

SUPPLEMENTARY TABLE S3. OVER-BOLUS AND NO BOLUS MEAL OUTCOMES STRATIFIED BY ADULTS AND ADOLESCENTS

	<i>Over-bolus delivered with meal</i>		<i>No bolus delivered with meal</i>	
	<i>Adults</i>	<i>Adolescents</i>	<i>Adults</i>	<i>Adolescents</i>
Number of participants	18	22	25	21
Number of breakfasts	18	22	25	21
Meal and insulin delivery characteristics				
Meal size (g of CHO)	68 (63, 75)	58 (50, 75)	50 (50, 50)	50 (50, 51)
Normalized meal size (g of CHO/kg of body weight)	1.00 (0.95, 1.00)	0.99 (0.93, 1.00)	0.73 (0.64, 0.79)	0.83 (0.64, 0.99)
Minutes from bolus to start of meal	+1 (0, +1)	0 (-3, +1)	—	—
Meal bolus size (U)	7.5 (6.0, 10.2)	7.1 (5.9, 10.4)	—	—
Normalized meal bolus size (unitless) ^a	1.24 (1.23, 1.25)	1.24 (1.20, 1.28)	—	—
Cumulative basal insulin delivery at 4 h (% of open-loop basal)	87% (54%, 95%)	73% (52%, 118%)	212% (172%, 243%)	196% (173%, 251%)
Cumulative basal plus bolus insulin delivery at 4 h (U) ^b	10.3 (8.7, 15.1)	13.6 (10.7, 14.5)	7.9 (6.9, 10.0)	9.8 (8.9, 13.0)
Glycemic outcomes				
Metrics at start of meal				
Baseline glucose ^c	120 (108, 133)	130 (116, 144)	128 (119, 152)	122 (112, 140)
Metrics over 4 h				
Number of YSI measurements	11 (10, 11)	11 (11, 11)	11 (11, 11)	11 (10, 11)
% of meals with a YSI value				
≤ 60 mg/dL	1 (6%)	1 (5%)	0	0
≤ 70 mg/dL	1 (6%)	1 (5%)	0	0
> 180 mg/dL	13 (72%)	18 (82%)	23 (92%)	21 (100%)
> 250 mg/dL	4 (22%)	6 (27%)	18 (72%)	19 (90%)
> 300 mg/dL	3 (17%)	2 (9%)	9 (36%)	10 (48%)
> 400 mg/dL	1 (6%)	1 (5%)	0	0
% of YSI values				
≤ 70 mg/dL	0% (0%, 0%)	0% (0%, 0%)	0% (0%, 0%)	0% (0%, 0%)
71–180 mg/dL	63% (27%, 100%)	50% (36%, 80%)	18% (18%, 36%)	11% (9%, 27%)
> 180 mg/dL	37% (0%, 73%)	45% (10%, 64%)	82% (64%, 82%)	89% (73%, 91%)
Mean glucose (mg/dL)	166 (139, 205)	179 (155, 207)	228 (210, 239)	236 (208, 248)
Glucose CV	17% (13%, 24%)	19% (15%, 28%)	21% (17%, 25%)	21% (19%, 24%)
Nadir (mg/dL)	118 (92, 138)	113 (102, 137)	144 (123, 151)	131 (121, 149)
Peak (mg/dL)	209 (174, 240)	228 (183, 262)	281 (248, 305)	295 (270, 320)
Excursion (peak minus baseline) ^c	110 (69, 136)	99 (62, 123)	137 (108, 165)	171 (152, 188)
Area under the curve 180 (mg/dL/min) ^d	8 (0, 26)	15 (0, 36)	53 (41, 62)	63 (37, 70)
% of meals with a				
Hypoglycemia red light	3 (17%)	5 (23%)	3 (12%)	0
Hypoglycemic treatment interventions ^e	0	1 (5%)	0	0
Hyperglycemic treatment interventions ^e	1 (6%)	1 (5%)	0	0
Metrics at 4 h				
Glucose at 4 h	151 (118, 197)	143 (102, 163)	198 (161, 221)	210 (188, 226)
% of meals with a YSI value at 4 h				
≤ 60 mg/dL	0	1 (5%)	0	0
≤ 70 mg/dL	0	1 (5%)	0	0
71–180 mg/dL	13 (72%)	18 (82%)	11 (44%)	5 (24%)
> 180 mg/dL	5 (28%)	3 (14%)	14 (56%)	16 (76%)
> 250 mg/dL	1 (6%)	1 (5%)	3 (12%)	2 (10%)
> 300 mg/dL	1 (6%)	1 (5%)	0	1 (5%)
> 400 mg/dL	0	0	0	0

Data are median (25th, 75th percentiles) or *n* (%) as indicated.

^aBolus_{NORM} = (bolus_{ACTUAL} × carbohydrate ratio)/meal size.

^bIncludes the meal boluses, correction boluses, and insulin delivered by the controller.

^cSix baseline YSI values and excursions were missing (three with over-bolus delivered with meal and three with no bolus delivered with meal).

^dArea under the curve calculated for each meal and divided by the time.

^eHypoglycemic treatments preceded by a red light were not counted as an intervention, and YSI values were not imputed.

CHO, carbohydrate; CV, coefficient of variation.