

Glucose Control in the ICU/CCU: How Tight Is Too Tight?

Trial	N	Setting	BG Target		BG Achieved ^a		Primary Outcome	End Point Rate		ARR ^b	RRR ^b	Odds Ratio ^b (95% CI)
			Intensive	Conventional	Intensive	Conventional		Intensive	Conventional			
DIGAMI 1995	620	CCU (AMI)	126-196 mg/dL (7.0-10.9 mmol/L)	Usual care	173 mg/dL (9.6 mmol/L)	211 mg/dL (11.7 mmol/L)	1-y mortality	18.6%	26.1%	7.5%	29% ^c	NR
Van den Berghe 2001	1548	SICU	80-110 mg/dL (4.4-6.1 mmol/L)	180-200 mg/dL (10-11 mmol/L)	103 mg/dL (5.7 mmol/L)	153 mg/dL (8.5 mmol/L)	ICU mortality	4.6%	8.0%	3.4%	42%	0.58 ^c (0.38-0.78)
DIGAMI-2 2005	1253	CCU (AMI)	126-180 mg/dL (7.0-10.0 mmol/L) (Groups 1 and 2)	Usual care (Group 3)	164 mg/dL (9.1 mmol/L)	180 mg/dL (10 mmol/L)	2-y mortality	Group 1, 23.4%; Group 2, 21.2%	Group 3, 17.9%	- ^d	- ^d	NR
Van den Berghe 2006	1200	MICU	80-110 mg/dL (4.4-6.1 mmol/L)	180-200 mg/dL (10-11 mmol/L)	111 mg/dL (6.2 mmol/L)	153 mg/dL (8.5 mmol/L)	Hospital mortality	37.3%	40.0%	2.7%	7.0%	0.94 ^d (0.84-1.06)
HI-5 2006	240	CCU (AMI) (GIK)	72-180 mg/dL (4-10 mmol/L)	Usual care <288 mg/dL (16 mmol/L)	149 mg/dL (8.3 mmol/L)	162 mg/dL (9 mmol/L)	6-mo mortality	7.9%	6.1%	-1.8% ^d	-30% ^d	NR
Glucontrol 2007	1101	ICU	80-110 mg/dL (4.4-6.1 mmol/L)	140-180 mg/dL (7.8-10 mmol/L)	118 mg/dL (6.6 mmol/L)	144 mg/dL (8 mmol/L)	ICU mortality	16.7%	15.2%	-1.5%	-10%	1.10 ^d (0.84-1.44)
Ghandi 2007	399	OR	80-110 mg/dL (4.4-5.6 mmol/L)	<200 mg/dL (11 mmol/L)	114 mg/dL (6.3 mmol/L)	157 mg/dL (8.7 mmol/L)	Composite ^e	44%	46%	2%	4.3%	1.0 ^d (0.8-1.2)
VISEP 2008	537 ^f	ICU	80-110 mg/dL (4.4-5.6 mmol/L)	180-200 mg/dL (10-11 mmol/L)	112 mg/dL (6.2 mmol/L)	151 mg/dL (8.4 mmol/L)	28-d mortality	24.7%	26.0%	1.3%	5.0%	0.89 ^d (0.58-1.38)
De La Rosa 2008	504	SICU MICU	80-110 mg/dL (4.4-5.6 mmol/L)	180-200 mg/dL (10-11 mmol/L)	117 mg/dL (6.5 mmol/L)	148 mg/dL (8.2 mmol/L)	28-d mortality	36.6%	32.4%	-4.2% ^d	-13% ^d	NR
NICE-SUGAR 2009	6104	ICU	81-108 mg/dL (4.5-6 mmol/L)	≤180 mg/dL (10 mmol/L)	115 mg/dL	145 mg/dL (8.0 mmol/L)	3-mo mortality	27.5%	24.9%	-2.6%	-10.6	1.14 ^c (1.02-1.28)

^aMean morning BG concentrations, except for the Glucontrol study, which reported mean overall BG concentrations; ^bintensive group vs conventional group; ^c $P < .05$; ^dnot significant ($P > .05$); ^eComposite of death, sternal infection, prolonged ventilation, cardiac arrhythmias, stroke, and renal failure at 30 days; ^fsepsis patients only. ARR, absolute risk reduction; RRR, relative risk reduction; NR, not reported, ICU, intensive care unit (mixed); SICU, surgical intensive care unit; MICU, medical intensive care unit; GIK, glucose/insulin/potassium infusion..