Supplemental Online Content

Martens T, Beck RW, Bailey R, et al; MOBILE Study Group. Effect of continuous glucose monitoring on glycemic control in patients with type 2 diabetes treated with basal insulin: a randomized clinical trial. *JAMA*. doi:10.1001/jama.2021.7444

This supplemental material has been provided by the authors to give readers additional information about their work.

MOBILE Study Group Listing

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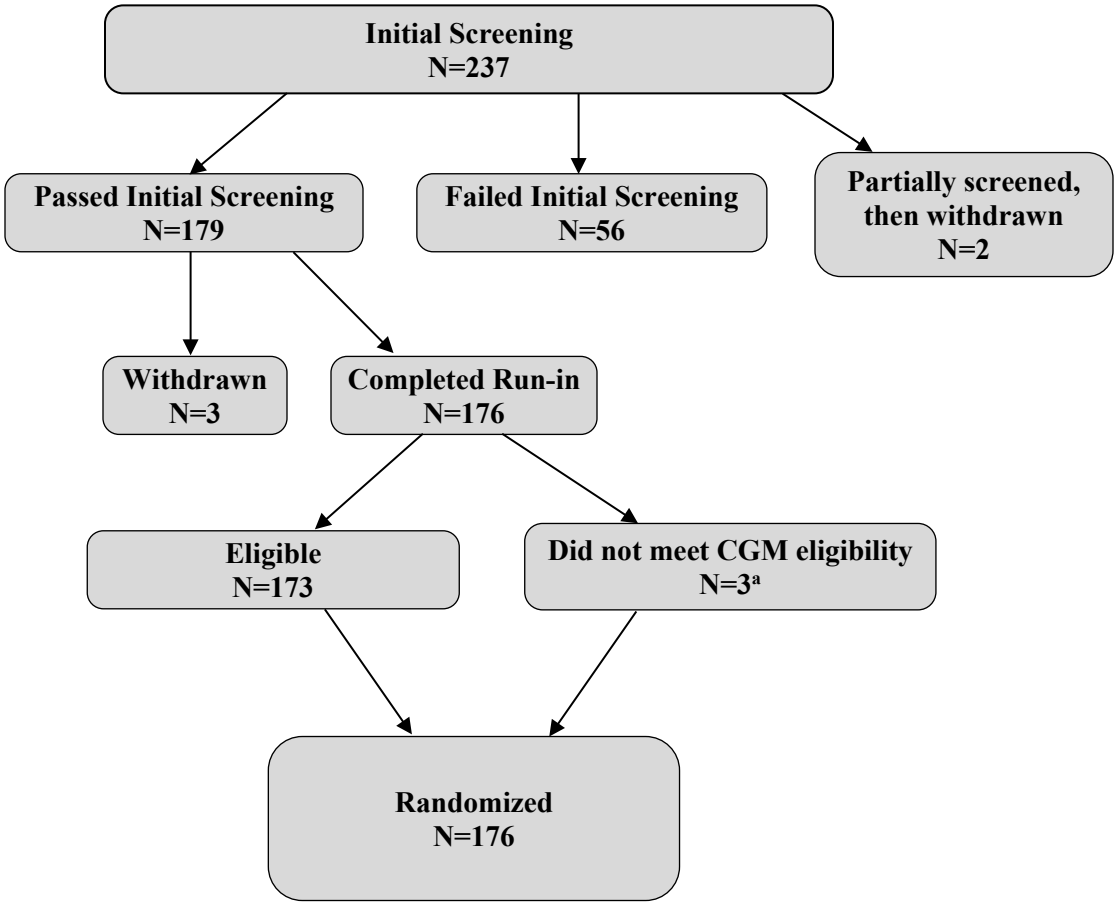
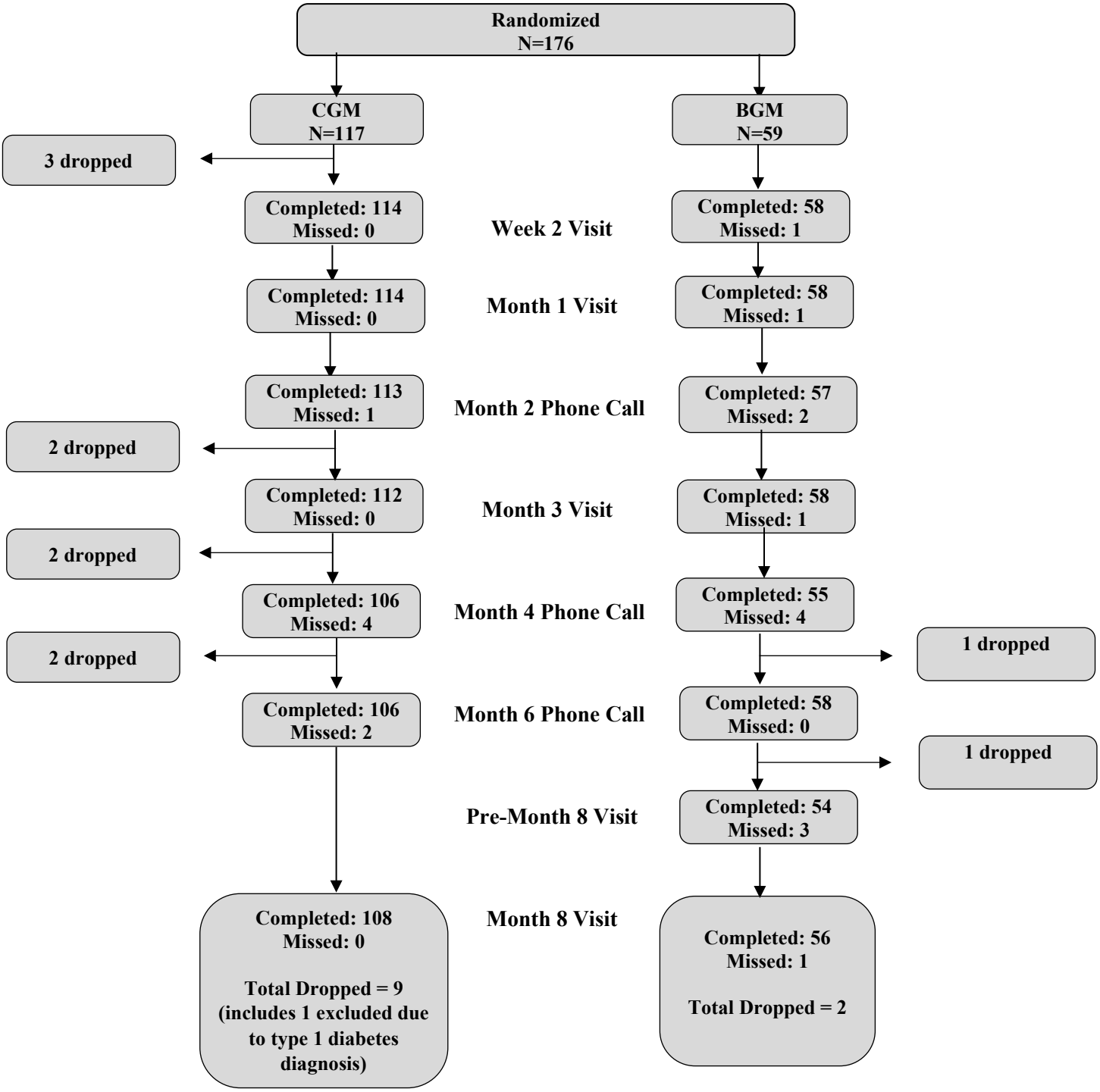
eFigure 1. Flow Chart of Screening

