Supplemental Online Content

Lowe DA, Wu N, Rohdin-Bibby L, et al. Effects of time-restricted eating on weight loss and other metabolic parameters in women and men with overweight and obesity: the TREAT randomized clinical trial. *JAMA Intern Med*. Published online September 28, 2020. doi:10.1001/jamainternmed.2020.4153

eMethods and eReferences

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

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Online-Only Supplemental Methods

EXPERIMENTAL MODEL AND SUBJECT DETAILS

Participants were recruited through targeted email campaigns, Facebook ads, and fliers to join a weight loss study investigating the effects of meal timing on weight loss. Subject eligibility was determined using an online eligibility survey using the inclusion and exclusion criteria listed below, and all eligible subjects completed an online consent form via the Eureka Research Platform.

Changes to Eligibility Criteria

Original inclusion criterion was BMI between 30 and 40 kg/m^2 and subjects who have tried more than 1 structured diet within 6 months of recruitment were excluded. BMI requirement was expanded and structured diet limit was dropped to increase study enrollment.

Randomization

Participants were self-enrolled upon completion of eligibility survey if all inclusion criteria were met. Interventions were assigned programmatically using the Ruby program. The Ruby program was written to create a schedule of strata and blocks based on gender, age, and BMI. The shuffle function was used to make blocks random. The schedule was filtered according to stratifiers from the eligibility survey and the next open slot in the schedule was assigned to a participant. Block randomization was used with random block sizes of 2 and 4 with equal distribution between study groups. Randomization schedule was generated on the backend servers of Eureka; the schedule was only visible to the programmer staff, and the sequence was concealed form the clinical staff.

Sample Size Calculation

An initial power analysis showed that with a standard deviation (SD) of 9 kg in measured weight, and conservatively assuming a intraclass correlation (ICC) of 0.8 between the baseline and follow-up weights, the clinical sample of 50 participants would provide 80% power in 2-sided 5% tests to detect a between-group difference in weight change of 5.0 kg.

In addition, before the data analysis was undertaken, we estimated the minimum detectable effects in the planned analyses using linear mixed models (LMMs) for daily weights measured at home by the virtual participants, without using the data. Specifically, we estimated that with gradual attrition of 20% of the sample by the end of the trial, 81 of 90 expected daily measurements per patient would on average be available. Then under the original assumption of an SD of 9 kg, and considering ICCs between 0.8 and 0.95, we estimated that a sample of 100 virtual participants would provide 80% power in 2-sided 5% tests to detect between-group differences in weight change of .44 to .89 kg; in the observed sample of 116, corresponding estimates are 0.41 to 0.82 kg. In the clinical data, with single pre- and post-measurements, corresponding estimates under the same assumptions were 2.5 to 5.0 kg.

Inclusion Criteria	**Exclusion Criteria**
Male or female ages 18-64	Current or past cancer diagnosis
BMI between 27kg/m^2 and 43 kg/m^2	Pregnancy, breastfeeding, or planned pregnancy within 6 months
Regularly consume breakfast (≥5 days/week)	Current diagnosis of type 1 or type 2 Diabetes Mellitus
Willing and able to skip breakfast	Currently taking glucose-lowering drugs or weight loss pills
Speak, read, comprehend English	History of gastric bypass surgery or any weight loss surgery
Access to reliable internet and/or Wi-Fi	>15% weight fluctuation in past 5 years
Have valid email address and phone number	History of anorexia or bulimia
	Frequent travel across time zones or unusual work hours
	Unable to fast for prolonged periods

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Calculated Energy Intake and Energy Expenditure Estimates

At-home weight measurements from the total cohort were used in a linear mathematical model of body weight dynamics to estimate energy intake and energy expenditure as described by Guo et al. [1,2]. A 20-day interval was used to reduce variability in the model's estimated means of energy intake and energy expenditure.

Blood Pressure Measurements

A subset of the total cohort received a MOCACARE MOCACuff blood pressure cuff (Item model number 5031101001) to use at home. Participants were instructed to use the blood pressure cuff daily in the morning. Participants were instructed to email their data to the study team upon completion of the study.

Subjective Sleep and Food Attitudes Analyses

Participants' sleep and food attitudes data were analyzed through the self-reported Pittsburgh Sleep Quality Index (PSQI) and Rewards-Based Eating Drive (RED) Scale, respectively. PSQI and RED Scale surveys were sent to the participants through the study app.

In-person Metabolic Testing

Participants who lived within 60 miles of UCSF were eligible to undergo extensive in-person metabolic testing at the UCSF Clinical Research Center and the UCSF Body Composition Laboratory if they had no barriers to performing the tests (able to stand unassisted for several minutes, able to lie down for 30 minutes, no internal metal artifacts). In-person study activities were partly funded through the Shape Up! Adults study at the UHCC (NCT03637855). Participants who opted into the in-person testing group completed measurements detailed by Ng et al.[3]. 50 participants opted into the in-person testing, and 46 participants completed all four in-person visits.

All four study visits began between 8:00-10:30 am, and subjects were instructed to fast starting at 8:00 pm the night before the study visit. The first study visit occurred ~1 week before the start of the participant's eating plan. During this visit, participants began their doubly-labelled water (DLW) TEE measurement [4-8]. ~1 week later at visit 2, participants came into the clinic fasted to complete their baseline DLW TEE measurement. Additionally, participants provided blood samples, underwent RMR measurements, DXA scans [9], manual anthropometrics, and muscle function testing [3] (detailed methodology for metabolic testing can be found in the online supplemental methods). The participant's eating plan began the day after visit 2. Visit 3 occurred ~1 week prior to the end of the study. During visit 3, participants began their follow-up DLW TEE measurement. Visit 4 occurred on the last day of the study. At visit 4, participants completed their follow-up DLW TEE measurement, provided blood samples, and underwent RMR measurements, DXA scans, manual anthropometrics, and muscle function testing. Participants who used an iPhone were eligible to receive an Oura ring (Oura, Oulu, Finland) to track activity and sleep habits. Participants were compensated with a $50 Visa gift card for each completed study visit.

Blood Measurements

At visit 2 and visit 4, a whole blood fasting sample of 40 ml was collected from each participant via venipuncture. All participants began fasting at 8:00pm the night before their blood draw, so duration of fasting for blood measures was matched between groups. Blood samples were placed on ice and processed within 4 hours into plasma, serum, whole blood, and buffy coat components and stored at -80°C at each study site until analysis. Biochemical analyses of all lipid and blood chemistry profiles were performed at Pennington Biomedical Research Center (PBRC). Serum chemistry panels were assayed through the use of a DXC600 instrument (Beckman Coulter, Inc.; Brea, CA). Insulin was measured by immunoassay on an Immulite 2000 platform (Siemens Corporation; Washington, DC). Additionally, EDTA plasma was used for targeted metabolomic analysis.

Total Energy Expenditure (TEE) Measurements

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Baseline TEE analysis measured TEE for approximately 7 days prior to the study start. Subjects reported to the clinic after an overnight fast. A pre-dose urine specimen was collected and transfer to a 5 mL tube with an elastic o-ring seal. Subjects consumed a weighed dose of doubly labeled water containing, on average, 1.8 g/kg and 0.12 g/kg total body water of 10AP 18O water and 99.9 AP 2H water, respectively [8]. The container was washed with 50 mL and subjects drank that as well. Subjects voided at 2 hours after the dose and that specimen was discarded. Two additional specimens were collected at 3 and 4 hours after the dose, and aliquots were transferred to separate 5 mL o-ring sealed tubes. Urine specimens were stored frozen at -20ºC then sent in Styrofoam boxes cooled with frozen gel packets to the University of Wisconsin. Subjects fasted throughout the entire specimen collection period and were provided 250 mL water between dosing and three hours post-dose. The volumes of water between the dose and 3 hours were recorded and subtracted from the total body water. Subjects returned to the clinic ~7 days later after an overnight fast. Urine was collected at the beginning and end of the study visit (~2 hours apart) and aliquots were transferred to separate 5mL o-ring sealed tubes. Subjects fasted and abstained from fluid intake during the duration of this study visit. Follow-up TEE measurements were collected during the last ~7 days of the study using the same protocol described above.

