

UNIVERSITY OF WASHINGTON SUBCUTANEOUS INSULIN DKA PROTOCOL

This is a subcutaneous (SC) insulin protocol that replaces the IV insulin infusion needs for mild to moderate DKA, adapted to minimize the risks to staff exposure, use of PPE, while optimizing patient safety. **When patient's DKA resolves, this protocol will be discontinued.**

****PLEASE CALL GLYCEMIC CONTROL CONSULT FOR ASSISTANCE****

To use this protocol, patient needs to meet the diagnosis for DKA and NOT have ANY of the following:
(If critically ill → UW IV Insulin Infusion Protocol)

1. Blood pH <7.0	4. MAP < 65 after 1-2L IV fluids
2. Serum bicarbonate ≤ 10 mEq/L	5. K < 3.0 mEq/L
3. Intubated	6. SGLT-2 inhibitor use within the last 3 days

Exclusion from SC DKA Protocol: Use UW IV insulin protocol for the following patients:

• Acute coronary Syndrome	• Pregnancy	• ESRD or stage 4 CKD
• Steroid use at a dose ≥ prednisone 40mg a day	• Total daily insulin ≥ 200 units at home	• Severe AKI with ↓ in GFR by ≥ 50% of baseline
• Acute liver disease	• Anasarca	• Critically ill/intubated

Subcutaneous Insulin DKA Dosing:

1. Basal insulin GLARGINE:

On insulin at home:

- a. **Home basal insulin is not degludec (Tresiba):** Use glargine as basal insulin inpatient
-Continue with the same frequency of administration as home basal dose (i.e. daily vs. q12h)
-Give 60-100% of home basal dose depending on the severity of AKI and additional factors.
- b. **Home basal insulin is degludec (Tresiba):** Give 50-75% of home degludec dose as glargine at 24 hours after the last dose of degludec. Give 75-100% of home degludec dose as glargine at 48 hours and continue q24hrs. **Please call Glycemic Consult no later than after 3 days*

Not on insulin at home:

- a. **GFR > 30:** start insulin glargine at 0.2 units/kg q12 hours
 - b. **GFR ≤ 30:** start insulin glargine at 0.1 units/kg q12 hours
- *Call Glycemic Control Consult if calculated glargine dose > 50 units/day*

2. Start insulin LISPRO correction dose **q2h**: Stop when anion gap normalizes twice, 4h apart

NOT on CORRECTION LISPRO at home:

Total Daily Basal Insulin (from Step 1)	Glargine < 20 units a day	Glargine 20-40 units a day	Glargine 40-50 units a day
Lispro Correction Dose	MEDIUM dose BG: Lispro (Units) 150-199: +2 200-249: +3 250-299: +5 300-349: +7 >350: +8 <i>(1 unit of lispro ↓ BG by ~30mg/dl)</i>	HIGH dose BG: Lispro (Units) 150-199: +2 200-249: +4 250-299: +7 300-349: +10 >350: +12 <i>(1 unit of lispro ↓ BG by ~20mg/dl)</i>	"VERY HIGH" dose* BG: Lispro (Units) 150-199: +4 200-249: +8 250-299: +12 300-349: +16 >350: +20 <i>(1 unit of lispro ↓ BG by 12.5mg/dl)</i> <i>*Order as INDIVIDUALIZED CORRECTION in ORCA</i>

ON CORRECTION LISPRO at home:

- Start Lispro q2h correction at **1 correction strength HIGHER** than home dose
- Example: On LOW dose at home (i.e. 1u of lispro ↓ BG by 50mg/dl), start @ MEDIUM correction

HYPOGLYCEMIA ON PROTOCOL: Move to **1 correction strength LOWER** and continue q2h
BG ↑, or fails to ↓ by 50mg/dl in 4 hours (unless BG already ≤ 225mg/dl): Move to **1 correction strength HIGHER** and continue q2h

3. Abort the SC protocol when any of the following occurs: Start UW IV insulin infusion

- a. BG fails to ↓ by ≥50mg/dl in 6 hours (unless BG already ≤ 225mg/dl)
- b. When patient develops condition(s) that meet any of the above exclusion criteria