ADULT SUBCUTANEOUS INSULIN ORDERS
PAGE 1 OF 2

Patient Label

"DO NOT USE" ABBREVIATIONS U, IU, QD, QOD, MS, MSO_4, $MgSO_4$,
DO NOT use a *trailing* zero (2.**0**), always use zero before decimal point (**0**.5)

Date:	Time:

FOR USE ON ADULT (NON-PREGNANT) PATIENTS

1. Discontinue non-insulin antidiabetes medications on admission if not addressed in orders, see page 2 to calculate insulin dosage.
2. Finger Stick Blood Glucose (FSBG)
   - ☐ before meals and at bedtime
   - ☐ _____ hours after meals
   - ☐ Other _____

   Day shift to notify physician when FSBG is greater than 180 mg/dL twice in 24 hours. If the FSBG is below 70 mg/dL or over 350 mg/dL, call the physician immediately.
3. Consistent Carbohydrate Diet
   - ☐ Level 1 (4 carb/meal)
   - ☐ Level 2 (5 carb/meal)
   - ☐ Level 3 (6 carb/meal)

GOAL
Fasting/Premeal: 80-130 mg/dL and less than 180 mg/dL 2 hours after the first bite of meal.

4. A1C - order if NOT done in past 30 days.
5. Give Basal,Prandial and Correction doses of insulin (All are essential to achieve and maintain target blood glucose levels) (See Dosing Recommendations A & B & C on page 2.)

Basal Insulin	Breakfast	Dinner	Bedtime
Do not hold basal dose if NPO. See page 2 to calculate dose.	_____Units Glargine (Lantus)	_____Units Glargine (Lantus)	_____Units Glargine (Lantus)

Prandial Insulin	Breakfast	Lunch	Dinner
Hold prandial dose if patient is NPO. Administer 0 to 15 minutes before meal.	_____Units ☐ Lispro (Humalog) ☐ Glulisine (Apidra)*	_____Units ☐ Lispro (Humalog) ☐ Glulisine (Apidra)*	_____Units ☐ Lispro (Humalog) ☐ Glulisine (Apidra)*
*Glulisine (Apidra) may be given immediately following meal if undependable eater			

Correctional Insulin: Do not hold if NPO.

Correctional Dose is used to correct pre-prandial hyperglycemia. Use same type insulin as prandial. If not specified, Humalog will be used.

☐ Low Dose Algorithm

(For Patients requiring less than 40 Units of insulin daily).

Prandial FSBG	Additional Insulin
140-199	1 unit
200-249	2 units
250-299	3 units
300-349	5 units
Greater than 349	7 units

☐ Medium Dose Algorithm

(For Patients requiring 40 to 80 Units of insulin daily).

Prandial FSBG	Additional Insulin
140-199	2 units
200-249	4 units
250-299	6 units
300-349	8 units
Greater than 349	12 units

☐ High Dose Algorithm

(For Patients requiring more than 80 Units of insulin daily).

Prandial FSBG	Additional Insulin
140-199	3 units
200-249	6 units
250-299	9 units
300-349	12 units
Greater than 349	16 units

☐ Individualized Dose Algorithm

("Low Dose" Algorithm should be appropriate for most patients).

Prandial FSBG	Additional Insulin
140-199	_____units
200-249	_____units
250-299	_____units
300-349	_____units
Greater than 349	_____units

PA / NP / Physician Initials: _____

IPT (8/04,9/04,1/05,2/09,5/09,9/09,9/09,9/10,1/12,2/12,4/12,6/12,5/15) MEC (2/09,5/09,9/09,9/10,1/12;2/12,4/12,7/12,6/15) FF Update: (6/08,7/08,6/09,9/09,10/10,4/12,5/12,8/12,9/12,7/15)

Patient Label

"DO NOT USE" ABBREVIATIONS U, IU, QD, QOD, MS, MSO_4, $MgSO_4$, DO NOT use a *trailing* zero (2.**0**), always use zero before decimal point (**0**.5)

FOR USE ON ADULT (NON-PREGNANT) PATIENTS

6. **General Insulin Dosing Recommendations:**

A. Initiate Subcutaneous Insulin therapy if blood glucose is equal to or greater than 140 mg/dL for inpatient management of hyperglycemia and diabetes. Starting dose for insulin determination is based on weight and FSBG:

1. 0.3 units/kg/day
   - for patients naive to insulin, new to insulin therapy
   - serum creatinine over 2 mg/dL
   - patient on hemodialysis
   - patients over the age of 70
2. 0.4 units/kg/day if FSBG 140 to 200 mg/dL
3. 0.5 units/kg/day if FSBG 201 to 400 mg/dL

Half (50%) of the insulin should be given as Basal insulin dose and the remainder as (nutritional) Prandial insulin dose divided by three.