Specimens were refrozen until analyzed. As detailed by Thorsen et al [7], specimens were thawed and decolorized with 200 mg of dry carbon black. Specimens were passed through a syringe mounted 45-micron filter to remove carbon black and any other solids. Aliquots of 1 mL each were placed in an autoinjector vial and a 15mL septum topped tube for isotopic analysis. The 15mL tube was flushed with 0.4% CO2 in helium and 18O isotopic analyses performed on a Delta V Isotope Ratio Mass Spectrometer equipped with a Gas Bench inlet (ThermoFisher). The other aliquot was analyzed for 2H on a Delta Plus equipped with a HD Device using chromium reduction (ThermoFisher). Calibrated natural abundance and enriched working standards were analyzed along with each batch and results expressed on the SMOW scale. Precisions for 18O and 2H were 0.15 and 1 o/oo, respectively.

The rate of CO2 production was calculated using equation A6 [6] as modified by Racette et al. [5]. Total daily energy was calculated from rCO2 assuming a respiratory ratio of 0.86 using the Weir equation [4]. Precision is 5% [8].

Resting Metabolic Rate and Respiratory Quotient Measurements

Resting metabolic rate measurements (RMR) and respiratory quotient (RQ) measurements were collected using the PARVO Medics TrueOne 2400 Metabolic Cart (PARVO Medics, Salt Lake City, UT, USA) using the manufacturer's instructions. Briefly, fasted subjects rest for 10 minutes prior to start of experiment. Canopy is placed over participant's head, and dilution pump flow rate is adjusted so that CO2 dilution is between 1-2%. Measurements are recorded for 30 minutes. The first 5 minutes of measurements were omitted. Once steady state was achieved (coefficient of variance <10% for VO_2 and VCO_2), 5 minutes of data was collected and averaged to produce RQ and RMR values.

Dual-Energy X-Ray Absorptiometry (DXA) Analysis

DXA measures were collected using an adaptation from the protocol described by Ng at al. [9]. In the current study, two whole-body DXA scans were performed with repositioning using a Hologic Horizon/A system (Hologic Inc., Marlborough, MA, USA) and the results averaged. Participants were scanned according to the manufacturer's guidelines. All DXA scans were analyzed at UHCC by a single certified technologist using Hologic Apex 5.5 software. Lean mass was calculated by subtracting bone mineral content (BMC) from fat-free mass (FFM). Appendicular lean mass was calculated by adding the lean mass of both arms and legs. Trunk lean mass was calculated by subtracting the BMC of the spine, pelvis, and ribs from trunk FFM.

Manual Anthropometrics

Anthropometric measures of waist circumference (WC) and hip circumference (HC) were collected using a flexible measuring tape according to the standard protocol from National Health and Nutrition Examination Survey (NHANES) (Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey (NHANES): Anthropometry Procedures Manual, 2007. Version current 30 October 2018. Internet: https://wwwn.cdc.gov/nchs/nhanes/continuousnhanes/manuals.aspx?BeginYear=2017 (accessed 18 August 2019).).

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Measurements were recorded in triplicate to the nearest 0.1 cm and results averaged. If a measurement differed by greater than 1 cm, a fourth measurement was taken and the closest three measurements averaged.

Muscle Function Testing

Muscle function testing was adapted from the protocol described by Ng et al (22). Isokinetic and isometric right leg strength were measured using a Biodex System 4 (Biodex Medical Systems Inc) dynamometer. For isometric measurements, the dynamometer was fixed at 60° from full extension. For the isokinetic measurement, resistance was set at 60°/s. Peak torque was recorded as the maximum torque achieved during the repetitions. Hand grip strength for the right and left arms was measured with a handgrip dynamometer (JAMAR 5030J1). Participants positioned their elbow at a 90° angle and were asked to squeeze the dynamometer as hard as they could. The strength of each hand was measured in kilograms, and the average of the 3 measurements was recorded.

Oura Ring Analysis

Only participants who used an iPhone were eligible to receive an Oura ring (Oura, Oulu, Finland). Participants were fitted with an Oura ring to wear on any finger. Participants were instructed to wear the ring during day and night and remove the ring only for charging and activities that would require removal of the ring.

Statistical Analysis

Secondary outcomes included differences in weight loss, body fat, lean mass, fasting glucose, insulin, HbA1c levels, RMR, and TEE, assessed at baseline and 12-weeks in the in-person cohort. To estimate the intention to treat effect of treatment assignment on changes in these outcomes, we used LMMs with fixed effects for treatment assignment, an indicator for the 12-week visit, and their interaction, and a random effect for participant. The treatment effect was estimated by the interaction. In sensitivity analyses, we repeated these analyses Winsorizing any outliers, defined as in the primary analysis. P-values and confidence intervals were Bonferroni-corrected for 8 comparisons.

All other outcomes measured at the baseline and 12-week clinical visits were considered exploratory and analyzed using the methods described for the secondary outcomes, without penalization for multiple comparisons. Data are presented as mean (95% confidence intervals) unless otherwise noted.

Supplemental References

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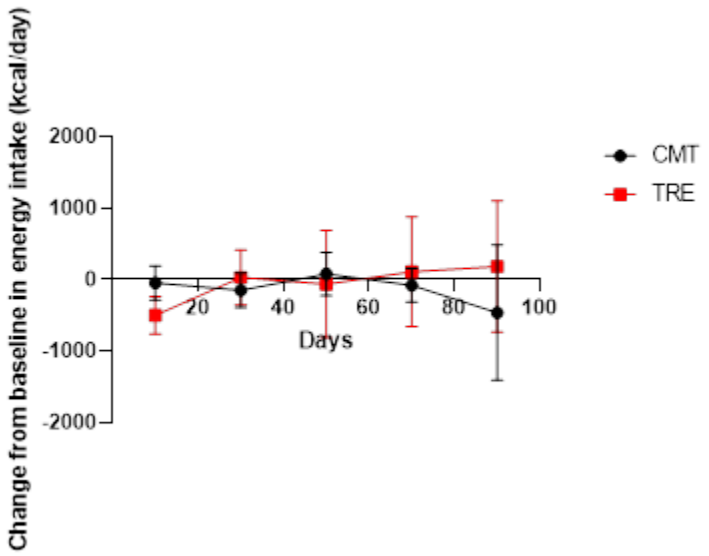
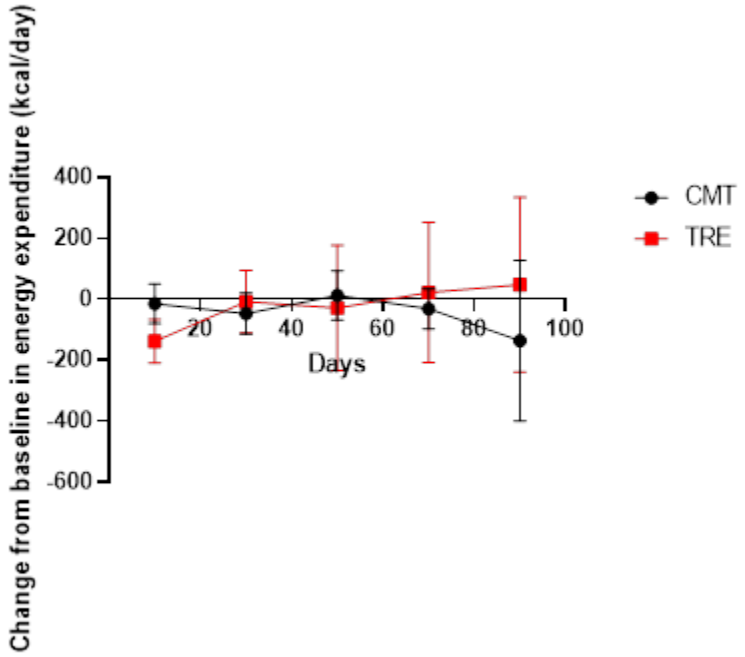
eFigure 1. Estimated energy intake and energy expenditure derived from at-home weight measurements in total cohort.

A.



B.



Estimated changes from baseline in energy intake (A) and energy expenditure (B).