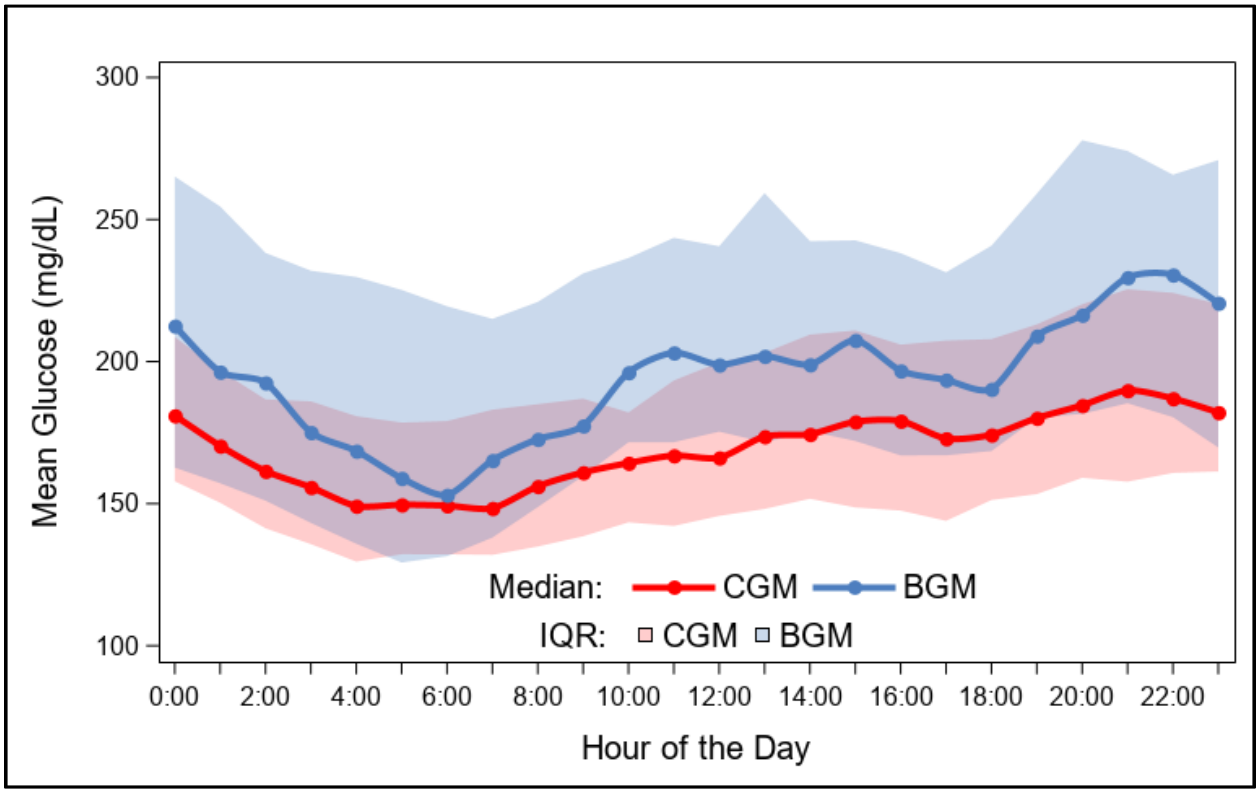


[a] 3 participants who did not meet CGM eligibility criteria (did not wear CGM for at least 70% of the time during the 10-day run-in phase) were randomized: 2 to the CGM group and 1 to the BGM Group.

eFigure 2. Flow Chart of Visit Completion Rates



eFigure 3. Mean Glucose Over 24 Hours at 8 Months



eFigure 3 Legend
The figure shows a plot of mean glucose, measured with CGM during a 10-day period prior to the 8-month visit, in each treatment group according to time of day (n=93 in CGM group and n=53 in BGM group). Symbols denote the hourly median values for mean glucose, and the shaded regions represent the interquartile range. Median number of glucose measurements over the 24 hours per participant was 2925 in the CGM Group and 2746 in the BGM Group. By hour, the median number of readings per hour per participant ranged from 109 to 132 in the CGM Group and 108-120 in the BGM Group.

A similar figure with CGM-measured mean glucose over the 24 hours of the day in nondiabetic individuals is available at the following link: Shah, V N. et al. (2019), Data from: Continuous glucose monitoring profiles in healthy non-diabetic participants: a multicenter prospective study, Dryad, Dataset, https://doi.org/10.5061/dryad.h7d11cd. In nondiabetic individuals, median mean glucose is approximately 100 mg/dL throughout the 24 hours (very slightly higher during the day than night), with a tight interquartile range spanning 15-20 mg/dL (slightly tighter during the night than day).

eTable 1. Patient Eligibility Criteria

Inclusion Criteria

1. Age ≥ 30 years old
2. Type 2 diabetes
3. Comprehends written and spoken English
4. Using 1-2 injections of basal or intermediate acting insulin daily for at least 6 months prior to screening
5. HbA1c between 7.8-11.5% inclusive at enrollment (by site's POC or local lab)
    - *Lower limit changed from 8.0% to 7.8% as a protocol amendment during the study*
6. Assessment by clinician that patient is able and willing to wear a CGM device
7. No use of a personal real-time CGM within 3 months of study entry (may have used intermittent blinded CGM in the past)
8. Self-monitors blood glucose on average at least 3 times per week (self-reported) during the month prior to screening
9. Stable medication regimen (medication class) during the 3 months prior to screening
10. Has a smart phone compatible with CGM and BGM systems and is willing to utilize a study issued blood glucose meter
11. Has diabetes managed by a primary care physician or nurse practitioner/physician assistant