Individual insulin doses vary widely and adjustments should be made based on the bedside and laboratory glucose levels.

B. Patients with Type 1 Diabetes

The patient must have insulin to prevent ketosis. Even if the patient is not eating, he/she will need basal insulin plus correction doses to prevent ketosis.

C. Patients with Type 1 or Type 2 Diabetes

When admitting a patient, start basal, prandial, and correction dose insulin. If the patient is NPO, start basal insulin and correction dose. When the patient resumes eating, add prandial to basal and correction dose.

If the patient is NPO and is located in Critical Care place the patient on insulin infusion and use ADULT INTRAVENOUS INSULIN INFUSION FOR CRITICALCARE Physician Order Set.

7. For FSBG less than 70 mg/dL

A. If patient can take oral food or fluids, give 15 gram of fast acting carbohydrate (120 mL fruit juice or non-diet soda, or 240 mL nonfat milk.

B. If patient cannot take oral food or fluids, administer 12.5 gram of Dextrose 50% IV push.
(For DBHC patients: If patient cannot take oral therapy and displays symptoms of hypoglycemia, give 1 mg IM glucagon and transport patient to the emergency department at DMC for further management if necessary. Do not administer IV dextrose.)

C. Check FSBG every 15 minutes and repeat above if FSBG is less than 70 mg/dL.

D. Follow Hypoglycemia Protocol, and notify physician when patient is stable for further orders.

V.O. / T.O. RN / NP / PA			Read back Initial	Date	Time
Nurse Noted	Date	Time	Nurse Practitioner / Physician Assistant Signature	Date	Time
24 hour chart check by nurse	Date	Time	Physician Signature	Date	Time

IPT (8/04,9/04,1/05,2/09,5/09,9/09,9/10,1/12,2/12,4/12,6/12,5/15) MEC (2/09,5/09,9/09,9/10,1/12;2/12,4/12,7/12,6/15) FF Update: (6/08,7/08,6/09,9/09,10/10,4/12,5/12,8/12,9/12,7/15)

Diabetes Medication Discharge Instructions

Patient Label

Your Diabetes Pills are:

1. _____
2. _____
3. _____
4. _____

Target Blood Sugar Ranges

80-130 Before Meals

Less than 180 two hours after the start of meals and at bedtime

Your Insulin(s) are:

1. _____ ☐ Clear ☐ Cloudy (Mix before using)
2. _____ ☐ Clear ☐ Cloudy (Mix before using)

Your Insulin administration Device Type is:

☐ 1/2 cc / 50 unit syringe

☐ 1 cc / 100 unit syringe

☐ Insulin Pen

TAKE YOUR MEDICATIONS AS FOLLOWS:

Before Breakfast:

1. Check your blood sugar and record in logbook.
2. Take your diabetes pill(s) _____
3. Give Insulin injection _____
4. ☐ Eat Immediately —**OR**— ☐ Wait ____ minutes, then eat

Before Lunch:

1. Check your blood sugar and record in logbook.
2. Take your diabetes pill(s) _____
3. Give Insulin injection _____
4. ☐ Eat Immediately —**OR**— ☐ Wait ____ minutes, then eat

Before Dinner:

1. Check your blood sugar and record in logbook.
2. Take your diabetes pill(s) _____
3. Give Insulin injection _____
4. ☐ Eat Immediately —**OR**— ☐ Wait ____ minutes, then eat

Bedtime:

1. Check your blood sugar and record in logbook
2. Give Insulin injection: _____
3. ☐ Eat snack Immediately —**OR**— Wait ____ minutes, then eat

Other Instructions: _____

Insulin Correction Scale

Name of Insulin _____

Blood sugar below 70 mg/dL - Follow your **LOW BLOOD SUGAR** instructions immediately.

☐ Add to Pre-meal dose

_____ to _____ → _____ Units

_____ to _____ → _____ Units

_____ to _____ → _____ Units

_____ to _____ → _____ Units

_____ to _____ → _____ Units

Notify your doctor if . . . .