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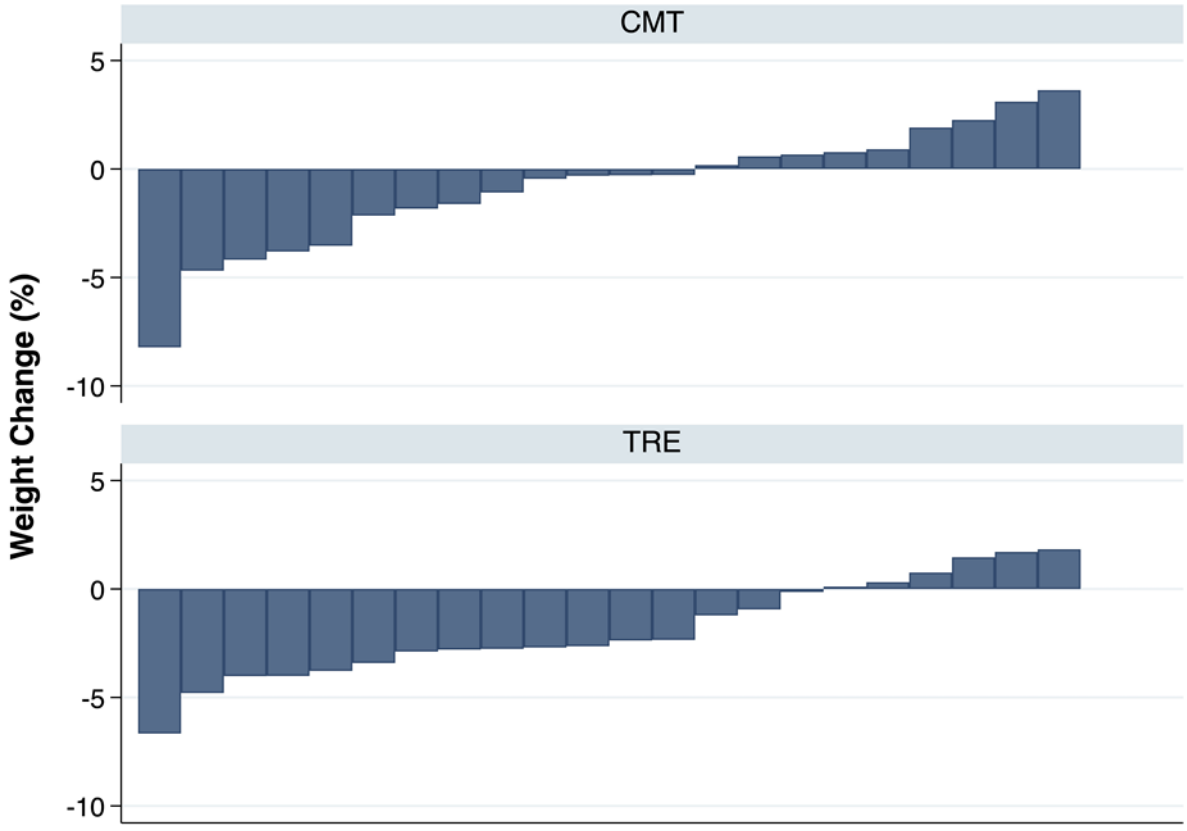
eFigure2. Weight change in in-person cohort.



Waterfall plot showing percent weight change for each participant from the in-person cohort in the CMT group (top) and TRE group (bottom).

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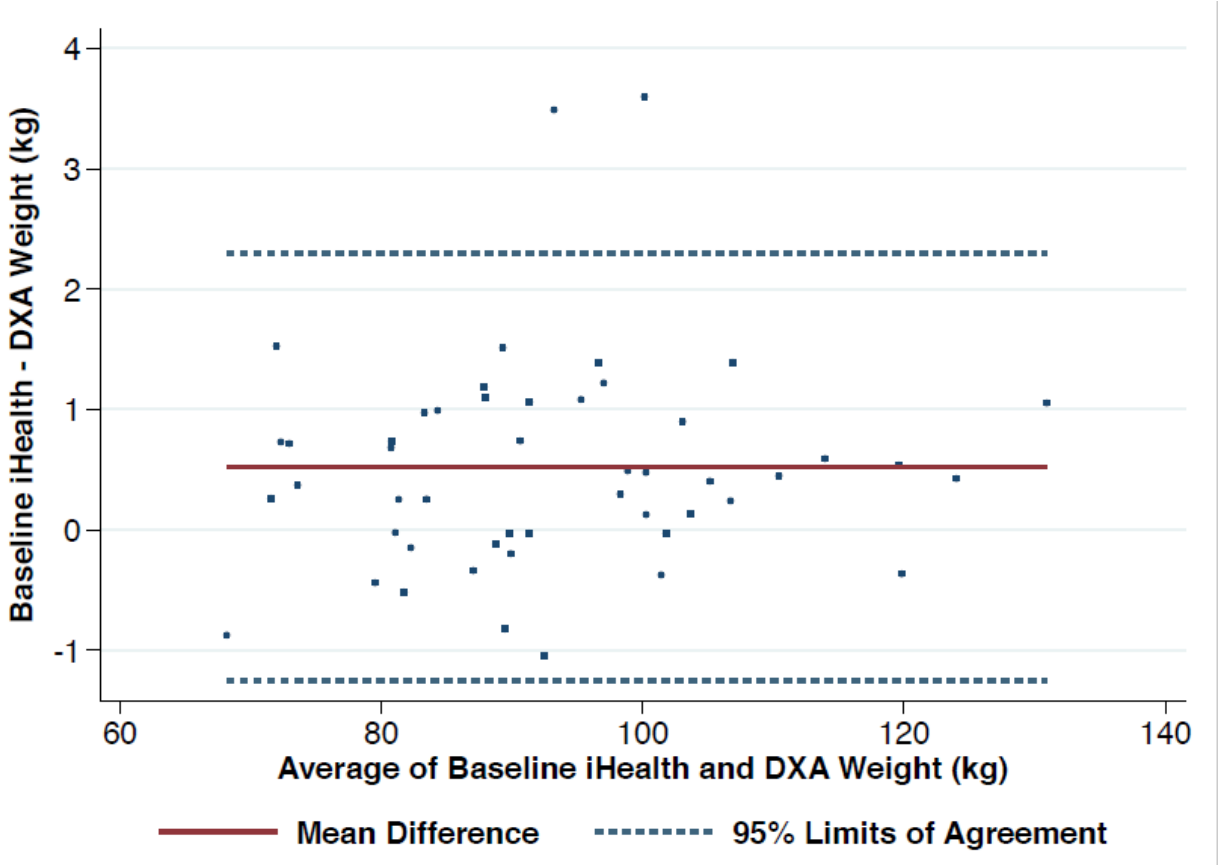
eFigure 3. Bland-Altman plot for in-person weights and at-home weights using the iHealth Bluetooth scale.



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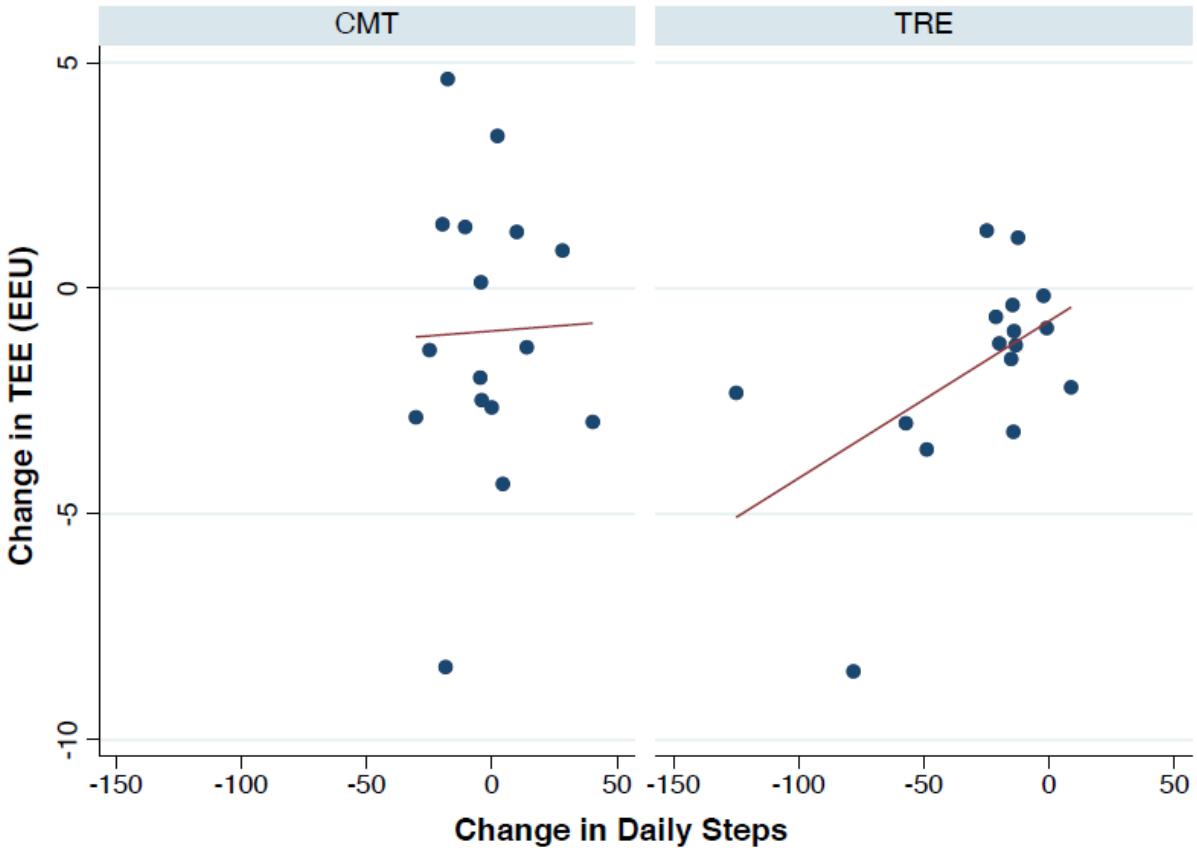
eFigure 4. Correlation of change in step count and change in TEE.