Exclusion Criteria

1. Regular use of short acting insulin in the 3 months prior to entry visit or planning to initiate prandial insulin or short acting insulin.
    - Regular use of short acting insulin defined as 1 or more injections/day for more than 1 week. **Note:** Short term use in a hospital setting or for correction of isolated hyperglycemia is not an exclusion.
2. Pregnancy (as demonstrated by a positive test) at time of screening or planning to become pregnant during the study
3. Weight reduction medications, programs or surgery.
    - Defined as 1) using weight loss medications and losing weight (e.g. chronic use of weight loss medications with stable weight is not exclusionary) or planning on using weight loss prescription medication during the study; 2) currently using or planning on initiating a modified fasting program (e.g. protein-sparing diet plans) during the study; or 3) bariatric surgical procedure within the past year or plans for undergoing bariatric surgery during the study. **Note:** participation in non-physician directed plans such as Weight Watchers or Jenny Craig program are not exclusionary.
4. Concomitant disease or condition that may compromise patient safety including and not limited to severe mental illness, a diagnosed or suspected eating disorder or any uncontrolled long-term medical/ psychiatric condition that would interfere with study related tasks or visits, based on investigator judgment.
5. Known (or suspected) significant allergy to medical grade adhesives
6. Renal disease defined as estimated Glomerular Filtration Rate (eGFR) <30 mL/min/1.73 m^2, obtained within 4 months of screening visit
7. Anticipated acute uses of glucocorticoids (oral, injectable, or IV) that could affect glycemic control and impact HbA1c – such as frequent steroid bursts required for inflammatory arthritis or inflammatory bowel disease, recurrent lumbar epidural steroid injections, etc. (Long-term stable glucocorticoid doses are allowed, such as when used for the treatment of rheumatoid arthritis or Addison's disease).
8. Acute conditions that could impact the stability of a HbA1c measurement such as GI blood loss, recent (with 3 months of entry visit) or anticipated red blood cell transfusion or erythropoietin administration.
9. Followed for their diabetes management by a study PI or sub-investigator
10. Diabetes (glucose) management in the prior 6 months (study entry) under the guidance of a diabetes specialist
11. Participation in another pharmaceutical or device trial at the time of enrollment or during the study

eTable 2. Description of Quality of Life and Satisfaction Questionnaires

Questionnaire	Description
Diabetes Distress Scale	17 items on diabetes distress factors. Each item is on a 1-6 scale. Higher score denotes more of a problem or more distress.
Modified Hill-Bone Medication Adherence Scale	8 items that query how a person with diabetes self manages their diabetes medication regime. Each item is on a 1-4 scale. The word "diabetes" was added to the original Hill-Bone Medication Adherence Scale. Higher score denotes worse self-management of their medication.
Fear of Hypoglycemia, Worry Subscale	18 items on what the subject worries about related to their diabetes. Each item is on a 0-4 scale. Higher score denotes more worry about episodes of severe hypoglycemia.
Clinician Communication Rating	8 items on the perceived quality of the interaction between the patient and their community treating clinician. Each item is on a 1-4 scale. Higher score denotes better perceived communication.
Modified Toobert's Scale (Diet and Exercise only)	4 items on the subject's diet and exercise routine over the last 7 days. Higher score denotes a better diet and exercise routine.
Glucose Monitoring Satisfaction Survey	15 questions that measure glucose device satisfaction. Each item is on a 1-5 scale. Higher score denotes greater satisfaction.
SF-12 Health Survey	12 items on health outcomes from the patient's perspective. Each item is scored differently. Higher score denotes better health.
WHO-5	5 items on how the subject has been feeling over the past two weeks. Each item is on a 0-5 scale. Higher score denotes better well-being.
Perceived Benefit Questionnaire	Completed only at 8 months by both groups. This questionnaire queries the patient on any perceived benefit of the glucose monitoring device they are using. This is an un-validated questionnaire.
CGM Satisfaction Survey	Completed only at 8 months and by CGM Group only. 44 items on how satisfied the subject is with their CGM. Scale 1-5. Higher score denotes more satisfaction.

eTable 3. Secondary and Exploratory Study Outcomes and Additional Statistical Methods

Pre-specified Secondary and Exploratory Outcomes

Key Secondary Outcomes:

- Change in CGM time in target range 70-180 mg/dL
- Change in CGM time-hyperglycemic, defined as >250 mg/dL
- Change in mean glucose from CGM

Other Secondary Outcomes:

- Change in HbA1c based on baseline HbA1c (restricted to participants with baseline HbA1c ≥8.5%, ≥9.0%, ≥9.5%, ≥10.0%
- Percent decreasing HbA1c by ≥0.5% (absolute)
- Proportion increasing time in target range by ≥10% and ≥15% (absolute)
- Percent adding or removing diabetes medications (starting or stopping medication)*
- Change in CGM glucose variability measured by the coefficient of variation
- Change in CGM time-hypoglycemic, defined as <70 mg/dL

Exploratory Outcomes:

- Percent with HbA1c <7.0%
- Percent with HbA1c <7.5%
- Percent decreasing HbA1c by ≥1.0% (absolute)
- Percent decreasing HbA1c by ≥1.0% (absolute) OR reaching target HbA1c (<7.0%)
- Percent decreasing HbA1c by ≥10% (relative)
- Change in time <54 mg/dL
- Proportion of participants with time in target range ≥70% at Month 8
- Change in the rate of CGM-measured hypoglycemic events
    - *A CGM-measured hypoglycemic event is defined as at least 2 sensor values <54 mg/dL that are 15 or more minutes apart plus no intervening values >54 mg/dL; at least 2 sensor values >70 mg/dL that are 30 or more minutes apart with no intervening values ≤70 mg/dL, are required to define the end of an event, at which point the study participant becomes eligible for a new event.*
- Change in time >180 mg/dL
- Change in time >300 mg/dL
- Area under curve 180 mg/dL
- Change in self-monitoring blood glucose frequency (self-reported and download)
- Change in total daily insulin units per kg
- Change in basal units per kg
- Addition of at least one prandial insulin
- Addition of at least one GLP-1 analog or SGLT2 inhibitor*
- Change in body weight
- Change in body mass index
- Change in blood pressure
- Change in non-HDL cholesterol

*Replaced by 2 separate *post-hoc* outcomes

***Post-hoc* Exploratory Outcomes**

- Percent with HbA1c <8.0% at 8 months
- Proportion increasing time in target range by ≥5%
- Proportion adding diabetes medications
- Proportion removing diabetes medications
- Proportion adding GLP1-Agonists
- Proportion adding SGLT2-Inhibitors

Additional Statistical Methods

1. **Sensitivity Analyses**

Two sensitivity analyses were conducted on the primary outcome.

- Multiple imputation was used to impute for missing 24-week HbA1c data when both the central lab and the local HbA1c values were missing. For cases where the central lab HbA1c was missing but the local HbA1c was known, the HbA1c value used in the analysis was imputed using a regression line based on the site's local HbA1c measurements.
- A complete case analyses was done, in which only participants with HbA1c values at the randomization, month 3, and month 8 visits were included.

