

COVID-19 ICU Insulin Drip Order Set for Target Blood Glucose 100-200 mg/dL [4429]

Not for DKA, Hyperosmolar Syndrome, or Pregnancy.

Target Blood Glucose = 100-200 mg/dL - Recommend initiating protocol when blood sugar is GREATER OR EQUAL to 250 mg/dL for two consecutive readings.

Providers:

Discontinue all previous insulin orders

Discontinue all previous oral diabetes medications unless specified otherwise (eg. Metformin, glyburide, glipizide, glimepiride, chlorpropamide, repaglinide, nateglinide, acarbose, miglitol, pioglitazone, rosiglitazone)

Nursing

Finger Stick Blood Glucose (FSBG) Monitoring

<input checked="" type="checkbox"/> Bedside glucose monitoring	Routine, Every hour -Monitor blood glucose every 1 hour unless otherwise specified -If blood glucose BETWEEN 100 - 200 mg/dL (goal range) for 2 consecutive readings, monitor blood glucose every 2 hours and Call MD to transition to long acting subcutaneous insulin, if appropriate -Algorithm Advancement: If blood glucose GREATER THAN 200 mg/dL for 3 consecutive blood glucose readings after the initial blood glucose reading. ADVANCE TO THE NEXT HIGHER algorithm. Repeat step for every 3 consecutive readings above goal glucose range
--	--

Notify (Selection Required)

<input checked="" type="checkbox"/> Notify Provider	Routine, Until discontinued, Starting S, If Blood Glucose below 70 mg/dL AND If Blood Glucose greater than 350 mg/dL and on Algorithm 4, 5, or 6
---	--

Infusion Management - ICU Insulin Drip Algorithm 100-200 mg/dL

Initial Bolus Dose (Single Response)

<input type="checkbox"/> No Bolus	Routine, Once For 1 Occurrences
<input type="checkbox"/> For initial blood glucose of 200 - 300 mg/dL - insulin bolus from bag	5 Units, intravenous, once If initial blood glucose is 200 - 300 mg/dL, give 5 units IV BOLUS x 1 from insulin bag and start at MD specified algorithm
<input type="checkbox"/> For initial blood glucose of GREATER THAN 300 mg/dL - insulin bolus from bag	10 Units, intravenous, once If initial blood glucose is GREATER THAN 300 mg/dL, give 10 units IV Bolus x 1 from insulin bag and start at MD specified algorithm.

Choose One Algorithm Below for Initiation of Therapy: (Selection Required)

Glucose (mg/dL)	GLUCOSE GOAL 100 - 200 mg/dL					
50 or less	<ol style="list-style-type: none"> 1. Turn infusion off. Give D50% 50 mL. Notify MD. 2. Recheck blood glucose every 30 min until glucose is greater than 70 mg/dL. 3. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate. 					
51-69	<ol style="list-style-type: none"> 1. Turn infusion off. Give D50% 25 mL or ½ cup of juice. Notify MD. 2. Recheck blood glucose every 30 min until glucose is greater than 70 mg/dL. 3. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate. 					
70-99	<ol style="list-style-type: none"> 1. Turn infusion off. 2. Recheck blood glucose in 30 minutes. If blood glucose remains 70-99 mg/dL, monitor every one hour until blood glucose geater than 100 mg/dL. 3. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate. 					
Glucose (mg/dL)	Algorithm 1 (units/hr)	Algorithm 2 (units/hr)	Algorithm 3 (units/hr)	Algorithm 4 (units/hr)	Algorithm 5 (units/hr)	Algorithm 6 (units/hr)
100-139	0.2	0.5	1	2	3	4
140-179	0.5	1	2	3	4	6
180-199	1	2	4	5	7	10
200-239	1.5	3	5	7	10	14
240-279	2	4	7	11	13	18
280-299	2.5	5	9	14	17	22
300-349	3	6	11	17	21	26
350 or greater	5	8	13	20 Call MD	25 Call MD	30 Call MD