The correlation of change in step count versus change in TEE was stronger in the TRE group (0.52) than the CMT group (0.03); however, the equality of correlations was not significant (p=0.48).

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eTable 1. Insulin and glucose homeostasis and cardiometabolic health measurements in in-person subjects.

	CMT Pre (n=25)	CMT Post (n=24)	ΔCMT	ΔCMT *p* value	TRE Pre (n=25)	TRE Post (n=22)	ΔTRE	ΔTRE *p* value	Difference between groups	*p* value
Glucose (mg/dL) [a]	93.9 (90.3, 97.5)	94.2 (90.5, 97.8)	0.29 (-2.41, 3.00)	**0.83**	91.7 (88.1, 95.3)	90.6 (86.9, 94.3)	-1.06 (-3.87, 1.75)	**0.46**	-1.35 (-5.25, 2.54)	**0.50**
Insulin (mU/L) [a]	14.7 (11.3, 18.0)	14.8 (11.5, 18.2)	0.19 (-1.58, 1.96)	**0.83**	12.4 (9.0, 15.7)	11.9 (8.5, 15.3)	-0.50 (-2.34, 1.35)	**0.60**	-0.69 (-3.25, 1.86)	**0.60**
HbA1C (%)[a]	5.30 (5.16, 5.44)	5.29 (5.16, 5.43)	-0.006 (-0.057, 0.044)	**0.81**	5.28 (5.14, 5.41)	5.25 (5.12, 5.39)	-0.024 (-0.077, 0.029)	**0.37**	-0.018 (-0.120, 0.084)	**0.63**
HOMA-IR	3.41 (2.62, 4.21)	3.50 (2.70, 4.30)	0.085 (-0.328, 0.498)	**0.69**	2.81 (2.02, 3.61)	2.65 (1.85, 3.46)	-0.160 (-0.590, 0.270)	**0.47**	-0.245 (-0.841, 0.351)	**0.42**
Systolic Blood Pressure (mmHg)	122.6 (119.0, 126.2)	118.7 (115.1, 122.4)	-3.86 (-7.58, -0.14)	**0.042** [b]	119.8 (116.2, 123.5)	118.1 (114.3, 122.0)	-1.69 (-5.54, 2.15)	**0.39**	2.17 (-3.18, 7.52)	**0.43**
Diastolic Blood Pressure (mmHg)	74.6 (70.9, 78.4)	71.6 (67.8, 75.4)	-3.01 (-6.90, 0.89)	**0.13**	76.9 (73.2, 80.7)	72.8 (68.9, 76.8)	-4.08 (-8.11, -0.06)	**0.047**[b]	-1.08 (-6.67, 4.52)	**0.71**
Total Cholesterol (mg/dL)	202.5 (187.9, 217.1)	203.5 (188.7, 218.2)	0.97 (-8.60, 10.55)	**0.84**	203.7 (189.1, 218.3)	200.1 (185.1, 215.1)	-3.56 (-13.52, 6.40)	**0.48**	-4.53 (-18.34, 9.29)	**0.52**
HDL (mg/dL)	50.1 (44.8, 55.5)	50.7 (45.4, 56.1)	0.61 (-1.72, 2.94)	**0.61**	54.7 (49.4, 60.1)	54.0 (48.6, 59.4)	-0.72 (-3.16, 1.71)	**0.56**	-1.33 (-4.70, 2.04)	**0.44**
LDL (mg/dL)	126.4 (114.9, 138.0)	124.2 (112.6, 135.7)	-2.24 (-10.14, 5.66)	**0.58**	122.1 (110.7, 133.6)	122.7 (111.0, 134.5)	0.60 (-7.46, 8.66)	**0.88**	2.84 (-8.45, 14.13)	**0.62**
Triglycerides (mg/dL)	133.4 (108.3, 158.4)	136.0 (110.8, 161.3)	2.67 (-13.88, 19.21)	**0.75**	127.2 (102.1, 152.2)	116.9 (91.2, 142.6)	-10.27 (-27.48, 6.94)	**0.24**	-12.94 (-36.81, 10.93)	**0.29**

All data are presented as means (95% confidence interval). For secondary outcome measures, Bonferroni-corrected confidence intervals are presented and Bonferroni-adjusted critical alpha of 0.006 is used. For data with statistical outliers, winsorised data was used to generate *p* value.
HbA1C, hemoglobin A1C; HOMA-IR, homeostatic model assessment of insulin resistance HDL, high-density lipoprotein; LDL, low-density lipoprotein.

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[a]secondary outcome using a Bonferroni-corrected alpha of 0.006 and presenting 99.7% CI for between group differences
[b]within-group *p* value less than 0.05

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eTable 2. All body composition and strength measures.

	CMT Pre (n=25)	CMT Post (n=24)	ΔCMT	ΔCMT *p* value	TRE Pre (n=25)	TRE Post (n=22)	ΔTRE	ΔTRE *p* value	Difference between groups	*p* value
DXA Analysis										
Android Fat (g)	2890.0 (2541.1, 3238.9)	2908.1 (2558.7, 3257.6)	18.13 (-75.61, 111.87)	**0.70**	2731.6 (2382.7, 3080.6)	2650.3 (2299.7, 3000.8)	-81.40 (-179.24, 16.44)	**0.10**	-99.52 (-235.02, 35.97)	**0.15**
Android Lean (g)	4885.0 (4498.7, 5271.3)	4825.4 (4438.6, 5212.2)	-59.60 (-158.27, 39.07)	**0.24**	4819.2 (4432.9, 5205.5)	4717.1 (4329.2, 5105.1)	-102.02 (-205.02, 0.97)	**0.052**	-42.43 (-185.06, 100.21)	**0.56**
Android Mass (g)	7784.7 (7137.1, 8432.4)	7750.4 (7102.0, 8398.7)	-34.35 (-185.89, 117.18)	**0.66**	7542.0 (6894.3, 8189.6)	7384.8 (6734.9, 8034.8)	-157.17 (-315.36, 1.03)	**0.052**	-122.81 (-341.88, 96.25)	**0.27**
Android Percent Fat (%)	37.0 (34.4, 39.5)	37.1 (34.6, 39.6)	0.14 (-0.60, 0.87)	**0.71**	35.7 (33.1, 38.2)	35.4 (32.8, 37.9)	-0.27 (-1.04, 0.50)	**0.49**	-0.41 (-1.47, 0.66)	**0.45**
Gynoid Fat (g)	4933.5 (4468.7, 5398.2)	4887.8 (4422.6, 5353.1)	-45.62 (-151.24, 60.01)	**0.40**	4749.3 (4284.5, 5214.1)	4602.2 (4135.9, 5068.6)	-147.06 (-257.33, -36.79)	**0.009****	-101.44 (-254.14, 51.25)	**0.19**
Gynoid Lean (g)	10000.1 (9286.4, 10713.8)	10032.4 (9318.2, 10746.6)	32.30 (-98.59, 163.18)	**0.63**	10046.1 (9332.4, 10759.8)	9707.5 (8992.2, 10422.7)	-338.65 (-475.31, -201.99)	**<0.001*****	-370.95 (-560.18, -181.72)	**<0.001$^{\#\#\#}$**
Gynoid Mass (g)	14940.8 (14124.2, 15757.4)	14929.2 (14111.9, 15746.6)	-11.56 (-193.42, 170.30)	**0.90**	14801.1 (13984.6, 15617.7)	14308.4 (13489.2, 15127.6)	-492.70 (-682.55, -302.84)	**<0.001*****	-481.14 (-744.04, -218.24)	**<0.001$^{\#\#\#}$**
Gynoid Percent Fat (g)	33.0 (30.2, 35.8)	32.7 (29.9, 35.5)	-0.32 (-0.84, 0.21)	**0.24**	32.4 (29.6, 35.2)	32.5 (29.7, 35.3)	0.06 (-0.49, 0.61)	**0.82**	0.38 (-0.38, 1.14)	**0.33**
Visceral Fat Body Fat (g)	1590.5 (1402.7, 1778.4)	1593.9 (1405.8, 1782.0)	3.42 (-46.09, 52.92)	**0.89**	1484.1 (1296.3, 1672.0)	1456.1 (1267.5, 1644.8)	-27.98 (-79.64, 23.69)	**0.29**	-31.39 (-102.95, 40.16)	**0.39**
Visceral Fat Body Lean (g)	2450.1 (2280.6, 2619.6)	2397.4 (2227.7, 2567.0)	-52.76 (-91.26, -14.26)	**0.007****	2451.6 (2282.1, 2621.1)	2399.5 (2229.5, 2569.5)	-52.08 (-92.27, -11.89)	**0.011***	0.68 (-54.97, 56.34)	**0.98**
Visceral Fat Body Mass (g)	4042.2 (3730.3, 4354.0)	3992.3 (3680.2, 4304.4)	-49.81 (-116.36, 16.74)	**0.14**	3929.1 (3617.3, 4240.9)	3858.5 (3545.8, 4171.2)	-70.62 (-140.09, -1.14)	**0.046***	-20.81 (-117.01, 75.40)	**0.67**