Your blood sugar is greater than 180 or less than 70 for more than two tests a day, and over two days

Follow-up appointment for diabetes care:

Clinic: _____

Address: _____

Phone: _____

Date: _____ Time: _____

Completed by Nurse: _____ Date: _____

Instrucciones para el alta sobre medicamentos para el tratamiento de la diabetes

(Diabetes Medication Discharge Instructions)

Patient Label

Sus comprimidos para el tratamiento de la diabetes son:

1. _____
2. _____
3. _____
4. _____

Rangos deseados de glucemia

Entre 80 y 130 antes de las comidas

Menor que 180, dos horas después del comienzo de la comida y al momento de acostarse

Sus insulinas son:

1. _____ ☐ Clara ☐ Turbia (Mezcle antes de usar)
2. _____ ☐ Clara ☐ Turbia (Mezcle antes de usar)

El tipo de dispositivo de administración es:

- ☐ Jeringa de 1/2 cc o 50 unidades
- ☐ Jeringa de 1 cc o 100 unidades
- ☐ Pluma de insulina

TOME SUS MEDICAMENTOS COMO SE INDICA A CONTINUACIÓN:

Antes del desayuno:

1. Controle su glucemia y regístrela en su cuaderno de registros
2. Tome los medicamentos para la diabetes _____
3. Inyéctese la insulina _____
4. ☐ Coma inmediatamente **O** ☐ Espere _____ minutos, luego coma

Antes del almuerzo:

1. Controle su glucemia y regístrela en su cuaderno de registros
2. Tome los medicamentos para la diabetes _____
3. Inyéctese la insulina _____
4. ☐ Coma inmediatamente **O** ☐ Espere _____ minutos, luego coma

Antes de la cena:

1. Controle su glucemia y regístrela en su cuaderno de registros
2. Tome los medicamentos para la diabetes _____
3. Inyéctese la insulina _____
4. ☐ Coma inmediatamente **O** ☐ Espere _____ minutos, luego coma

Antes de acostarse:

1. Controle su glucemia y regístrela en su cuaderno de registros
2. Inyéctese la insulina: _____
3. ☐ Coma de inmediato un refrigerio **O** Espere___minutos, luego coma

Instrucciones adicionales: _____

Escala de correceión de insulina

Nombre de la insulina_____

Glucemia menor que 70 mg/dL: Siga las instrucciones para **HIPOGLUCEMIA** inmediatamente.

☐ Añadir a la dosis antes de las comidas

_____ a _____ → _____ unidades

_____ a _____ → _____ unidades

_____ a _____ → _____ unidades

_____ a _____ → _____ unidades

_____ a _____ → _____ unidades

Informe al médico si: . . . .

Su glucemia es mayor que 180 o menor que 70 en más de dos lecturas diarias y durante dos días.

Cita seguimiento para diabetes:

Clinica: _____

Direccion: _____

Telefono: _____

Fecha: _____ Hora: _____

Llenado por la enfermera: _____ Fecha: _____

DOCTORS MEDICAL CENTER
1441 FLORIDA AVENUE

PHYSICIAN ORDERS

ADULT INTRAVENOUS INSULIN INFUSION FOR CRITICAL CARE Page 1 of 2

PATIENT LABEL

DATE | TIME

FOR USE ON ADULT (NON-PREGNANT) PATIENTS

NOT FOR USE ON DIABETIC KETOACIDOSIS OR HYPERGLYCEMIC HYPEROSMOLAR NON-KETOTIC SYNDROME PATIENTS

1. General Guidelines:

   FINGER STICK BLOOD GLUCOSE GOAL (FSBG): 140 mg/dL to 180 mg/dL

   Pre and Post Operative Cardio-Thoracic Surgery FSBG Goal: 110 mg/dL - 140 mg/dL

   A. **Standard drip:** 100 units Regular Human Insulin/100 ml 0.9% Sodium Chloride via an infusion device.

   B. Surgical patients who have received an oral diabetes medication within 24 hours should start insulin infusion when FSBG greater than 120 mg/dL. Start all other patients when FSBG equal to or greater than 70 mg/dL.

   C. Consider discontinuing insulin infusion after the patient is taken off pressor agents and the blood glucose is stable and within target range requiring 7 units or less per hour.

   D. Discontinue Insulin infusion **2 hours** after a patient is eating **AND** has received the first dose of subcutaneous Lantus (glargine) Insulin or Basal Insulin. See page 2 for Recommendations for Transitioning from IV insulin to subcutaneous.

2. IV Fluids: _____ at_____ml/hour. (Most patients will need 5 to 10 grams of glucose per hour including glucose concentrations in TPN, enteral feeds, etc.)

3. Initiating the infusion: (Choose one algorithm to initiate infusion.)

   ☐ **Algorithm 1:** Start here for most patients.

   ☐ **Algorithm 2:** Use for patients not controlled with Algorithm 1, or start here if CABG, S/P solid organ transplant or islet cell transplant, receiving glucocorticoids, or patient with diabetes receiving greater than 80 units of insulin daily as an outpatient.

   Algorithm 3: Use for patents not controlled on Algorithm 2. **Do not use to initiate therapy.**

   Algorithm 4: Use for patients not controlled on Algorithm 3. **Do not use to initiate therapy.**

   - For uncontrolled FSBG on Algorithm 4, call MD/Endocrinologist for individualized addition of (basel) insulin.

