

SUPPLEMENTARY DATA

Supplementary Table 1. Baseline characteristics of participants. Data are mean \pm standard deviation.

Age (years)	57.2 \pm 14.4
Male/Female	7/5
Weight (kg)	88.3 \pm 11.6
BMI (kg/m ²)	30.5 \pm 3.9
Diabetes duration (years)	7.6 \pm 6.1
HbA1c (%)	8.4 \pm 0.8
HbA1c (mmol/mol)	68 \pm 9
C-peptide (pmol/l)	974 \pm 362
Total cholesterol (mmol/l)	5.0 \pm 1.6
Serum creatinine (umol/l)	83 \pm 17
Time between visits (days)	18 \pm 10
Baseline diabetes therapy, number of subjects (%):	
Metformin	11 (92)
sulphonylureas	7 (58)
thiazolidinediones	2 (17)
GLP-1 agonists	1 (8)
DPP4 inhibitors	4 (33)
Acarbose	1 (8)

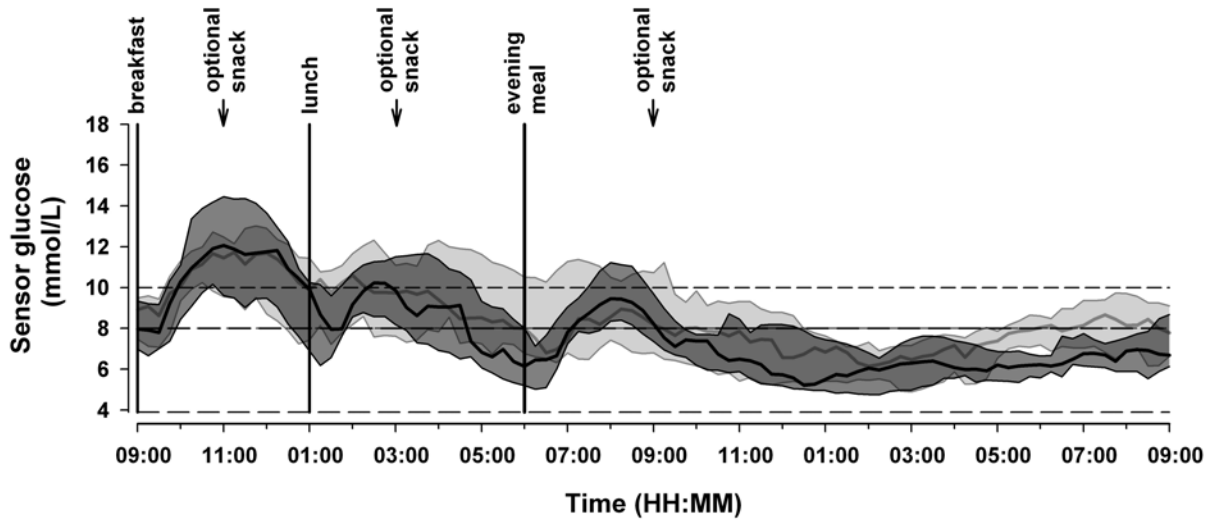
SUPPLEMENTARY DATA

Supplementary Table 2. Study outcomes during overall and overnight study periods based on sensor glucose levels. Data are mean \pm standard deviation or median (interquartile range).

Outcome	Overall (09:00-09:00)			Overnight (00:00-09:00)		
	Closed-loop	Control	P-value	Closed-loop	Control	P-value
Time in target glucose 3.9-8.0 mmol/l (%)	64 (44, 71)	52 (27, 63)	0.050	93 (71, 100)	69 (27, 93)	0.114
Mean glucose (mmol/l)	8.1 \pm 1.7	8.4 \pm 1.5	0.272	6.4 \pm 1.4	7.1 \pm 2.0	0.209
Starting glucose (mmol/l)	8.4 \pm 2.4	8.5 \pm 1.3	0.433	6.4 \pm 2.2	6.7 \pm 2.6	0.695
SD of glucose (mmol/l)	2.1 \pm 0.7	2.0 \pm 0.8	0.433	0.8 \pm 0.3	0.9 \pm 0.4	0.182
Glucose 3.9-10.0 mmol/l (%)	85 (61, 88)	77 (48, 85)	0.158	100 (85, 100)	100(68, 100)	0.398
Glucose \leq 3.9 mmol/l (%)	0 (0, 0)	0 (0, 0)	1.000	0 (0, 0)	0 (0, 0)	1.000
Low blood glucose index (unitless)	0.2 (0.1, 0.4)	0.0 (0.0, 0.6)	0.530	0.4 (0.1, 0.9)	0.0 (0.0, 0.8)	0.477
Glucose >8.0 mmol/l (%)	36 (29, 46)	42 (35, 74)	0.158	0 (0, 11)	26 (2, 46)	0.093
Glucose >10.0 mmol/l (%)	15 (11, 30)	20 (10, 47)	0.530	0 (0, 0)	0 (0, 2)	0.273
High blood glucose index (unitless)	3.2 (2.2, 5.6)	3.8 (2.5, 8.3)	0.388	0.3 (0.0, 0.5)	1.4 (0.4, 2.3)	0.050

SUPPLEMENTARY DATA

Supplementary Figure 1. Sensor glucose profiles during closed-loop insulin delivery (black line) and control (grey line) visits [median (interquartile range)]. Meals and snacks are indicated.



SUPPLEMENTARY DATA

Supplementary Figure 2. Clarke error grid showing accuracy of Freestyle Navigator (Abbott Diabetes Care, Alameda, CA) sensor glucose versus reference (plasma) glucose.