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Visceral Fat Body Percent Fat (%)	39.0 (36.5, 41.4)	39.2 (36.7, 41.6)	0.21 (-0.56, 0.99)	**0.59**	37.1 (34.7, 39.6)	36.9 (34.5, 39.4)	-0.21 (-1.02, 0.60)	**0.62**	-0.42 (-1.54, 0.70)	**0.46**
Visceral Fat Outerwall Fat (g)	1215.6 (1075.4, 1355.9)	1218.9 (1078.5, 1359.4)	3.34 (-34.59, 41.27)	**0.86**	1141.7 (1001.5, 1282.0)	1124.0 (983.1, 1264.9)	-17.70 (-57.29, 21.90)	**0.38**	-21.04 (-75.87, 33.80)	**0.45**
Visceral Fat Outerwall Lean (g)	2268.6 (2107.7, 2429.4)	2222.8 (2061.8, 2383.7)	-45.81 (-82.05, -9.57)	**0.013***	2283.5 (2122.6, 2444.3)	2234.5 (2073.2, 2395.9)	-48.91 (-86.74, -11.08)	**0.011***	-3.10 (-55.49, 49.28)	**0.91**
Visceral Fat Outerwall Mass (g)	3491.3 (3221.5, 3761.2)	3452.5 (3182.4, 3722.5)	-38.84 (-92.03, 14.35)	**0.15**	3423.6 (3153.8, 3693.5)	3363.3 (3092.8, 3633.8)	-60.34 (-115.87, -4.81)	**0.033***	-21.50 (-98.39, 55.40)	**0.58**
Visceral Fat Outerwall Percent Fat (%)	34.6 (32.4, 36.9)	34.9 (32.7, 37.2)	0.27 (-0.48, 1.03)	**0.48**	32.9 (30.7, 35.1)	32.8 (30.5, 35.0)	-0.15 (-0.93, 0.64)	**0.72**	-0.42 (-1.51, 0.67)	**0.45**
Visceral Fat Cavity Fat (g)	1015.3 (885.1, 1145.4)	1015.5 (885.2, 1145.8)	0.20 (-35.42, 35.82)	**0.99**	943.6 (813.5, 1073.8)	933.6 (802.9, 1064.4)	-10.00 (-47.18, 27.18)	**0.60**	-10.20 (-61.69, 41.30)	**0.70**
Visceral Fat Cavity Lean (g)	2037.0 (1885.8, 2188.2)	1993.1 (1841.8, 2144.5)	-43.88 (-84.52, -3.23)	**0.034***	2056.4 (1905.2, 2207.6)	2010.3 (1858.4, 2162.1)	-46.15 (-88.58, -3.73)	**0.033***	-2.28 (-61.03, 56.48)	**0.94**
Visceral Fat Cavity Mass (g)	3053.8 (2804.7, 3302.9)	3000.0 (2750.6, 3249.4)	-53.76 (-110.44, 2.93)	**0.06**	2999.2 (2750.1, 3248.3)	2943.4 (2693.5, 3193.3)	-55.83 (-115.00, 3.35)	**0.06**	-2.07 (-84.01, 79.87)	**0.96**
Visceral Fat Cavity Percent Fat (%)	32.9 (30.5, 35.2)	33.0 (30.7, 35.4)	0.19 (-0.59, 0.98)	**0.63**	30.9 (28.5, 33.2)	30.8 (28.5, 33.2)	-0.05 (-0.87, 0.77)	**0.90**	-0.25 (-1.38, 0.89)	**0.67**
Visceral Fat Area (cm^2)	129.6 (109.6, 149.5)	131.4 (111.4, 151.4)	1.83 (-3.89, 7.56)	**0.53**	120.1 (100.1, 140.0)	119.5 (99.5, 139.6)	-0.53 (-6.51, 5.45)	**0.86**	-2.36 (-10.64, 5.91)	**0.58**
Visceral Fat Mass (g)	624.8 (528.6, 720.9)	633.6 (537.3, 729.9)	8.84 (-18.77, 36.45)	**0.53**	578.9 (482.7, 675.0)	576.3 (479.7, 673.0)	-2.55 (-31.37, 26.26)	**0.86**	-11.39 (-51.30, 28.52)	**0.58**
Visceral Fat Volume (cm^3)	675.4 (571.5, 779.4)	685.0 (580.9, 789.1)	9.55 (-20.30, 39.40)	**0.53**	625.8 (521.9, 729.8)	623.1 (518.6, 727.5)	-2.76 (-33.91, 28.39)	**0.86**	-12.31 (-55.46, 30.83)	**0.58**

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TAT Area (cm^2)	534.9 (477.0, 592.9)	534.1 (476.1, 592.1)	-0.81 (-14.44, 12.81)	**0.91**	508.9 (451.0, 566.8)	500.5 (442.4, 558.7)	-8.38 (-22.61, 5.84)	**0.25**	-7.57 (-27.27, 12.12)	**0.45**
TAT Mass (g)	2579.1 (2299.8, 2858.4)	2575.2 (2295.6, 2854.8)	-3.92 (-69.60, 61.77)	**0.91**	2453.6 (2174.3, 2732.9)	2413.2 (2132.9, 2693.5)	-40.43 (-108.99, 28.14)	**0.25**	-36.51 (-131.46, 58.44)	**0.45**
TAT Volume (cm^3)	2788.2 (2486.3, 3090.1)	2784.0 (2481.7, 3086.2)	-4.23 (-75.24, 66.77)	**0.91**	2652.6 (2350.6, 2954.5)	2608.9 (2305.8, 2911.9)	-43.70 (-117.83, 30.42)	**0.25**	-39.47 (-142.12, 63.18)	**0.45**
Sat Area (cm^2)	405.4 (360.1, 450.6)	402.7 (357.4, 447.9)	-2.69 (-13.60, 8.22)	**0.63**	388.8 (343.6, 434.1)	380.9 (335.5, 426.3)	-7.94 (-19.34, 3.45)	**0.17**	-5.25 (-21.03, 10.52)	**0.51**
Subcutaneous Fat Mass (g)	1954.3 (1736.4, 2172.3)	1941.4 (1723.1, 2159.6)	-12.97 (-65.59, 39.65)	**0.63**	1874.7 (1656.8, 2092.7)	1836.4 (1617.6, 2055.2)	-38.30 (-93.23, 16.62)	**0.17**	-25.34 (-101.40, 50.73)	**0.51**
Sat Volume (cm^3)	2112.8 (1877.1, 2348.4)	2098.8 (1862.9, 2334.7)	-14.02 (-70.91, 42.87)	**0.63**	2026.7 (1791.1, 2262.4)	1985.3 (1748.8, 2221.9)	-41.41 (-100.79, 17.97)	**0.17**	-27.39 (-109.62, 54.84)	**0.51**
Waist Circumference (cm)	110.7 (106.7, 114.8)	110.2 (106.1, 114.2)	-0.55 (-1.62, 0.51)	**0.31**	109.7 (105.6, 113.7)	108.7 (104.6, 112.7)	-1.04 (-2.15, 0.07)	**0.07**	-0.49 (-2.03, 1.05)	**0.53**
Subcu Fat Correction	224.0 (190.2, 257.8)	222.6 (188.7, 256.4)	-1.46 (-11.23, 8.32)	**0.77**	208.8 (175.0, 242.6)	204.6 (170.6, 238.6)	-4.19 (-14.39, 6.01)	**0.42**	-2.74 (-16.86, 11.39)	**0.70**
Body Width	178.6 (172.6, 184.6)	178.1 (172.0, 184.1)	-0.50 (-2.39, 1.38)	**0.60**	175.0 (169.0, 181.0)	174.9 (168.8, 180.9)	-0.17 (-2.14, 1.80)	**0.87**	0.34 (-2.39, 3.06)	**0.81**
Outer Wall Width	131.1 (126.8, 135.4)	131.8 (127.5, 136.1)	0.72 (-0.30, 1.74)	**0.17**	130.8 (126.5, 135.1)	130.6 (126.3, 134.9)	-0.18 (-1.25, 0.89)	**0.74**	-0.90 (-2.38, 0.58)	**0.23**
Cavity Width	110.5 (105.7, 115.3)	110.7 (105.9, 115.6)	0.27 (-1.44, 1.98)	**0.76**	110.3 (105.5, 115.1)	110.3 (105.5, 115.1)	0.03 (-1.76, 1.81)	**0.98**	-0.24 (-2.71, 2.23)	**0.85**
Total Percent Fat	33.0 (30.4, 35.7)	32.9 (30.3, 35.6)	-0.07 (-0.55, 0.42)	**0.78**	32.9 (30.3, 35.6)	32.8 (30.2, 35.5)	-0.09 (-0.59, 0.42)	**0.74**	-0.02 (-0.72, 0.68)	**0.96**