2. **Per-Protocol Analysis**

A per-protocol analysis was conducted using the same statistical method as the primary analysis, restricting the analytic cohort by excluding participants as follows:

- Participants in the BGM Group performing blood glucose meter testing on average less than 1 time per day based on self-report over the full 8 months were excluded.
- Participants in the CGM Group using CGM on less than 70% of days over the full 8 months or not using CGM on at least one day in month 8 were excluded
- Participants missing 8-month visit (or completing the visit more than 30 days before or after the target date) were excluded
- Participants in the BGM Group who used an unblinded CGM at any point during the study phase were excluded

3. **Test of Heterogeneity Across Sites**

A linear regression model adjusting for baseline HbA1c as a covariate and including main effects for treatment group and site as well as a treatment by site interaction term was used to test the heterogeneity of the treatment effect across sites.

eTable 4. Glucose Lowering Medications in Use at Time of Randomization in Addition to Insulin

	All	Treatment	
		Continuous Glucose Monitoring	Blood Glucose Monitoring
	N=175	N=116	N=59
0 Medications	16 (9%)	11 (9%)	5 (8%)
1 Medication			
DPP4-Inhibitor	3 (2%)	1 (<1%)	2 (3%)
GLP1-Agonist	5 (3%)	3 (3%)	2 (3%)
SGLT2-Inhibitor	3 (2%)	2 (2%)	1 (2%)
Metformin	44 (25%)	31 (27%)	13 (22%)
Sulfonylurea	7 (4%)	5 (4%)	2 (3%)
2 Medications			
Metformin and DPP4-Inhibitor	3 (2%)	1 (<1%)	2 (3%)
Metformin and GLP1-Agonist	22 (13%)	19 (16%)	3 (5%)
Metformin and SGLT2-Inhibitor	4 (2%)	3 (3%)	1 (2%)
Metformin and Sulfonylurea	52 (30%)	31 (27%)	21 (36%)
Sulfonylurea and DPP4-Inhibitor	2 (1%)	1 (<1%)	1 (2%)
Sulfonylurea and GLP1-Agonist	1 (<1%)	1 (<1%)	0 (0%)
3 Medications			
Metformin, GLP1-Agonist, SGLT-2 Inhibitor	3 (2%)	2 (2%)	1 (2%)
Metformin, GLP1-Agonist, Sulfonylurea	2 (1%)	1 (<1%)	1 (2%)
Metformin, GLP1-Agonist, and DPP4-Inhibitor	1 (<1%)	0 (0%)	1 (2%)
Metformin, SGLT2-Inhibitor, and DPP4-Inhibitor	1 (<1%)	1 (<1%)	0 (0%)
Metformin, SGLT2-Inhibitor, and Sulfonylurea	3 (2%)	2 (2%)	1 (2%)
Metformin, Sulfonylurea, and DPP4-Inhibitor	1 (<1%)	0 (0%)	1 (2%)
4 Medications			
Metformin, GLP1-Agonist, SGLT2-Inhibitor, and Sulfonylurea	1 (<1%)	1 (<1%)	0 (0%)
Metformin, SGLT2-Inhibitor, Sulfonylurea, and DPP4-Inhibitor	1 (<1%)	0 (0%)	1 (2%)

eTable 5. CGM Use in CGM Group [a,b]

	0-2 Weeks (N=114)	0-3 Months (N=112)	0-8 Months (N=108)	Month 8[c,d] (N=108)
Average # days/week [*median (Q1, Q3)*]	6.5 (5.2, 6.8)	6.3 (5.4, 6.7)	6.1 (5.1, 6.6)	6.1 (3.4, 6.7)
0 use	1 (<%)	0 (0%)	0 (0%)	14 (13%)
>0-<1 day	0 (0%)	3 (3%)	4 (4%)	0 (0%)
1-<2 days	3 (3%)	4 (4%)	1 (<1%)	2 (2%)
2-<3 days	2 (2%)	4 (4%)	5 (5%)	7 (6%)
3-<4 days	6 (5%)	1 (<1%)	8 (7%)	9 (8%)
4-<5 days	13 (11%)	7 (6%)	6 (6%)	10 (9%)
5-<6 days	13 (11%)	23 (20%)	26 (24%)	10 (9%)
6-<7 days	76 (66%)	70 (62%)	58 (54%)	56 (52%)
7 days	0 (0%)	0 (0%)	0 (0%)	0 (0%)
<5 days	25 (22%)	19 (17%)	24 (22%)	42 (39%)
≥5 days	89 (77%)	93 (82%)	84 (78%)	66 (61%)

[a] Calculations of CGM use do not subtract the two-hour warm-up period needed when a new sensor is inserted
[b] Includes participants who stopped use but were still active in the study.
[c] Indicates CGM use over the 30 days leading up to the month 8 visit.
[d] Of the 14 participants who did not have any CGM data during month 8, 5 reported using CGM 7 days per week and presumably data were not uploaded from the CGM device.

eTable 6. Frequency of Blood Glucose Meter Testing

	Baseline		8 Months		8 Month Risk-Adjusted Difference (95% CI) [p-value] [a]
	Continuous Glucose Monitoring	Blood Glucose Monitoring	Continuous Glucose Monitoring	Blood Glucose Monitoring	
Blood Glucose Meter Testing According to Self-Report *mean (SD) per day*	1.5 (0.5) [N=116]	1.6 (0.5) [N=59]	0.7 (0.7) [N=105]	1.7 (0.7) [N=56]	-
Change from Baseline *mean (SD) per day*			-0.9 (0.7) [N=105]	-0.1 (0.7) [N=56]	-0.79 (-1.08, -0.50) [<0.001]
Blood Glucose Meter Testing According to Meter Download *mean (SD) per day*	1.4 (0.5) [N=83]	1.5 (0.5) [N=44]	0.7 (0.7) [N=78]	1.5 (0.6) [N=50]	-
Change from Baseline *mean (SD) per day*			-0.9 (0.7) [N=63]	-0.1 (0.6) [N=39]	-0.79 (-1.13, -0.45) [<0.001]

[a] Linear regression model was fitted adjusting for the baseline value and a random site effect. The 95% confidence intervals are reported for the mean difference. Nominal (uncorrected) p-values were adjusted for multiple comparisons using the adaptive Two Stage Group Benjamini-Hochberg (TST GBH) method.

eTable 7. Change in HbA1c: Per-protocol Analysis [a] and Sensitivity Analyses

A. Per-Protocol Analysis

	Baseline		3 Months		8 Months		8 Month Risk-Adjusted Difference (95% CI) [p-value] [b]
	Continuous Glucose Monitoring (N=82)	Blood Glucose Monitoring (N=51)	Continuous Glucose Monitoring (N=81)	Blood Glucose Monitoring (N=50)	Continuous Glucose Monitoring (N=83)	Blood Glucose Monitoring (N=51)	
HbA1c *mean (SD)*	9.0 (0.9)	9.0 (0.9)	7.7 (0.9)	8.3 (1.2)	7.7 (1.1)	8.3 (1.2)	-
Change from Baseline *mean (SD)*			-1.3 (1.0)	-0.7 (0.9)	-1.4 (1.2)	-0.7 (1.2)	-0.6 (-0.9, -0.3) [<0.001]

B. Sensitivity Analyses

	8 Month Risk-Adjusted Difference (95% CI) [p-value]
Multiple Imputation [c]	-0.5 (-0.9, -0.1) [0.02]
Complete Case [d]	-0.3 (-0.8, 0.1) [0.11]

To convert HbA1c to the SI units of mmol/mol, multiply the HbA1c percentage value × 10.93 and subtract 23.5 from the product.

[a] In CGM Group 33 participants were not included in the per-protocol analysis: 8 for not completing the month 8 visit, 2 for completing the month 8 visit outside the 30 day window, 8 for having their last recorded CGM 30 or more days prior to their month 8 visit, and 11 for using CGM < 70% of the time over the 8-month period. In the BGM Group 8 participants were not included in the per-protocol analysis: 3 for not completing the month 8 visit and 5 for completing the month 8 visit outside the 30 day window.