Only Algorithms 1 - 4 are available for initiation of therapy. (Algorithms 5 & 6 are only for use during advancement of a patient's insulin needs)

[X] Select Algorithm (Single Response) (Selection Required)

() Algorithm 1: Start here if insulin sensitive (e.g. BMI less or equal to 30, Type 1 Diabetes Mellitus, or End Stage Renal Disease)

0.2-30 Units/hr, intravenous, continuous
TARGET BLOOD GLUCOSE 100-200 mg/dL

Start regular human insulin 100 units in normal saline 100 mL (1 unit=1 mL) via an intravenous pump and dedicated line at the protocol rate.

Monitor blood glucose EVERY 1 HOUR unless otherwise specified.

If blood glucose is BETWEEN 100-200 mg/dL for 2 consecutive readings, monitor blood glucose every 2 hours and call MD to transition to long acting subcutaneous insulin, if appropriate.

ALGORITHM ADVANCEMENT: If blood glucose is GREATER THAN 200 mg/dL for 3 consecutive blood glucose readings after the initial blood glucose reading. ADVANCE TO THE NEXT HIGHER algorithm. Repeat step for every 3 consecutive readings above goal glucose range.

If interruption in tube feeding or TPN, start Dextrose 10% IV at the previous tube feed or TPN rate up to a maximum rate of 40 mL/hr and DECREASE TO THE NEXT LOWER algorithm.

FOR GLUCOSE 70 TO 99: Turn infusion off. Recheck blood glucose in 30 minutes. If the blood glucose remains 70-99 mg/dL, monitor every 1 hour until blood glucose greater than 100 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 51 TO 69: Turn infusion off. Give D50% 25 mL or 1/2 cup of juice. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 50 OR LESS: Turn infusion off. Give D50% 50 mL. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

Select Appropriate Algorithm: Algorithm 1

() Algorithm 2: Start here if mild insulin resistance (e.g. BMI greater than 30, Type 2 Diabetes Mellitus, or initial blood glucose less than 300 mg/dL)

0.2-30 Units/hr, intravenous, continuous
TARGET BLOOD GLUCOSE 100-200 mg/dL

Start regular human insulin 100 units in normal saline 100 mL (1 unit=1 mL) via an intravenous pump and dedicated line at the protocol rate.

Monitor blood glucose EVERY 1 HOUR unless otherwise specified.

If blood glucose is BETWEEN 100-200 mg/dL for 2 consecutive readings, monitor blood glucose every 2 hours and call MD to transition to long acting subcutaneous insulin, if appropriate.

ALGORITHM ADVANCEMENT: If blood glucose is GREATER THAN 200 mg/dL for 3 consecutive blood glucose readings after the initial blood glucose reading. ADVANCE TO THE NEXT HIGHER algorithm. Repeat step for every 3 consecutive readings above goal glucose range.

If interruption in tube feeding or TPN, start Dextrose 10% IV at the previous tube feed or TPN rate up to a maximum rate of 40 mL/hr and DECREASE TO THE NEXT LOWER algorithm.

FOR GLUCOSE 70 TO 99: Turn infusion off. Recheck blood glucose in 30 minutes. If the blood glucose remains 70-99 mg/dL, monitor every 1 hour until blood glucose greater than 100 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 51 TO 69: Turn infusion off. Give D50% 25 mL or 1/2 cup of juice. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 50 OR LESS: Turn infusion off. Give D50% 50 mL. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

Select Appropriate Algorithm: Algorithm 2

() Algorithm 3: Start here if moderate insulin resistance (e.g. after surgery, on steroid therapy, or initial blood glucose 300 mg/dL - 399 mg/dL)

0.2-30 Units/hr, intravenous, continuous
TARGET BLOOD GLUCOSE 100-200 mg/dL

Start regular human insulin 100 units in normal saline 100 mL (1 unit=1 mL) via an intravenous pump and dedicated line at the protocol rate.