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Body Mass Index	31.3 (29.8, 32.7)	31.1 (29.7, 32.6)	-0.18 (-0.46, 0.10)	**0.20**	31.4 (30.0, 32.9)	30.9 (29.4, 32.3)	-0.52 (-0.81, -0.22)	**<0.001*** **	-0.33 (-0.74, 0.07)	**0.11**
Android Gynoid Ratio	1.14 (1.07, 1.20)	1.15 (1.09, 1.22)	0.016 (0.000, 0.032)	**0.047***	1.12 (1.06, 1.19)	1.11 (1.05, 1.18)	-0.010 (-0.027, 0.006)	**0.23**	-0.027 (-0.050, -0.003)	**0.025#**
Android Percent Fat	37.0 (34.4, 39.5)	37.1 (34.6, 39.6)	0.14 (-0.60, 0.87)	**0.71**	35.7 (33.1, 38.2)	35.4 (32.8, 37.9)	-0.27 (-1.04, 0.50)	**0.49**	-0.41 (-1.47, 0.66)	**0.45**
Gynoid Percent Fat	33.0 (30.2, 35.8)	32.7 (29.9, 35.5)	-0.32 (-0.84, 0.21)	**0.24**	32.4 (29.6, 35.2)	32.5 (29.7, 35.3)	0.06 (-0.49, 0.61)	**0.82**	0.38 (-0.38, 1.14)	**0.33**
Fat Mass Ratio	0.992 (0.939, 1.046)	1.001 (0.947, 1.054)	0.0087 (-0.0031, 0.0205)	**0.15**	1.012 (0.959, 1.066)	1.000 (0.947, 1.054)	-0.0120 (-0.0243, 0.0004)	**0.06**	-0.0207 (-0.0378, -0.0036)	**0.018#**
Trunk Limb Fat Mass Ratio	1.13 (1.05, 1.21)	1.14 (1.06, 1.23)	0.011 (-0.007, 0.030)	**0.23**	1.14 (1.05, 1.22)	1.13 (1.04, 1.21)	-0.009 (-0.028, 0.010)	**0.37**	-0.020 (-0.047, 0.006)	**0.14**
Fat Mass Height Squared (kg/m^2)	10.4 (9.3, 11.6)	10.4 (9.2, 11.6)	-0.03 (-0.24, 0.18)	**0.79**	10.5 (9.3, 11.6)	10.3 (9.2, 11.5)	-0.18 (-0.40, 0.04)	**0.11**	-0.15 (-0.46, 0.16)	**0.34**
Total Fat Mass (g)	30671.7 (27676.2, 33667.2)	30643.6 (27645.5, 33641.7)	-28.10 (-658.75, 602.55)	**0.93**	30336.3 (27340.9, 33331.8)	29829.5 (26825.4, 32833.5)	-506.89 (-1165.31, 151.52)	**0.13**	-478.80 (-1390.52, 432.92)	**0.30**
Lean Mass Height Squared (kg/m^2)	20.9 (19.8, 21.9)	20.7 (19.7, 21.8)	-0.11 (-0.30, 0.07)	**0.22**	21.1 (20.1, 22.2)	20.7 (19.7, 21.8)	-0.40 (-0.59, -0.21)	**<0.001*** **	-0.28 (-0.55, -0.02)	**0.036#**
Appendicular Lean Mass Index (kg/m^2)	9.07 (8.53, 9.61)	9.02 (8.48, 9.55)	-0.057 (-0.135, 0.021)	**0.15**	9.26 (8.72, 9.79)	9.04 (8.50, 9.58)	-0.218 (-0.299, -0.137)	**<0.001*** **	-0.161 (-0.274, -0.048)	**0.005##**
Total Lean Mass (g)	62232.5 (57729.5, 66735.5)	61887.3 (57382.7, 66391.9)	-345.24 (-943.82, 253.34)	**0.26**	62539.2 (58036.2, 67042.2)	61447.8 (56939.6, 65956.0)	-1091.44 (-1716.53, -466.35)	**<0.001*** **	-746.20 (-1611.67, 119.26)	**0.09#**
Pure Lean Height Squared (kg/m^2)	20.0 (19.0, 21.0)	19.9 (18.9, 20.9)	-0.12 (-0.30, 0.07)	**0.22**	20.3 (19.3, 21.3)	19.9 (18.9, 20.9)	-0.40 (-0.59, -0.21)	**<0.001*** **	-0.29 (-0.55, -0.02)	**0.035#**

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Appendicular Pure Lean Mass Index (kg/m^2)	8.62 (8.10, 9.14)	8.56 (8.04, 9.08)	-0.058 (-0.136, 0.020)	**0.14**	8.80 (8.28, 9.32)	8.58 (8.06, 9.10)	-0.220 (-0.301, -0.139)	**<0.001*** **	-0.162 (-0.274, -0.050)	**0.005**[##]
Pure Lean Mass (kg/m^2)	59694.0 (55302.7, 64085.4)	59344.1 (54951.1, 63737.0)	-349.98 (-948.39, 248.43)	**0.25**	60027.9 (55636.6, 64419.3)	58924.3 (54527.6, 63320.9)	-1103.65 (-1728.55, -478.74)	**<0.001*** **	-753.67 (-1618.88, 111.55)	**0.09**
Scan Analysis BMI	31.3 (29.8, 32.7)	31.1 (29.7, 32.6)	-0.18 (-0.46, 0.10)	**0.20**	31.4 (30.0, 32.9)	30.9 (29.4, 32.3)	-0.52 (-0.81, -0.22)	**<0.001*** **	-0.33 (-0.74, 0.07)	**0.11**
Whole Body Total Area (cm^2)	2240.4 (2153.7, 2327.1)	2246.1 (2159.4, 2332.9)	5.68 (-4.56, 15.93)	**0.28**	2227.8 (2141.0, 2314.5)	2229.8 (2143.0, 2316.6)	2.08 (-8.62, 12.78)	**0.70**	-3.60 (-18.42, 11.21)	**0.63**
Bone Mineral Content (g)	2541.9 (2388.3, 2695.5)	2546.9 (2393.3, 2700.5)	5.00 (-8.33, 18.33)	**0.46**	2511.3 (2357.7, 2664.9)	2523.2 (2369.6, 2676.9)	11.95 (-1.97, 25.87)	**0.09**	6.95 (-12.32, 26.23)	**0.48**
Whole Body Total BMD (g/cm^2)	1.13 (1.10, 1.16)	1.13 (1.10, 1.16)	-0.001 (-0.005, 0.004)	**0.83**	1.12 (1.09, 1.16)	1.13 (1.09, 1.16)	0.004 (-0.001, 0.009)	**0.10**	0.005 (-0.002, 0.011)	**0.18**
Subtot Area (cm^2)	2006.6 (1923.0, 2090.2)	2012.7 (1929.1, 2096.3)	6.05 (-4.22, 16.31)	**0.25**	1995.7 (1912.2, 2079.3)	1995.2 (1911.6, 2078.9)	-0.53 (-11.25, 10.18)	**0.92**	-6.58 (-21.42, 8.26)	**0.38**
Subtot BMC (g)	2024.0 (1883.0, 2164.9)	2030.5 (1889.6, 2171.4)	6.56 (-4.82, 17.93)	**0.26**	2007.0 (1866.1, 2147.9)	2014.7 (1873.7, 2155.7)	7.66 (-4.22, 19.54)	**0.21**	1.10 (-15.34, 17.55)	**0.90**
Subtot BMD (g/cm^2)	1.00 (0.97, 1.04)	1.00 (0.97, 1.04)	0.000 (-0.004, 0.005)	**0.88**	1.00 (0.97, 1.03)	1.00 (0.97, 1.04)	0.004 (-0.001, 0.008)	**0.10**	0.003 (-0.003, 0.010)	**0.28**
Head Area (cm^2)	233.8 (226.6, 241.1)	233.5 (226.2, 240.7)	-0.34 (-2.36, 1.68)	**0.74**	232.0 (224.8, 239.3)	234.6 (227.3, 241.9)	2.61 (0.50, 4.72)	**0.015***	2.95 (0.03, 5.88)	**0.047**[#]
Head BMC (g)	514.5 (479.1, 549.9)	512.4 (477.0, 547.8)	-2.07 (-7.08, 2.95)	**0.42**	504.2 (468.9, 539.6)	508.5 (473.1, 544.0)	4.27 (-0.97, 9.51)	**0.11**	6.34 (-0.91, 13.59)	**0.09**
Head BMD (g/cm^2)	2.20 (2.07, 2.32)	2.19 (2.07, 2.31)	-0.008 (-0.027, 0.012)	**0.44**	2.17 (2.05, 2.29)	2.16 (2.04, 2.29)	-0.005 (-0.025, 0.015)	**0.61**	0.002 (-0.025, 0.030)	**0.86**

