Procedure (short term, i.e. NPO after midnight with expectation feeding will resume by noon).**

1. Decrease a.m. NPH dose by 50%; hold nutritional insulin, 70/30 insulin; insulin secretagogues.
2. Give Glargine dose provided BG has not been <70 mg in past 24 hours.
3. At bedtime, give same dose NPH.
4. High glucose correction every 4 hours with Aspart if BG >130mg – refer to Table 1.

**V. NPO Surgery or Prolonged NPO (NPO >12 hours)**

1. Use insulin infusion ICU form #602-068; Med-Surg Form #602-028 or this form, NPO SQ form #105-0144.
2. Need maintenance IV Dextrose (minimum rate 10mL/hour).
3. Give SQ insulin at least 30 minutes prior to D/C insulin infusion.

**VI. Transition to SQ insulin from Insulin Infusion**

Patient Eating (use order sheet #105-0145)

1. Calculate the total 24 hour insulin infused and use 80% of that TDD for the calculation.
2. Basal Need – 1/2 of the 80% of the TDD
3. Nutritional Need – 1/2 of the 80% of the TDD divided by 3
4. Correctional – write if BG > 130mg/dL – Based on BMI – refer to Table 1
   Example: 1.8 units per hour X 24 hours = 43.2 units in 24 hours. 80% of 43 is 34 units
   Basal dose: 34/2 = 17 units, so 17 units Glargine
   Nutritional dose: 17/3 = 6, so 6 units Aspart per meal

Tube Feed (use order sheet #105-0144)

1. Calculate the total 24 hour insulin infused – use the lowest value – this is the total daily dose.
2. Basal Need – divide Total Daily Dose by 2 for Glargine dose.
3. Nutritional Need – divide Total Daily Dose by 10 for Aspart dose every 4 hours.
4. Correctional – write if BG >130mg every 4 hours – Based on BMI – refer to Table 1.