















Glucose, lı	nsulin and C	arb Data		
Group:	All 396 Pumps	Low Third	Mid Third	High Third
Avg. Meter BG	184 mg/10.2 mmol	144 mg/dl (8.0)	181 mg/dl (10.0)	227mg/dl (12.6)
BG Tests/Day	4.38	4.73	4.41	4.01
TDD	49.4	47.9	49.1	51.1
Basal %	47.6%	47.6%	47.2%	47.8%

Glucose, Insulin and Carb Data					
Group:	All 396 Pumps	Low Third	Mid Third	High Third	
Avg. Meter BG	184 mg/10.2 mmol	144 mg/dl (8.0)	181 mg/dl (10.0)	227mg/dl (12.6)	
CarbBolus U/d	20.4 u	20.9 u	20.4 u	19.8 u	
CarbBolus/Day	4.14	4.07	4.20	4.14	
CarbGram/Day	189.9	185.2	196.3	187.9	
CarbF	11.4	10.8	12.2	11.2	
arbGram/Day arbF	189.9	185.2	196.3 12.2	187.9 11.2	



BG Tertile	Low	Middle	High
Avg BG	144 mg/dl	181 mg/dl	227 mg/dl
Blocks/Month	1.36	3.04	3.57













Small Change in CarbF	= Large Change in B		
TDD = 40 u Corr F = 49 mg/dl per u			
Meal Size	Fall in BG per meal *		
60 grams	0.67u x 49 = - 33 mg/dl		
100 grams 1.1u x 49 = - 54 mg/dl			
* Calculated as carbs in meal new carb factor	- <u>carbs in meal</u> X <u>1960</u> old carb factor TDD		















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Food D	igestion Time	Food Dig	gestion Time
water	0 m	fish	30-60 m
fruit/veg juice	5-20 m	milk/cot cheese	90 m
fruit/veg salad	20-40 m	legumes/beans	2 hr
melons/oranges	30 m	egg	45 m
apples/pears	40 m	chicken	1.5-2 hr
broccoli/caulif	45 m	seeds/nuts	2.5-3 hr
raw carots/beets	s 50 m	beef/lamb	3-4 hr
potatoes/yams	60 m	cheese	4-5 hr
cornmeal/oats	90 m		

Typical C	arb Diges	tion Times	
Food	Digestion Time	Food Dig	estion Time
water	0 m	fish	30-60 m
fruit/veg juice	5-20 m	milk/cot cheese	90 m
fruit/veg salad	20-40 m	legumes/beans	2 hr
melons/orange	s 30 m	egg	45 m
apples/pears	40 m	chicken	1.5-2 hr
broccoli/caulif	45 m	seeds/nuts	2.5-3 hr
raw carots/beet	s 50 m	beef/lamb	3-4 hr
potatoes/yams	60 m	cheese	4-5 hr
cornmeal/oats	90 m	A Rapid insulin we	orks here!



























sulin + Symlin in Closed Loop						
omparison of 1) rapid insulir ymlin (pramlintide) & AP (DA lumulin R) & amylin & AP (F	n-al AP) R-D	one , and AP)	+ Al d iii), in 1:	P (AP), 3) Reg 2 Type	2) rapid jular insi 1 adults	insulin Jlin
Outcome	АР	DAP	R- DAP	P-value DAP vs. AP	P-value R-DAP vs. AP	
Time spent between 3.9 and 10.0 mmol/L during 24-hour study period (%)	71 ± 19	85 ± 10	72 ± 16	0.03	0.86	
Mean glucose level during 24-hour study period (mmol/L)	8.2 ± 1.3	7.4 ±	7.7 ± 0.8	0.07	0.38	
Coefficient of variance during 24-hour study period (%)	34 ± 11	25 ± 6	35 ± 8	0.01	0.65	
Time spent between 3.9 and 10.0 mmol/L during daytime period (%)	58 ± 26	78 ± 16	66 ± 21	0.02	0.58	
Mean glucose level during daytime period (mmol/L)	9. 1 ± 1.9	7.8 ± 1.5	8.4 ± 1.5	0.02	0.34	
Time spent between 3.9 and 7.8 mmol/L during	77 ± 20	71 ± 29	65 ± 19	0.47	0.16	
overnight period (x)		68+	661			











Missing: Real Pump Features

- Show How a New Setting Impacts TDD & BG
- Eliminate temp basal rates → Temp Insulin Adjustments (basal AND bolus doses)
- Add Super Bolus Option
- Add Meal Size Bolus Option (1 → 7 carb sizes derived from TDD)
- Safety Option (subtract excess IOB from carbs)
- Excess IOB when Carb Bolus Is Given Alert (warns when excess IOB is present but no BG reading is entered)