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Left Arm Area (cm^2)	246.9 (234.0, 259.9)	247.2 (234.3, 260.1)	0.28 (-2.27, 2.82)	**0.83**	239.6 (226.7, 252.5)	239.5 (226.5, 252.5)	-0.09 (-2.75, 2.56)	**0.95**	-0.37 (-4.05, 3.31)	**0.84**
Left Arm BMC (g)	192.5 (176.4, 208.6)	193.0 (176.9, 209.2)	0.55 (-1.13, 2.22)	**0.52**	183.3 (167.2, 199.4)	183.1 (166.9, 199.2)	-0.24 (-1.99, 1.51)	**0.79**	-0.79 (-3.21, 1.64)	**0.53**
Left Arm BMD (g/cm^2)	0.771 (0.742, 0.800)	0.772 (0.743, 0.801)	0.0009 (-0.0050, 0.0068)	**0.76**	0.757 (0.728, 0.786)	0.757 (0.727, 0.786)	-0.0003 (-0.0065, 0.0059)	**0.92**	-0.0012 (-0.0098, 0.0073)	**0.78**
Right Arm Area (cm^2)	254.2 (241.6, 266.9)	252.6 (239.9, 265.3)	-1.63 (-3.69, 0.42)	**0.12**	247.0 (234.3, 259.6)	246.5 (233.8, 259.2)	-0.45 (-2.60, 1.69)	**0.68**	1.18 (-1.79, 4.15)	**0.44**
Right Arm BMC (g)	201.2 (184.9, 217.6)	201.6 (185.2, 217.9)	0.34 (-0.85, 1.53)	**0.58**	192.4 (176.1, 208.8)	192.2 (175.9, 208.6)	-0.18 (-1.42, 1.06)	**0.78**	-0.52 (-2.24, 1.20)	**0.55**
Right Arm BMD (g/cm^2)	0.783 (0.752, 0.814)	0.790 (0.759, 0.820)	0.0067 (0.0024, 0.0110)	**0.002****	0.772 (0.742, 0.803)	0.773 (0.742, 0.804)	0.0007 (-0.0039, 0.0052)	**0.78**	-0.0061 (-0.0123, 0.0002)	**0.06**
Left Rib Area (cm^2)	134.6 (128.6, 140.7)	140.2 (134.1, 146.3)	5.53 (1.12, 9.94)	**0.014***	140.8 (134.8, 146.8)	141.5 (135.3, 147.8)	0.76 (-3.82, 5.34)	**0.74**	-4.77 (-11.13, 1.59)	**0.14**
Left Rib BMC (g)	85.8 (80.2, 91.4)	89.7 (84.1, 95.4)	3.90 (1.12, 6.69)	**0.006****	90.6 (85.0, 96.2)	90.5 (84.8, 96.2)	-0.06 (-2.96, 2.85)	**0.97**	-3.96 (-7.99, 0.06)	**0.054**
Left Rib BMD (g/cm^2)	0.637 (0.610, 0.664)	0.642 (0.615, 0.669)	0.0048 (-0.0086, 0.0181)	**0.48**	0.642 (0.615, 0.669)	0.636 (0.609, 0.664)	-0.0060 (-0.0199, 0.0079)	**0.40**	-0.0107 (-0.0300, 0.0085)	**0.27**
Right Rib Area (cm^2)	149.0 (141.1, 157.0)	148.2 (140.1, 156.2)	-0.88 (-5.61, 3.84)	**0.71**	146.9 (138.9, 154.8)	149.6 (141.4, 157.7)	2.71 (-2.20, 7.63)	**0.28**	3.59 (-3.22, 10.41)	**0.30**
Right Rib BMC (g)	97.7 (90.7, 104.6)	96.5 (89.6, 103.5)	-1.14 (-4.69, 2.42)	**0.53**	93.9 (87.0, 100.8)	95.4 (88.4, 102.5)	1.53 (-2.17, 5.24)	**0.42**	2.67 (-2.46, 7.80)	**0.31**
Right Rib BMD (g/cm^2)	0.657 (0.631, 0.682)	0.652 (0.626, 0.677)	-0.0048 (-0.0179, 0.0084)	**0.48**	0.637 (0.611, 0.662)	0.634 (0.608, 0.660)	-0.0031 (-0.0168, 0.0106)	**0.66**	0.0017 (-0.0173, 0.0206)	**0.86**

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Thoracic Spine Area (cm^2)	159.4 (152.0, 166.8)	161.7 (154.3, 169.1)	2.30 (-2.76, 7.36)	**0.37**	159.3 (151.9, 166.7)	157.5 (149.9, 165.0)	-1.85 (-7.11, 3.41)	**0.49**	-4.15 (-11.45, 3.15)	**0.27**
Thoracic Spine BMC (g)	141.3 (131.1, 151.5)	144.1 (133.9, 154.3)	2.82 (-1.32, 6.95)	**0.18**	142.7 (132.5, 152.9)	143.3 (133.0, 153.6)	0.62 (-3.69, 4.94)	**0.78**	-2.19 (-8.16, 3.78)	**0.47**
Thoracic Spine BMD (g/cm^2)	0.885 (0.848, 0.922)	0.891 (0.854, 0.928)	0.0064 (-0.0090, 0.0218)	**0.42**	0.890 (0.853, 0.926)	0.905 (0.867, 0.942)	0.0149 (-0.0012, 0.0310)	**0.07**	0.0085 (-0.0138, 0.0308)	**0.46**
Lumbar Spine Area (cm^2)	58.5 (55.8, 61.2)	57.5 (54.7, 60.2)	-1.06 (-2.74, 0.62)	**0.22**	58.5 (55.8, 61.2)	58.8 (56.0, 61.6)	0.31 (-1.44, 2.06)	**0.73**	1.37 (-1.06, 3.80)	**0.27**
Lumbar Spine BMC (g)	60.4 (55.4, 65.3)	60.6 (55.6, 65.5)	0.22 (-2.12, 2.56)	**0.85**	61.8 (56.9, 66.7)	63.0 (58.0, 68.0)	1.25 (-1.19, 3.70)	**0.31**	1.03 (-2.35, 4.42)	**0.55**
Lumbar Spine BMD (g/cm^2)	1.03 (0.97, 1.08)	1.05 (1.00, 1.10)	0.022 (0.002, 0.041)	**0.028***	1.05 (1.00, 1.10)	1.06 (1.01, 1.11)	0.010 (-0.010, 0.030)	**0.33**	-0.012 (-0.040, 0.016)	**0.42**
Pelvic Area (cm^2)	215.1 (201.1, 229.2)	214.6 (200.6, 228.7)	-0.47 (-4.89, 3.95)	**0.83**	218.4 (204.4, 232.5)	215.9 (201.8, 230.0)	-2.51 (-7.12, 2.10)	**0.29**	-2.04 (-8.42, 4.35)	**0.53**
Pelvic BMC (g)	274.1 (249.7, 298.5)	274.0 (249.5, 298.5)	-0.10 (-6.31, 6.12)	**0.98**	283.8 (259.3, 308.2)	282.1 (257.6, 306.7)	-1.64 (-8.13, 4.85)	**0.62**	-1.54 (-10.53, 7.45)	**0.74**
Pelvic BMD (g/cm^2)	1.26 (1.21, 1.32)	1.26 (1.21, 1.32)	0.000 (-0.016, 0.016)	**0.97**	1.29 (1.24, 1.35)	1.30 (1.25, 1.35)	0.007 (-0.010, 0.023)	**0.42**	0.006 (-0.017, 0.030)	**0.58**
Left Leg Area (cm^2)	394.5 (375.0, 414.0)	396.6 (377.0, 416.1)	2.07 (-1.72, 5.86)	**0.28**	393.4 (373.9, 412.9)	393.5 (373.9, 413.0)	0.09 (-3.87, 4.05)	**0.96**	-1.98 (-7.46, 3.50)	**0.48**
Left Leg BMC (g)	486.0 (448.6, 523.4)	485.4 (448.0, 522.8)	-0.60 (-5.15, 3.95)	**0.80**	477.4 (439.9, 514.8)	480.4 (442.9, 517.9)	3.06 (-1.70, 7.81)	**0.21**	3.66 (-2.93, 10.24)	**0.28**
Left Leg BMD (g/cm^2)	1.22 (1.17, 1.27)	1.21 (1.16, 1.26)	-0.007 (-0.014, 0.001)	**0.07**	1.21 (1.16, 1.25)	1.21 (1.17, 1.26)	0.007 (-0.001, 0.015)	**0.07**	0.014 (0.003, 0.025)	**0.011#**