[b] Mixed-effects linear regression model adjusted for baseline HbA1c and a random site effect. Local HbA1c was included as an auxiliary variable

[c] Multiple imputation was used to impute for missing 8-month HbA1c data when both the central lab and the local HbA1c values were missing. For cases where the central lab HbA1c was missing but the local HbA1c was known, the HbA1c value used in the analysis was imputed using a regression line based on the site's local HbA1c measurements.

[d] Only participants with HbA1c values at the randomization, month 3, and month 8 visits were included (n=102 in CGM group and n=50 in BGM group).

eTable 8. Change in HbA1c According to Baseline HbA1c Group

Baseline HbA1c	3 Months		8 Months		8 Month Risk-Adjusted Difference (95% CI) [p-value] [a]
	Continuous Glucose Monitoring	Blood Glucose Monitoring	Continuous Glucose Monitoring	Blood Glucose Monitoring	
≥8.5% *mean (SD)*	-1.4 (1.1) [N=78]	-0.6 (1.4) [N=41]	-1.4 (1.4) [N=74]	-0.9 (1.1) [N=35]	-0.4 (-0.8, 0.1) [0.10] [b]
≥9.0% *mean (SD)*	-1.5 (1.2) [N=57]	-0.7 (1.5) [N=30]	-1.4 (1.6) [N=53]	-1.0 (1.2) [N=27]	-0.2 (-0.8, 0.3) [NA] [b]
≥9.5% *mean (SD)*	-1.7 (1.1) [N=42]	-0.4 (1.8) [N=15]	-1.7 (1.6) [N=39]	-0.9 (1.5) [N=13]	-0.8 (-1.6, 0.1) [NA] [b]
≥10.0% *mean (SD)*	-2.1 (1.1) [N=24]	-0.1 (2.0) [N=9]	-2.1 (1.5) [N=22]	-0.4 (1.5) [N=8]	-1.5 (-2.6, -0.5) [NA] [b]

To convert HbA1c to the SI units of mmol/mol, multiply the HbA1c percentage value × 10.93 and subtract 23.5 from the product.

[a] A linear regression model was fitted adjusting for baseline HbA1c and a random site effect; The 95% confidence intervals are reported for the mean difference.

[b] Tested in a hierarchical fashion, only if the primary analysis was significant. Statistical testing not performed for the last three subgroups because the first one in the hierarchy did not achieve statistical significance.

eTable 9. Change in HbA1c According to Baseline Subgroups

	Continuous Glucose Monitoring		Blood Glucose Monitoring		P-value for Interaction [a]
	N	Change in HbA1c from Baseline to Month 8 *mean (SD)*	N	Change in HbA1c from Baseline to Month 8 *mean (SD)*	
Age					0.76
30-<40 years	5	-3.0 (0.9)	1	0.8 (0.0)	
40-<50 years	19	-0.9 (2.1)	7	-0.4 (1.3)	
50-<60 years	40	-1.0 (1.4)	18	-0.9 (1.2)	
≥60 years	40	-1.0 (1.1)	25	-0.6 (1.1)	
Diabetes Duration					0.76
<5 years	16	-1.4 (1.6)	8	-0.7 (1.7)	
5-<18 years	52	-0.9 (1.6)	29	-0.7 (1.1)	
18-<30 years	31	-1.3 (1.1)	9	-0.6 (1.1)	
≥30 years	5	-0.7 (0.7)	5	-0.3 (1.0)	
Baseline CGM time 70-180 mg/dL					0.85
<40%	54	-1.4 (1.4)	24	-0.9 (1.2)	
40%-<50%	10	-0.7 (1.4)	7	-0.4 (1.3)	
≥50%	38	-0.8 (1.5)	20	-0.4 (1.0)	
Education					0.76
<Bachelor's degree	59	-0.8 (1.7)	27	-0.6 (1.1)	
≥Bachelor's degree	44	-1.4 (1.1)	24	-0.7 (1.3)	
Does not wish to provide	1	-1.3 (0.0)	0	NA	
Use of GLP1 or SGLT2 Meds at Baseline					0.76
Not Using at Baseline	71	-1.0 (1.6)	40	-0.7 (1.2)	
Using at Baseline	33	-1.2 (1.2)	11	-0.6 (0.9)	
Subgroups Added Post-Hoc					
Race/Ethnicity					0.76
White	47	-1.4 (1.3)	31	-0.7 (1.0)	
Non-White	57	-0.8 (1.6)	20	-0.6 (1.4)	
Insurance Status					0.76
Private	47	-1.5 (1.2)	21	-1.2 (0.9)	
Other	57	-0.7 (1.6)	30	-0.2 (1.2)	
Subjective Numeracy Scale Average Score					0.76
<4	42	-0.8 (1.7)	25	-0.5 (1.2)	
≥4	62	-1.3 (1.2)	26	-0.8 (1.2)	
HbA1c at Randomization					0.76
<9.0%	51	-0.7 (1.3)	24	-0.2 (1.0)	
≥9.0%	53	-1.4 (1.6)	27	-1.0 (1.2)	

To convert HbA1c to the SI units of mmol/mol, multiply the HbA1c percentage value × 10.93 and subtract 23.5 from the product.

[a] All p-values were obtained by including an interaction term with the respective factor and treatment group in the mixed-effects model adjusting for baseline HbA1c and a random site effect. The continuous variable was used for the interaction term for time in range, age and diabetes duration. Nominal (uncorrected) p-values were adjusted for multiple comparisons using the adaptive Two Stage Group Benjamini-Hochberg (TST GBH) method. Note that the TST GBH procedure may result in a common p-value for different comparisons. Two participants in the CGM Group missing baseline CGM data were excluded from the time in range tabulations.

eTable 10. CGM Outcomes According to Time of Day

	Daytime (6AM to <12AM)		Nighttime (12AM to <6AM)		P-value for Interaction [a]
	Continuous Glucose Monitoring (N=93)	**Blood Glucose Monitoring (N=53)**	**Continuous Glucose Monitoring (N=90)**	**Blood Glucose Monitoring (N=53)**	
Hours of CGM Data [b] *mean (SD)*	158 (43)	159 (26)	58 (10)	57 (8)	-
% time in range 70-180mg/dL *mean (SD)*	58% (25%)	41% (25%)	63% (28%)	47% (33%)	0.94
Coefficient of Variation *mean (SD)*	27% (6%)	28% (6%)	25% (8%)	26% (7%)	0.75
Hypoglycemia *mean (SD)*					
% time <70 mg/dL [b]	0.2% (0.4%)	0.4% (1.0%)	0.2% (0.4%)	1.0% (1.7%)	0.003
% time <54 mg/dL [b]	0.0% (0.0%)	0.1% (0.2%)	0.0% (0.0%)	0.1% (0.3%)	0.50
Weekly hypo event rate [b, c]	0.0 (0.0)	0.2 (0.4)	0.0 (0.0)	0.2 (0.5)	0.50
Hyperglycemia *mean (SD)*					
% time >180 mg/dL	42% (25%)	58% (25%)	36% (29%)	52% (34%)	0.76
% time >250 mg/dL [b]	11% (12%)	27% (24%)	8% (12%)	24% (27%)	0.71
% time >300 mg/dL [b]	3.8% (5.6%)	12.9% (15.7%)	3.3% (5.8%)	12.4% (17.4%)	0.71
Area under curve 180 mg/dL [b]	21.8 (17.9)	44.9 (35.5)	17.8 (18.8)	40.4 (40.5)	0.50
Mean Glucose *mg/dL* *mean (SD)*	181 (43)	209 (51)	173 (47)	199 (65)	0.50

To convert glucose to mmol/L, multiply the values × 0.0555.

