**InSulin Protocol for the Critical Care Unit and CVICU**

**Allergy or Sensitivity:** [ ] No [ ] Yes, List Below

**Diagnosis:**

**Herbal/Alternative Meds:** [ ] No [ ] Yes, List Below

**Height**

**Weight**

lb. / kg

**Date/Time**

**Doctor's Order and Signature**

1. Check glucose upon enrollment in protocol. (Protocol is NOT to be used for cases of diabetic ketoacidosis or hyperosmolar nonketotic state. Clinical judgment always takes precedence over protocol.)

2. If initial glucose ≤ 150 mg/dL, check glucose every 4 hours THEN
   a. if two consecutive readings ≤ 150 mg/dL, discontinue protocol
   b. if any reading ≥ 151 mg/dL, administer sliding scale insulin*,
   c. if any three consecutive readings are ≥ 151 mg/dL or any two consecutive readings ≥ 301 mg/dL, administer sliding scale insulin* and start infusion**

3. If initial glucose is 151-300 mg/dL, administer sliding scale insulin*, and recheck glucose in 2 hours THEN
   a. if glucose at 2 hours remains ≥ 151 mg/dL, administer sliding scale insulin*, recheck glucose in 2 hours, and if still ≥ 151 mg/dL, administer sliding scale insulin* and start infusion**
   b. if glucose at 2 hours is ≤ 150 mg/dL, then check glucose every 4 hours and proceed as per order 2

4. If initial glucose is ≥ 301 mg/dL, administer sliding scale insulin* and recheck glucose in 2 hours THEN
   a. if glucose at 2 hours remains ≥ 301 mg/dL, administer sliding scale insulin* and start infusion**
   b. if glucose 151-300 mg/dL, administer sliding scale insulin*, recheck glucose in 2 hours, and if still ≥ 151 mg/dL, administer sliding scale insulin* and start infusion**
   c. if glucose at 2 hours is ≤ 150 mg/dL, then check glucose every 4 hours and proceed as per order 2

5. *Sliding Scale Insulin (Human Regular Insulin):*
   - <50 mg/dL → give 50 mL D50 (Dextrose 50%), notify M.D., stop insulin (if on infusion) and proceed as below
   - 50-59 mg/dL → give 25 mL D50 (Dextrose 50%), stop insulin (if on infusion) and proceed as below
   - 60-69 mg/dL → stop insulin (if on infusion) and proceed as below
   - 70-150 mg/dL → zero units
   - 151-200 mg/dL → 2 units S.C.
   - ≥ 201-250 mg/dL → 4 units S.C.
   - 251-300 mg/dL → 6 units S.C.
   - 301-350 mg/dL → 8 units S.C.
   - ≥ 351-400 mg/dL → 10 units S.C.
   - ≥ 401 mg/dL → 12 units S.C.
   - ≥ 120 mg/dL, restart with a rate at 50% of previous rate.

6. **Insulin Infusion** Begin infusion at 2 units/hour if glucose 151-200 mg/dL or 3 units/hour if glucose 201-250 mg/dL. OR 5 units/hour if glucose ≥ 251 mg/dL, then check glucose every 1-2 hours (see below). Titrate insulin infusion rate as follows:
   - If glucose < 50 mg/dL, then stop insulin, give 50 mL D50 (Dextrose 50%), and recheck glucose hourly.
   - When glucose > 120 mg/dL, restart with a rate at 50% of previous rate.
   - If glucose 50-59 mg/dL, then stop insulin, give 25 mL D50 (Dextrose 50%), and recheck glucose hourly. When glucose > 120 mg/dL, restart with a rate at 50% of previous rate.
   - If glucose 60-69 mg/dL, then stop insulin and recheck glucose hourly. When glucose > 120 mg/dL, restart with a rate at 50% of previous rate.

Physician's Signature/Title: ___________________________ Date/Time: ________________

Nurse's Signature: ___________________________ Date/Time: ________________
**SLIDING SCALE INSULIN**

- **< 50 mg/dL**: give 50 ml D50 (Dextrose 50%), notify M.D., and stop insulin infusion (if on infusion)
- **50 - 89 mg/dL**: give 25 ml D50 (Dextrose 50%), and stop insulin infusion (if on infusion)
- **90 - 129 mg/dL**: stop insulin (if on infusion)
- **130 - 150 mg/dL**: 2 units S.C.
- **151 - 200 mg/dL**: 4 units S.C.
- **201 - 250 mg/dL**: 6 units S.C.
- **251 - 300 mg/dL**: 8 units S.C.
- **301 - 400 mg/dL**: 10 units S.C.
- **> 401 mg/dL**: 12 units S.C. and notify M.D.

**IMPORTANT NOTES**

- Insulin infusion concentration = 100 units of regular insulin in 100 ml of 0.9% sodium chloride (if unused)
- May cover second consecutive glucose > 150 mg/dL with SSI without starting insulin infusion and recheck glucose in 2 hours unless both were > 300 mg/dL. If any two consecutive glucose readings are > 300 mg/dL, then insulin infusion should be started after glucose covered with sliding scale.
- Frequency of glucose monitoring - Check glucose every hour until glucose is < 150 mg/dL for 2 consecutive readings. AND no insulin infusion has been required AND the patient is not receiving somatostatin infusion then, check every 2 hours. If the patient has not required an insulin infusion adjustment for 8 hours, glucose may be checked every 4 hours.
- Notify physician if glucose > 401 mg/dL, glucose < 50 mg/dL, insulin infusion > 20 units/hour or if patient on insulin infusion during 8 hours of transfer from CVICU to General Care Unit. Send STAT serum glucose > 401 mg/dL or < 50. Consider obtaining an endocrinology consultation.
- The target blood glucose is 70 - 150 mg/dL.