Algorithm 1		Algorithm 2		Algorithm 3		Algorithm 4	
FSBG	Units/hr	FSBG	Units/hr	FSBG	Units/hr	FSBG	Units/hr
If FSBG less than 70, see #7 Treatment of Hypoglycemia							
Less than 70	Off	Less than 70	Off	Less than 70	Off	Less than 70	Off
70-109	0.2	70-109	0.5	70-109	1	70-109	1.5
110-119	0.5	110-119	1	110-119	2	110-119	3
120-149	1	120-149	1.5	120-149	3	120-149	5
150-179	1.5	150-179	2	150-179	4	150-179	7
180-209	2	180-209	3	180-209	5	180-209	9
210-239	2	210-239	4	210-239	6	210-239	12
240-269	3	240-269	5	240-269	8	240-269	16
270-299	3	270-299	6	270-299	10	270-299	20
300-329	4	300-329	7	300-329	12	300-329	24
330-359	4	330-359	8	330-359	14	Greater than 329	28
Greater than 359	6	Greater than 359	12	Greater than 359	16		

Ref: Practical Management of Inpatient Hyperglycemia by Irl B Hirsh, M.D., 2005 Diabetes Care Vol. 36, Sup 1, January 2013; Executive Summary: Standards of Medical Care in Diabetes. (2013). Diabetes Care 36 (S4-S10) Yale Diabetes Center 2003

PA / NP / Physician Initials: _____

PHYSICIAN ORDERS

ADULT INTRAVENOUS INSULIN INFUSION FOR CRITICAL CARE Page 2 of 2

PATIENT LABEL

4. **Moving from Algorithm to Algorithm:**

   Moving Across: If the blood glucose is outside the goal range (see goal top of page 1), and the blood glucose does not change by at least 60 mg/dL within 1 hour, move to the right one algorithm.
   Moving Back: If the blood glucose is less than 70 mg/dL, recheck at bedside, then stop infusion if FSBG is still less than 70 mg/dL. Restart the infusion moving left one algorithm once blood glucose is greater than 70 mg/dL. If patient was on Algorithm 1, do not restart insulin infusion until blood glucose is greater than 110 mg/dL.

5. **Patient Monitoring:**
   Check capillary FSBG every hour while patient is on insulin infusion. When FSBG is maintained within goal range for 3 hours without changing dose, frequency of capillary FSBG may decrease to every 2 hours.

6. Activate Rapid Response Team and implement RRT Protocols if condition warrants.

7. **Treatment of Hypoglycemia** (FSBG less than 70 mg/dL)

   A. **Discontinue insulin infusion AND**

   B. Give IV Dextrose 50%:
      1. Patient awake: Give 12.5 grams (25 ml) of Dextrose 50% IV push.
      2. Patient not awake: Give 25 grams (50 ml) of Dextrose 50% IV push.
      3. Recheck FSBG every 20 minutes and administer a second dose of 12.5 grams (25 ml) of Dextrose 50% IV if FSBG less than 70 mg/dL.

   C. Restart insulin infusion once blood glucose is greater than 70 mg/dL times 2 checks 20 minutes apart. Restart insulin infusion at the most recent glucose level moving down one algorithm from the one prior to discontinuing the infusion. If patient was on Algorithm 1 when infusion was stopped, do not restart insulin infusion until blood glucose is greater than 110 mg/dL.

8. **NOTIFY THE PHYSICIAN - (check if applicable)**
   - ☐ For any blood glucose change greater than 100 mg/dL in one hour.
   - ☐ For blood glucose greater than 359 mg/dL.
   - ☐ For hypoglycemia which has not resolved within 20 minutes of administering 25 grams (50 ml) of Dextrose 50% IV and discontinue the insulin infusion.

Recommendations for Transitioning From Insulin Infusion to Subcutaneous Insulin

1. Obtain the mean insulin infusion rate per hour for the most resent 6 hours that achieved FSBG between 140 mg/dL to 180 mg/dL
2. Multiply the rate by 20 hours. Use this as the Total Daily Dose (TDD) for the calculation.
3. Basal dose: Glargine (Lantus) = 1/2 of the TDD
4. Prandial Dose: (nutritional need - Lispro (Humalog) = 1/2 of the TDD divided by three
5. Correctional Dose: Use the Low, Medium or High Algorithm with meals and bedtime.
6. Give Glargine (Lantus) dose and wait 2 hours to discontinue insulin infusion.

V.O. / T.O. RN / NP / PA			Read back Initial	Date	Time
Nurse Noted	Date	Time	Nurse Practioner / Physician Assistant Signature	Date	Time
24 hour chart check by nurse	Date	Time	Physician Signature	Date	Time