[a] All p-values were obtained by including a time of day by treatment group interaction in the mixed-effects linear regression model adjusted for the baseline value of the outcome and a random site effect. Nominal (uncorrected) p-values were adjusted for multiple comparisons using the adaptive Two Stage Group Benjamini-Hochberg (TST GBH) method. Note that the TST GBH procedure may result in a common p-value for different comparisons.

[b] Winsorized at the 10^{th} and 90^{th} percentiles prior to reporting summary statistics

[c] Analytic Definition of a CGM-Measured Hypoglycemic Event [e]: A hypoglycemic event was defined as 15 consecutive minutes with a sensor glucose value below 54 mg/dl (at least 2 sensor values <54 mg/dl that are 15 or more minutes apart plus no intervening values $\geq$54 mg/dl are required to define an event). The end of the hypoglycemic event was defined as a minimum of 30 consecutive minutes with a sensor glucose concentration $\geq$70 mg/dl (at least 2 sensor values $\geq$70 mg/dl that are 30 or more minutes apart with no intervening values <70 mg/dl, were required to define the end of an event). When a hypoglycemic event ended, the study participant became eligible for a new event.

eTable 11. Daily Insulin Delivery

	Baseline		8 Months		8 Month Risk-Adjusted Difference (95% CI) [p-value] [a]
	Continuous Glucose Monitoring	Blood Glucose Monitoring	Continuous Glucose Monitoring	Blood Glucose Monitoring	
Total Daily Insulin Units per Kg *mean (SD)* [b]	0.46 (0.21) [N=116]	0.47 (0.20) [N=59]	0.48 (0.23) [N=97]	0.55 (0.28) [N=48]	-
Change from Baseline *mean (SD)* [b]			0.01 (0.13) [N=97]	0.05 (0.16) [N=48]	-0.03 (-0.10, 0.03) [0.20]
Basal Insulin Daily Units per Kg *mean (SD)* [b]	0.46 (0.21) [N=116]	0.47 (0.20) [N=59]	0.48 (0.23) [N=98]	0.52 (0.27) [N=48]	-
Change from Baseline *mean (SD)* [b]			0.01 (0.12) [N=98]	0.03 (0.14) [N=48]	-0.02 (-0.08, 0.03) [0.31]

[a] Linear regression model was fitted adjusting for the baseline value and a random site effect. The 95% confidence intervals are reported for the mean difference. Nominal (uncorrected) p-values were adjusted for multiple comparisons using the adaptive Two Stage Group Benjamini-Hochberg (TST GBH) method.
[b] Winsorized at the 10^{th} and 90^{th} percentiles prior to reporting summary statistic

eTable 12. Additions and Discontinuations of Diabetes Medications and Insulin Use

	8 Months		8 Month Risk-Adjusted Difference (95% CI) [p-value] [a]
	Continuous Glucose Monitoring (N=116)	Blood Glucose Monitoring (N=59)	
Percent adding one or more diabetes medications after randomization [b] *n (%)*	37 (32%)	24 (41%)	-10.6% (-23.6%, 2.9%) [0.11]
Percent removing one or more diabetes medications in use at the time of randomization *n (%)*	15 (13%)	10 (17%)	-3.9% (-14.2%, 5.4%) [0.42]
Addition of Prandial Insulin *n (%)*	12 (10%)	9 (15%)	-7.5% (-25.0%, 5.3%) [0.20]
Addition of GLP-1 Analog *n (%)*	15 (13%)	12 (20%)	-6.8% (-29.8%, 12.5%) [0.38]
Addition of SGLT-2 Inhibitor *n (%)*	10 (9%)	2 (3%)	5.7% (-5.8%, 18.5%) [0.20]

[a] Logistic regression model was fitted adjusting for a random site effect. The 95% confidence intervals are reported for the difference in proportion. Nominal (uncorrected) p-values were adjusted for multiple comparisons using the adaptive Two Stage Group Benjamini-Hochberg (TST GBH) method.
[b] Medication needed to be used for at least 7 days

eTable 13. Medications Added and Stopped During Follow-up

		All N=175	Continuous Glucose Monitoring N=116	Blood Glucose Monitoring N=59
Medication Start/Stop Combinations *N(%)*				
No Medications Added or Stopped		105 (60%)	73 (63%)	32 (54%)
Medications Added Without Stopping Other Medications				
GLP1-Agonist		13 (7%)	7 (6%)	6 (10%)
Bolus Insulin		9 (5%)	6 (5%)	3 (5%)
SGLT2-Inhibitor		7 (4%)	6 (5%)	1 (2%)
Metformin		2 (1%)	2 (2%)	0 (0%)
DPP4-Inhibitor		2 (1%)	1 (<1%)	1 (2%)
GLP1-Agonist and Bolus Insulin		2 (1%)	0 (0%)	2 (3%)
GLP1-Agonist and DPP4-Inhibitor		1 (<1%)	0 (0%)	1 (2%)
GLP1-Agonist and Thiazolidinedione		1 (<1%)	1 (<1%)	0 (0%)
GLP1-Agonist and SGLT2-Inhibitor		1 (<1%)	1 (<1%)	0 (0%)
GLP1-Agonist and Metformin		1 (<1%)	1 (<1%)	0 (0%)
Metformin and Sulfonylurea		1 (<1%)	0 (0%)	1 (2%)
Metformin and Bolus Insulin		1 (<1%)	0 (0%)	1 (2%)
Sulfonylurea and Thiazolidinedione		1 (<1%)	1 (<1%)	0 (0%)
Metformin, GLP1-Agonist, and Bolus Insulin		1 (<1%)	1 (<1%)	0 (0%)
Metformin, SGLT2-Inhibitor, and Bolus Insulin		1 (<1%)	1 (<1%)	0 (0%)
Metformin, Sulfonylurea, Bolus Insulin, and Thiazolidinedione		1 (<1%)	0 (0%)	1 (2%)
Medications Stopped Without Adding New Medications				
GLP1-Agonist		3 (2%)	2 (2%)	1 (2%)
Sulfonylurea		3 (2%)	3 (3%)	0 (0%)
Metformin		2 (1%)	1 (<1%)	1 (2%)
Metformin and Sulfonylurea		1 (<1%)	0 (0%)	1 (2%)
Medicantions Added and Other Medications Stopped				
Medications Added	Medications Stopped			
GLP1-Agonist	Sulfonylurea	4 (2%)	2 (2%)	2 (3%)
GLP1-Agonist	DPP4 Inhibitor	2 (1%)	1 (<1%)	1 (2%)
SGLT2-Inhibitor	Sulfonylurea	1 (<1%)	1 (<1%)	0 (0%)
Sulfonylurea	GLP1-Agonist	1 (<1%)	1 (<1%)	0 (0%)
Sulfonylurea	DPP4-Inhibitor	1 (<1%)	0 (0%)	1 (2%)
Bolus Insulin	Metformin	1 (<1%)	0 (0%)	1 (2%)
GLP1-Agonist and Bolus Insulin	Sulfonylurea	1 (<1%)	1 (<1%)	0 (0%)
Metformin and SGLT2-Inhibitor	Sulfonylurea	1 (<1%)	0 (0%)	1 (2%)
SGLT2-Inhibitor and Bolus Insulin	Sulfonylurea	1 (<1%)	1 (<1%)	0 (0%)
Bolus Insulin	Metformin and Sulfonylurea	2 (1%)	1 (<1%)	1 (2%)
Bolus Insulin	Sulfonylurea and Thiazolidinedione	1 (<1%)	1 (<1%)	0 (0%)

