



PHYSICIAN ORDER SET

AUTHORIZATION IS GIVEN TO THE PHARMACY TO DISPENSE AND TO THE NURSE TO ADMINISTER THE GENERIC OR CHEMICAL EQUIVALENT WHEN THE DRUG IS FILLED BY THE PHARMACY OF UPMC - UNLESS THE PRODUCT NAME IS CIRCLED.

IMPRINT PATIENT IDENTIFICATION HERE

REGULAR INSULIN IV INFUSION PROTOCOL: GOAL BLOOD GLUCOSE 110-140 mg/dL

This protocol is NOT for use in patients with Diabetic Ketoacidosis (DKA)/Hyperosmolar hyperglycemia

INSULIN:

[X] Start IV Insulin infusion (1 unit/mL). Waste 15 mL of infusion through new tubing and every time tubing is changed.

Table with 2 columns: Initial BG (mg/dL) and corresponding insulin infusion instructions for ranges 141-180, 181-200, 201-250, 251-300, and >300.

- [X] Hold all previous insulin orders and oral hypoglycemic medication orders
[X] Follow insulin adjustment protocol. Notify MD if BG not at goal by 6 hours or if the rate exceeds 10 units/hour.
[X] If vasopressors (epinephrine, norepinephrine, vasopressin, phenylephrine, dopamine), corticosteroids, or CVVHD are discontinued, decrease infusion to 1/2 previous rate and recheck BG in 1 hour

FOR PATIENTS ON NUTRITIONAL SUPPORT (TUBE FEEDING OR TPN):

- [X] If the rate of dextrose, tube feeding, or TPN is decreased (or TPN is being transitioned to tube feeds), decrease insulin infusion by 50%
[X] If nutritional support (tube feeding or TPN) is interrupted (held for any reason including "off-unit" trips), initiate D5 1/2 NS, D5NS or D10 (as ordered below), decrease insulin infusion rate by 50%, resume q 1 hour BG checks, and notify MD.

If patient is on meds (such as phenytoin or levothyroxine) which require tube feeds to be held, consider switching them to the IV formulation

IF PATIENT NOT ON TUBE FEEDS OR TPN, SELECT ONE:

- [] When BG is < 200 mg/dl, initiate Dextrose 5% NS at 40 ml/hr
[] When BG is < 200 mg/dl, initiate Dextrose 5% NS at 75 ml/hr

If Patient is eating meals, consider Humalog SQ prior to each meal.

CORTICOSTEROID THERAPY: (Consider dividing the total daily dose of hydrocortisone when treating ARDS, adrenal insufficiency, etc. by 24 hours and give as a continuous infusion. Note to RN: hydrocortisone is compatible with regular insulin at the Y-site.)

- [] Discontinue current order for hydrocortisone and give hydrocortisone IV continuous infusion at _____ mg/hour.

MONITORING:

- [X] Check blood glucose (BG) 1 hour after each rate change (or q1h) until stable (at least 2 values between 110-140). BG checks can then be desired range for 12 hours, reduce BG checks to q4h.
[X] Restart q1h checking if any change in insulin infusion rate occurs OR if there is significant change in clinical condition, vasopressor therapy, CVVHD, nutritional support, or glucocorticoid therapy.
[X] The site for BG checks should remain consistent. It is preferred to use either an arterial line or "VAMP" on a central line.
[X] Confirm BG via lab STAT if BG>500, HCT <25 or if clinical judgement indicates.
[X] Confirm BG with meter if BG<60 or if BG changes more than 100 mg/dL on a stable IV infusion.

2PO

(BLOCK Print Name) _____ (Signature) _____

Pager # _____ [] Order Set Faxed to Pharmacy by: _____ (name / time) _____ Unit: _____

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SUBSEQUENT INSULIN ADJUSTMENT:

BG (mg/dL)	Current rate 0.1-3.9 units/hour	Current rate 4-6.9 units/hour	Current rate 7-10 units/hour	Current rate >10 units/hour*
<70	(1) D/C insulin. Give 50mL (1 amp) D50 IV. Recheck BG in 15 min. Repeat as necessary. (Do not restart insulin until at least 1 hr after D50.) Notify MD. If no continuous glucose, start IV fluid as per page 1. Restart insulin at 50% (half) previous rate when BG >110 AND it is at least 1 hr after D50. Recheck BG in 1 hr.			
70-99	(3) D/C insulin. Recheck BG in 1 hr. When BG >110, restart insulin but decrease rate by 50% (half) and recheck BG in 1 hr.	(4) D/C insulin. Recheck BG in 1 hour. When BG >110, restart insulin but decrease rate by 2 units/hr and recheck BG in 1 hr.	(5) D/C insulin. Recheck BG in 1 hour. When BG >110, restart insulin but decrease rate by 3 units/hr and recheck BG in 1 hr.	(6) D/C insulin. Recheck BG in 1 hour. When BG >110, restart insulin but decrease rate by 4 units/hr and recheck BG in 1 hr.
100-109	(7.1) If BG drop >25 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. When BG >110, restart insulin but decrease rate by 50% (half) and recheck BG in 1 hr. (7.2) Otherwise, decrease rate by 50% (half) and recheck BG in 1 hr	(8.1) If BG drop >25 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. When BG >110, restart insulin but decrease rate 2 units and recheck BG in 1 hr. (8.2) Otherwise, decrease rate by 2 units/hr and recheck BG in 1 hr	(9.1) If BG drop >25 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. When BG >110, restart insulin but decrease rate by 3 units and recheck BG in 1 hr. (9.2) Otherwise, decrease rate by 3 units/hr and recheck BG in 1 hr	(10.1) If BG drop >25 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. When BG >110, restart insulin but decrease rate by 4 units and recheck BG in 1 hr. (10.2) Otherwise, decrease rate by 4 units/hr and recheck BG in 1 hr
110-140	(7.3) If BG drop >50 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. Restart insulin (as long as BG>110), but decrease rate by 50% (half) and recheck BG in 1 hr. (7.4) If BG drop 25-50 mg/dl from last check, decrease rate by 50% (half) and recheck BG in 1 hr (7.5) Otherwise, make no changes. If BGs remain 110-140 for 2 consecutive hours, recheck q2h.	(8.3) If BG drop >50 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. Restart insulin (as long as BG>110), but decrease rate by 2 units and recheck BG in 1 hr. (8.4) If BG drop 25-50 mg/dl from last check, decrease rate by 2 units/hr and recheck BG in 1 hr (8.5) Otherwise, make no changes. If BGs remain 110-140 for 2 consecutive hours, recheck q2h.	(9.3) If BG drop >50 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. Restart insulin (as long as BG>110), but decrease rate by 3 units and recheck BG in 1 hr. (9.4) If BG drop 25-50 mg/dl from last check, decrease rate by 3 units/hr and recheck BG in 1 hr (9.5) Otherwise, make no changes. If BGs remain 110-140 for 2 consecutive hours, recheck q2h.	(10.3) If BG drop >50 mg/dl from last check, D/C insulin for 30 minutes. Recheck BG at 30 minutes and then hourly. Restart insulin (as long as BG>110), but decrease rate by 4 units and recheck BG in 1 hr. (10.4) If BG drop 25-50 mg/dl from last check, decrease rate by 4 units/hr and recheck BG in 1 hr (10.5) Otherwise, make no changes. If BGs remain 110-140 for 2 consecutive hours, recheck q2h.
141-180	(11.1) If BG drop >50 mg/dl, decrease rate by 50% (half) and recheck BG in 1 hr (11.2) If BG drop 25-50 mg/dl from last check, make no change and recheck BG in 1 hr (11.3) Otherwise, increase rate by 1 unit/hr and recheck BG in 1 hr.	(12.1) If BG drop >50 mg/dl, decrease rate by 2 units/hr and recheck BG in 1 hr (12.2) If BG drop 25-50 mg/dl from last check, make no change and recheck BG in 1 hr (12.3) Otherwise, increase rate by 1.5 units/hr and recheck BG in 1 hr.	(13.1) If BG drop >50 mg/dl, decrease rate by 3 units/hr and recheck BG in 1 hr (13.2) If BG drop 25-50 mg/dl from last check, make no change and recheck BG in 1 hr (13.3) Otherwise, increase rate by 2 units/hr and recheck BG in 1 hr.	(14.1) If BG drop >50 mg/dl, decrease rate by 4 units/hr and recheck BG in 1 hr (14.2) If BG drop 25-50 mg/dl from last check, make no change and recheck BG in 1 hr (14.3) Otherwise, increase rate by 3 units/hr and recheck BG in 1 hr.
181-250	(15.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (15.2) Otherwise, give 2 units insulin IV push AND increase by 1 unit/hr. Recheck BG in 1 hr.	(16.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (16.2) Otherwise, give 2 units insulin IV push AND increase rate by 1.5 units/hr. Recheck BG in 1 hr.	(17.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (17.2) Otherwise, give 2 units insulin IV push AND increase rate by 2 units/hr. Recheck BG in 1 hr.	(18.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (18.2) Otherwise, give 2 units insulin IV push AND increase by 3 unit/hr. Recheck BG in 1 hr.
>250	(19.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (19.2) Otherwise, give 4 units insulin IV push AND increase rate by 1.5 unit/hr. Recheck BG in 1 hr.*	(20.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (20.2) Otherwise, give 4 units insulin IV push AND increase rate by 2 units/hr. Recheck BG in 1 hr.*	(21.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (21.2) Otherwise, give 4 units insulin IV push AND increase rate by 3 units/hr. Recheck BG in 1 hr.*	(22.1) If BG drop ≥25 mg/dl from last check, make no change and recheck BG in 1 hr (22.2) Otherwise, give 4 units insulin IV push AND increase rate by 4 units/hr. Recheck BG in 1 hr.*

*Notify MD when insulin infusion rate exceeds 10 units/hr or if 4 consecutive BGs are >250 mg/dL.

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		Unit: _____