

Appendix 1. Insulin nomogram in effect at the time of the study. © 2006 Sunnybrook Health Sciences Centre. Reproduced by permission.



PHYSICIAN'S ORDERS

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All orders shall be DATED, TIMED, and SIGNED
 All medication orders shall be written in the GENERIC or non-proprietary name.
 All orders shall be written legibly using ball point pen.

PATIENT IDENTIFICATION

TIME & DATE			SIGNATURE OF NURSE																															
YY/MM/DD																																		
	Critical Care Insulin Infusion Nomogram																																	
	Yes No	Doctor must check off appropriate orders.																																
		1. Initial Insulin Bolus: (regular human insulin) <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;"><u>Blood/Capillary Glucose</u></td> <td style="width: 50%; text-align: center;"><u>Insulin Dose (IV push)</u></td> </tr> <tr> <td style="text-align: center;">8.1 – 10 mmol/L</td> <td style="text-align: center;">no bolus</td> </tr> <tr> <td style="text-align: center;">10.1 – 14 mmol/L</td> <td style="text-align: center;">2 units</td> </tr> <tr> <td style="text-align: center;">14.1 – 17 mmol/L</td> <td style="text-align: center;">4 units</td> </tr> <tr> <td style="text-align: center;">17.1 – 20 mmol/L</td> <td style="text-align: center;">6 units</td> </tr> <tr> <td style="text-align: center;">20.1 – 24 mmol/L</td> <td style="text-align: center;">8 units</td> </tr> <tr> <td style="text-align: center;">> 24 mmol/L</td> <td style="text-align: center;">call physician</td> </tr> </table>	<u>Blood/Capillary Glucose</u>	<u>Insulin Dose (IV push)</u>	8.1 – 10 mmol/L	no bolus	10.1 – 14 mmol/L	2 units	14.1 – 17 mmol/L	4 units	17.1 – 20 mmol/L	6 units	20.1 – 24 mmol/L	8 units	> 24 mmol/L	call physician																		
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		2. Start Insulin Infusion at 2 units/h. Check blood glucose (BS) in one hour.																																
		3. If not being fed, start D10W at 25 mL/h. Check BS in one hour and continue to follow nomogram.																																
		4. Call physician if infusion rate > 16 units/h.																																
		5. Follow 'Ongoing Insulin Maintenance Infusion Nomogram' (regular human insulin):																																
		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">Blood/Capillary Glucose (mmol/L)</th> <th style="width: 50%;">Intervention</th> <th style="width: 20%;">Blood/Capillary Glucose Monitoring</th> </tr> </thead> <tbody> <tr> <td rowspan="2" style="text-align: center; vertical-align: middle;">Below Desired Range</td> <td style="text-align: center;">< 3.5</td> <td> <ul style="list-style-type: none"> • Hold infusion • Give 1 ampoule (50 mL) D50W IV push • Call physician for new orders for restarting infusion </td> <td rowspan="2" style="text-align: center; vertical-align: middle;">q30 min</td> </tr> <tr> <td style="text-align: center;">3.5 – 5</td> <td> <ul style="list-style-type: none"> • Hold infusion for 30min • Recheck BS and restart infusion at 50% of previous rate when BS > 5 mmol/L </td> </tr> <tr> <td style="text-align: center; vertical-align: middle;">Desired Range</td> <td style="text-align: center;">5.1 – 8</td> <td> <ul style="list-style-type: none"> • NO CHANGES • If BS decreasing by > 1 mmol/L within desired range, decrease infusion rate by 50% </td> <td style="text-align: center; vertical-align: middle;">q2h x 3 then q4h</td> </tr> <tr> <td rowspan="5" style="text-align: center; vertical-align: middle;">Above Desired Range</td> <td style="text-align: center;">8.1 – 10</td> <td> <ul style="list-style-type: none"> • Increase infusion by 0.5 unit/h </td> <td style="text-align: center; vertical-align: middle;">q90min</td> </tr> <tr> <td style="text-align: center;">10.1 – 14</td> <td> <ul style="list-style-type: none"> • Give 2 units IV push & increase infusion by 1 unit/h </td> <td rowspan="4" style="text-align: center; vertical-align: middle;">q1h</td> </tr> <tr> <td style="text-align: center;">14.1 – 17</td> <td> <ul style="list-style-type: none"> • Give 4 units IV push & increase infusion by 2 units/h </td> </tr> <tr> <td style="text-align: center;">17.1 – 20</td> <td> <ul style="list-style-type: none"> • Give 6 units IV push & increase infusion by 2 units/h </td> </tr> <tr> <td style="text-align: center;">20.1 – 24</td> <td> <ul style="list-style-type: none"> • Give 8 units IV push & increase infusion by 2 units/h </td> </tr> <tr> <td></td> <td style="text-align: center;">> 24.1</td> <td> <ul style="list-style-type: none"> • Call physician for new order (infusion rate increase and/or bolus) </td> <td></td> </tr> </tbody> </table>		Blood/Capillary Glucose (mmol/L)	Intervention	Blood/Capillary Glucose Monitoring	Below Desired Range	< 3.5	<ul style="list-style-type: none"> • Hold infusion • Give 1 ampoule (50 mL) D50W IV push • Call physician for new orders for restarting infusion 	q30 min	3.5 – 5	<ul style="list-style-type: none"> • Hold infusion for 30min • Recheck BS and restart infusion at 50% of previous rate when BS > 5 mmol/L 	Desired Range	5.1 – 8	<ul style="list-style-type: none"> • NO CHANGES • If BS decreasing by > 1 mmol/L within desired range, decrease infusion rate by 50% 	q2h x 3 then q4h	Above Desired Range	8.1 – 10	<ul style="list-style-type: none"> • Increase infusion by 0.5 unit/h 	q90min	10.1 – 14	<ul style="list-style-type: none"> • Give 2 units IV push & increase infusion by 1 unit/h 	q1h	14.1 – 17	<ul style="list-style-type: none"> • Give 4 units IV push & increase infusion by 2 units/h 	17.1 – 20	<ul style="list-style-type: none"> • Give 6 units IV push & increase infusion by 2 units/h 	20.1 – 24	<ul style="list-style-type: none"> • Give 8 units IV push & increase infusion by 2 units/h 		> 24.1	<ul style="list-style-type: none"> • Call physician for new order (infusion rate increase and/or bolus) 		
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		Doctors Signature: _____	Print Name: _____																															
		Page 1 of 1																																

PR 36075 (05 - 2006)

DISTRIBUTION

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Supplementary data for Yamashita S, Ng E, Brommecker F, Silverberg J, Adhikari NKJ. Implementation of the Glucommander method of adjusting insulin infusions in critically ill patients. *Can J Hosp Pharm* 2011;64(5):333-339.