eTable 14. Body Weight, Blood Pressure, and Cholesterol

	Baseline		8 Months		8 Month Risk-Adjusted Difference (95% CI) [p-value] [a]
	Continuous Glucose Monitoring	Blood Glucose Monitoring	Continuous Glucose Monitoring	Blood Glucose Monitoring	
Body Weight *mean (SD)* [b]	93.6 (17.9) [N=116]	95.9 (17.4) [N=59]	91.9 (19.2) [N=99]	97.5 (18.0) [N=48]	-
Change from Baseline *mean (SD)* [b]			-2.1 (3.8) [N=99]	-1.5 (3.4) [N=48]	-0.9 (-2.4, 0.7) [0.20]
Body Mass Index *mean (SD)* [b]	33.6 (5.2) [N=115]	33.8 (5.5) [N=59]	33.1 (5.8) [N=86]	33.6 (5.7) [N=41]	-
Change from Baseline *mean (SD)* [b]			-0.6 (1.3) [N=86]	-0.2 (1.1) [N=41]	-0.4 (-1.0, 0.2) [0.19]
Systolic Blood Pressure *mean (SD)* [b]	130 (15) [N=83]	130 (13) [N=42]	126 (12) [N=65]	127 (12) [N=30]	-
Change from Baseline *mean (SD)* [b]			-1.3 (14.1) [N=65]	-0.1 (10.9) [N=30]	-0.2 (-7.7, 7.2) [0.94]
Diastolic Blood Pressure *mean (SD)* [b]	77 (9) [N=83]	77 (9) [N=42]	75 (8) [N=65]	74 (6) [N=30]	-
Change from Baseline *mean (SD)* [b]			-0.9 (7.1) [N=65]	-3.4 (6.7) [N=30]	2.8 (-1.2, 6.8) [0.19]
Non-HDL Cholesterol *mean (SD)* [b]	119 (35) [N=116]	120 (34) [N=59]	119 (36) [N=93]	126 (40) [N=44]	-
Change from Baseline *mean (SD)* [b]			-0.1 (22.5) [N=93]	2.3 (21.7) [N=44]	-1.3 (-12, 9.2) [0.75]

[a] Linear regression model was fitted adjusting for the baseline value and a random site effect. The 95% confidence intervals are reported for the mean difference. The model for Body Weight also adjusted for age and gender. The models for blood pressure and HDL cholesterol also adjusted for age, gender, and baseline body mass index. Nominal (uncorrected) p-values were adjusted for multiple comparisons using the adaptive Two Stage Group Benjamini-Hochberg (TST GBH) method.

[b] Winsorized at the 10^{th} and 90^{th} percentiles prior to reporting summary statistics.

eTable 15. Listing of Types of Reported Adverse Events

A) Serious Adverse Events

	Continuous Glucose Monitor	Blood Glucose Monitor
	N (%)	N (%)
Total	**14**	**7**
Arteriosclerotic heart disease	1 (7%)	0 (0%)
Back surgery	1 (7%)	0 (0%)
COVID-19	1 (7%)	0 (0%)
Catheter site pain	0 (0%)	1 (14%)
Chest pain	0 (0%)	1 (14%)
Hydronephrosis	1 (7%)	0 (0%)
Hypertension worsened	0 (0%)	1 (14%)
Infection	1 (7%)	1 (14%)
Intraspinal abscess	2 (14%)	0 (0%)
Kidney infection	1 (7%)	0 (0%)
Kidney stones	0 (0%)	1 (14%)
Neurologic disorder	1 (7%)	0 (0%)
Osteomyelitis	0 (0%)	1 (14%)
Pneumonia	1 (7%)	0 (0%)
Sepsis	1 (7%)	0 (0%)
Shortness of breath	0 (0%)	1 (14%)
Stroke	1 (7%)	0 (0%)
Total knee replacement	2 (14%)	0 (0%)

B) Non-Serious Adverse Events

	Continuous Glucose Monitor	Blood Glucose Meter
	N (%)	N (%)
Total	**29**	**8**
Abscess	1 (3%)	0 (0%)

	Continuous Glucose Monitor	Blood Glucose Meter
	N (%)	N (%)
Acid reflux (esophageal)	1 (3%)	0 (0%)
Bell's palsy	1 (3%)	0 (0%)
Bruise	2 (7%)	0 (0%)
Cellulitis	0 (0%)	1 (13%)
Conjunctivitis	1 (3%)	0 (0%)
Constipation	1 (3%)	0 (0%)
Diabetes worsening	1 (3%)	0 (0%)
Diarrhea	0 (0%)	2 (25%)
Urinary tract disorder	1 (3%)	0 (0%)
Foot ulcer	1 (3%)	0 (0%)
Gallstones	0 (0%)	1 (13%)
Gastritis	1 (3%)	0 (0%)
Heartburn	0 (0%)	1 (13%)
Hematoma	1 (3%)	0 (0%)
Hypoglycemia (non-severe)	2 (7%)	0 (0%)
Hypotension	1 (3%)	0 (0%)
In-stent coronary artery restenosis	1 (3%)	0 (0%)
Itching	1 (3%)	0 (0%)
Joint pain	1 (3%)	0 (0%)
Knee pain	1 (3%)	0 (0%)
Lymphadenopathy	0 (0%)	1 (13%)
Nausea	0 (0%)	1 (13%)
Rash	2 (7%)	0 (0%)
Shoulder pain	1 (3%)	0 (0%)
Skin lesion	1 (3%)	0 (0%)
Transient ischemic attack	2 (7%)	0 (0%)
Urinary tract infection	3 (10%)	0 (0%)
Vertigo	1 (3%)	0 (0%)
Wheezing	0 (0%)	1 (13%)

eTable 16. CGM Satisfaction Scale

Completed by CGM Group at 8 months (N=108)

44 items on how satisfied the participant is with using CGM. Scale 1-5.