Monitor blood glucose EVERY 1 HOUR unless otherwise specified.

If blood glucose is BETWEEN 100-200 mg/dL for 2 consecutive readings, monitor blood glucose every 2 hours and call MD to transition to long acting subcutaneous insulin, if appropriate.

ALGORITHM ADVANCEMENT: If blood glucose is GREATER THAN 200 mg/dL for 3 consecutive blood glucose readings after the initial blood glucose reading. ADVANCE TO THE NEXT HIGHER algorithm. Repeat step for every 3 consecutive readings above goal glucose range.

If interruption in tube feeding or TPN, start Dextrose 10% IV at the previous tube feed or TPN rate up to a maximum rate of 40 mL/hr and DECREASE TO THE NEXT LOWER algorithm.

FOR GLUCOSE 70 TO 99: Turn infusion off. Recheck blood glucose in 30 minutes. If the blood glucose remains 70-99 mg/dL, monitor every 1 hour until blood glucose greater than 100 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 51 TO 69: Turn infusion off. Give D50% 25 mL or 1/2 cup of juice. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 50 OR LESS: Turn infusion off. Give D50% 50 mL. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

Select Appropriate Algorithm: Algorithm 3

() Algorithm 4: Start here if severe insulin resistance (e.g. status post organ transplantation or initial blood glucose 400 mg/dL or greater)

0.2-30 Units/hr, intravenous, continuous
 TARGET BLOOD GLUCOSE 100-200 mg/dL

Start regular human insulin 100 units in normal saline 100 mL (1 unit=1 mL) via an intravenous pump and dedicated line at the protocol rate.

Monitor blood glucose EVERY 1 HOUR unless otherwise specified.

If blood glucose is BETWEEN 100-200 mg/dL for 2 consecutive readings, monitor blood glucose every 2 hours and call MD to transition to long acting subcutaneous insulin, if appropriate.

ALGORITHM ADVANCEMENT: If blood glucose is GREATER THAN 200 mg/dL for 3 consecutive blood glucose readings after the initial blood glucose reading. ADVANCE TO THE NEXT HIGHER algorithm. Repeat step for every 3 consecutive readings above goal glucose range.

If interruption in tube feeding or TPN, start Dextrose 10% IV at the previous tube feed or TPN rate up to a maximum rate of 40 mL/hr and DECREASE TO THE NEXT LOWER algorithm.

FOR GLUCOSE 70 TO 99: Turn infusion off. Recheck blood glucose in 30 minutes. If the blood glucose remains 70-99 mg/dL, monitor every 1 hour until blood glucose greater than 100 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 51 TO 69: Turn infusion off. Give D50% 25 mL or 1/2 cup of juice. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

FOR GLUCOSE 50 OR LESS: Turn infusion off. Give D50% 50 mL. Notify MD. Recheck blood glucose every 30 minutes until glucose is greater than 70 mg/dL. When blood glucose is GREATER THAN 200 mg/dL, DECREASE TO THE NEXT LOWER algorithm and restart infusion at the appropriate rate.

Select Appropriate Algorithm: Algorithm 4

Hypoglycemia Management (Selection Required)

dextrose 50% injection intravenous

Management of Patients with Nutritional Orders

insulin lispro (AdmeLOG) injection subcutaneous, 3 times daily before meals
 Give with each meal in addition to the infusion rate. HOLD this dose if patient is NPO or eating LESS THAN 50% of meal. Wait two hours before rechecking blood glucose and then adjust the infusion rate per algorithm.

dextrose 10 % infusion 40 mL/hr, intravenous, continuous PRN, other, for interruption in TPN or tube feeds
 Start D10W at the previous TPN or tube feed rate up to a maximum rate of 40 mL/hr and DECREASE to the next LOWER algorithm on the table.