	Mean Score[a]	Agree Strongly	Agree	Neutral	Disagree	Disagree Strongly
Using the CGM…						
1. Causes me to be more worried about controlling blood sugars.	3.3	7 (6%)	28 (26%)	12 (11%)	44 (41%)	17 (16%)
2. ►Makes adjusting insulin easier.	4.1	32 (30%)	55 (51%)	18 (17%)	2 (2%)	1 (<1%)
3. ► Helps me to be sure about making diabetes decisions.	4.3	42 (39%)	59 (55%)	6 (6%)	1 (<1%)	–
4. Causes others to ask too many questions about diabetes.	3.7	3 (3%)	19 (18%)	18 (17%)	39 (36%)	29 (27%)
5. Makes me think about diabetes too much.	3.7	3 (3%)	14 (13%)	21 (19%)	46 (43%)	24 (22%)
6. ►Helps to keep low blood sugars from happening.	4.1	37 (34%)	55 (51%)	12 (11%)	3 (3%)	1 (<1%)
7. ►Has taught me new things about diabetes that I didn't know before.	4.3	48 (44%)	49 (45%)	8 (7%)	3 (3%)	–
8. Causes too many hassles in daily life.	4.1	1 (<1%)	6 (6%)	6 (6%)	58 (54%)	37 (34%)
9. ►Teaches me how eating affects blood sugar.	4.4	56 (52%)	43 (40%)	4 (4%)	5 (5%)	–
10.►Helps me to relax, knowing that unwanted changes in blood sugar will be detected quickly.	4.2	38 (35%)	58 (54%)	8 (7%)	3 (3%)	1 (<1%)
11.►Has helped me to learn about how exercise affects blood sugar.	4.2	40 (37%)	52 (48%)	13 (12%)	3 (3%)	–
12.►Helps with keeping diabetes under control on sick days.	4.1	30 (28%)	58 (54%)	17 (16%)	3 (3%)	–
13.►Has shown me that blood sugar is predictable and orderly.	3.7	16 (15%)	60 (56%)	21 (19%)	10 (9%)	1 (<1%)
14. Sometimes gives too much information to work with.	3.8	3 (3%)	8 (7%)	16 (15%)	60 (56%)	21 (19%)
15.►Has made it easier to accept doing blood sugar tests.	4.1	30 (28%)	63 (58%)	15 (14%)	–	–
16. Is uncomfortable or painful.	4.1	2 (2%)	4 (4%)	10 (9%)	58 (54%)	34 (31%)
17.►Has helped me to learn how to treat low sugars better.	4.1	29 (27%)	61 (56%)	14 (13%)	4 (4%)	–
18. Is more trouble than it is worth.	4.3	–	5 (5%)	8 (7%)	50 (46%)	45 (42%)
19.►Has helped my family to get along better about diabetes.	3.6	14 (13%)	50 (46%)	35 (32%)	6 (6%)	3 (3%)
20.►Shows patterns in blood sugars that we didn't see before.	4.2	37 (34%)	58 (54%)	11 (10%)	2 (2%)	–
21.►Helps prevent problems rather than fixing them after they've happened.	4.2	37 (34%)	58 (54%)	9 (8%)	4 (4%)	–
22.►Allows more freedom in daily life.	4.1	29 (27%)	63 (58%)	14 (13%)	2 (2%)	–
23.►Makes it clearer how some everyday habits affect blood sugar levels.	4.4	43 (40%)	60 (56%)	5 (5%)	–	–

	Mean Score[a]	Agree Strongly	Agree	Neutral	Disagree	Disagree Strongly
Using the CGM…						
24.►Makes it easier to complete other diabetes self care duties.	4.2	34 (31%)	61 (56%)	11 (10%)	2 (2%)	–
25. Has caused more family arguments.	4.3	1 (<1%)	1 (<1%)	7 (6%)	50 (46%)	49 (45%)
26. Is too hard to get it to work right.	4.1	3 (3%)	7 (6%)	6 (6%)	50 (46%)	42 (39%)
27. Has been harder or more complicated than expected.	4.2	4 (4%)	3 (3%)	7 (6%)	51 (47%)	43 (40%)
28.►Has helped to control diabetes better even when not wearing it.	3.5	14 (13%)	51 (47%)	26 (24%)	12 (11%)	5 (5%)
29. Causes our family to talk about blood sugars too much.	3.8	3 (3%)	12 (11%)	16 (15%)	50 (46%)	27 (25%)
30. Makes it harder for me to sleep.	4.0	4 (4%)	6 (6%)	6 (6%)	60 (56%)	32 (30%)
31. Causes more embarrassment about feeling different from others.	4.3	–	2 (2%)	6 (6%)	56 (52%)	44 (41%)
32. Shows more “glitches” and “bugs” than it should.	3.9	–	10 (9%)	18 (17%)	49 (45%)	31 (29%)
33. Interferes a lot with sports, outdoor activities, etc.	4.1	1 (<1%)	3 (3%)	8 (7%)	64 (59%)	32 (30%)
34. Skips too many readings to be useful.	4.1	–	3 (3%)	15 (14%)	55 (51%)	35 (32%)
35. Gives a lot of results that don’t make sense.	4.2	–	4 (4%)	10 (9%)	58 (54%)	36 (33%)
36. Causes too many interruptions during the day.	4.2	–	4 (4%)	9 (8%)	59 (55%)	36 (33%)
37. Alarms too often for no good reason.	4.0	–	8 (7%)	11 (10%)	63 (58%)	26 (24%)
38. ► Has helped to adjust pre-meal insulin doses.	3.4	13 (12%)	33 (31%)	49 (45%)	9 (8%)	4 (4%)
39. The feedback from the device is not easy to understand or useful.	4.2	–	3 (3%)	8 (7%)	61 (56%)	36 (33%)
40. I don’t recommend this for others with diabetes.	4.3	–	14 (13%)	1 (<1%)	37 (34%)	56 (52%)
41. ► Has made me worry less about having low blood sugars.	3.9	29 (27%)	54 (50%)	14 (13%)	8 (7%)	3 (3%)
42. ► If possible, I want to use this device when the research study is over.	4.5	63 (58%)	39 (36%)	3 (3%)	3 (3%)	–
43. ►Helps in adjusting doses of insulin needed through the night.	4.1	37 (34%)	48 (44%)	22 (20%)	1 (<1%)	–
44. ►Makes me feel safer knowing that I will be warned about low blood sugar before it happens.	4.5	62 (57%)	42 (39%)	3 (3%)	1 (<1%)	–

[a] Overall mean score, 4.1 (SD, 0.4). Items with a “►” symbol are positively worded (agreeing corresponds to more satisfaction) and those without the symbol are negatively worded (agreeing corresponds to less satisfaction). To calculate the mean value for each item and the overall mean value, the scores for the positively worded items were reversed so that a higher score always corresponds to greater satisfaction. For example, a value of 5 corresponds to “Agree Strongly” with a positively worded item, or “Disagree Strongly” with a negatively worded item. To calculate the subscale mean values, scores for all questions were reversed so that a higher score on the benefits subscale denotes greater satisfaction and a higher score on the hassles subscale denotes less satisfaction. Benefits subscale mean score, 4.2 (SD, 0.5) (items 2, 3, 6, 7, 9, 10, 11, 12, 17, 20, 21, 22, 23, 24, 38, 41, 42, 43, 44). Hassles subscale mean score, 1.9 (SD, 0.6) (items 4, 5, 8, 14, 16, 18, 25, 26, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 40)