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Right Leg Area (cm^2)	394.1 (374.6, 413.6)	394.7 (375.2, 414.2)	0.64 (-3.33, 4.61)	**0.75**	391.9 (372.4, 411.4)	391.0 (371.5, 410.6)	-0.90 (-5.05, 3.24)	**0.67**	-1.54 (-7.28, 4.20)	**0.60**
Right Leg BMC (g)	485.0 (447.9, 522.0)	486.0 (448.9, 523.1)	1.01 (-4.17, 6.19)	**0.70**	481.2 (444.2, 518.3)	483.6 (446.5, 520.7)	2.37 (-3.04, 7.78)	**0.39**	1.36 (-6.13, 8.85)	**0.72**
Right Leg BMD (g/cm^2)	1.22 (1.17, 1.26)	1.22 (1.17, 1.27)	0.003 (-0.009, 0.015)	**0.62**	1.22 (1.17, 1.27)	1.23 (1.18, 1.28)	0.008 (-0.004, 0.020)	**0.19**	0.005 (-0.012, 0.022)	**0.55**
Head Fat (g)	1277.0 (1215.9, 1338.2)	1265.4 (1204.2, 1326.6)	-11.63 (-25.45, 2.18)	**0.10**	1266.4 (1205.3, 1327.6)	1265.7 (1204.4, 1327.1)	-0.70 (-15.13, 13.72)	**0.92**	10.93 (-9.04, 30.90)	**0.28**
Head Lean (g)	3960.5 (3783.2, 4137.9)	3931.4 (3753.9, 4108.9)	-29.16 (-66.84, 8.52)	**0.13**	3945.4 (3768.0, 4122.7)	3954.3 (3776.4, 4132.1)	8.90 (-30.44, 48.23)	**0.66**	38.05 (-16.42, 92.52)	**0.17**
Head Mass (g)	5237.6 (4999.9, 5475.3)	5196.8 (4958.9, 5434.7)	-40.78 (-92.19, 10.62)	**0.12**	5212.1 (4974.4, 5449.8)	5222.5 (4984.1, 5461.0)	10.41 (-43.25, 64.08)	**0.70**	51.20 (-23.12, 125.51)	**0.18**
Head Percent Fat (%)	24.4 (24.1, 24.6)	24.3 (24.1, 24.6)	-0.03 (-0.09, 0.03)	**0.39**	24.4 (24.1, 24.6)	24.4 (24.1, 24.6)	-0.02 (-0.09, 0.04)	**0.52**	0.01 (-0.08, 0.09)	**0.90**
Left Arm Fat (g)	1781.3 (1585.2, 1977.4)	1769.1 (1572.8, 1965.4)	-12.26 (-59.46, 34.93)	**0.61**	1797.6 (1601.5, 1993.7)	1787.3 (1590.5, 1984.1)	-10.26 (-59.52, 39.01)	**0.68**	2.01 (-66.22, 70.23)	**0.95**
Left Arm Lean (g)	3555.9 (3178.7, 3933.1)	3489.8 (3112.5, 3867.1)	-66.09 (-114.21, -17.98)	**0.007****	3463.7 (3086.5, 3840.9)	3386.0 (3008.4, 3763.6)	-77.66 (-127.91, -27.41)	**0.002****	-11.57 (-81.14, 58.00)	**0.74**
Left Arm Mass (g)	5337.2 (4969.4, 5705.0)	5259.8 (4891.7, 5627.9)	-77.37 (-153.42, -1.32)	**0.046***	5192.8 (4825.0, 5560.5)	5118.3 (4749.5, 5487.1)	-74.45 (-153.85, 4.95)	**0.07**	2.92 (-107.02, 112.87)	**0.96**
Left Arm Percent Fat (%)	33.7 (30.0, 37.5)	34.0 (30.2, 37.7)	0.23 (-0.37, 0.83)	**0.46**	35.4 (31.6, 39.1)	35.6 (31.8, 39.3)	0.20 (-0.43, 0.83)	**0.53**	-0.02 (-0.89, 0.84)	**0.96**
Right Arm Fat (g)	1834.9 (1638.1, 2031.7)	1830.7 (1633.7, 2027.7)	-4.22 (-47.46, 39.02)	**0.85**	1882.8 (1686.0, 2079.6)	1864.7 (1667.3, 2062.1)	-18.17 (-63.31, 26.98)	**0.43**	-13.95 (-76.46, 48.56)	**0.66**

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Right Arm Lean (g)	3632.8 (3246.0, 4019.6)	3616.0 (3229.1, 4003.0)	-16.77 (-60.38, 26.85)	**0.45**	3649.3 (3262.5, 4036.2)	3558.7 (3171.5, 3945.8)	-90.66 (-136.21, -45.11)	**<0.001*** **	-73.89 (-136.95, -10.83)	**0.022#**
Right Arm Mass (g)	5467.7 (5090.9, 5844.4)	5447.6 (5070.6, 5824.5)	-20.14 (-86.85, 46.58)	**0.55**	5480.2 (5103.4, 5856.9)	5374.7 (4997.2, 5752.2)	-105.48 (-175.14, -35.82)	**0.003** **	-85.34 (-181.80, 11.11)	**0.08**
Right Arm Percent Fat (%)	34.0 (30.3, 37.7)	34.0 (30.3, 37.7)	-0.08 (-0.65, 0.49)	**0.80**	35.2 (31.4, 38.9)	35.4 (31.7, 39.2)	0.29 (-0.30, 0.89)	**0.34**	0.37 (-0.46, 1.19)	**0.38**
Trunk Fat (g)	15490.8 (13776.9, 17204.6)	15591.7 (13876.1, 17307.2)	100.91 (-282.95, 484.78)	**0.61**	15312.0 (13598.1, 17025.8)	15018.9 (13299.6, 16738.3)	-293.02 (-693.76, 107.72)	**0.15**	-393.93 (-948.86, 160.99)	**0.16**
Trunk Lean (g)	31137.2 (28948.4, 33326.0)	30992.8 (28802.6, 33183.0)	-144.36 (-537.84, 249.13)	**0.47**	31110.1 (28921.3, 33298.9)	30641.1 (28447.7, 32834.5)	-469.07 (-879.92, -58.21)	**0.025***	-324.71 (-893.59, 244.17)	**0.26**
Trunk Mass (g)	46627.9 (43496.2, 49759.7)	46587.2 (43453.6, 49720.9)	-40.70 (-585.80, 504.39)	**0.88**	46452.1 (43320.3, 49583.8)	45658.3 (42520.4, 48796.2)	-793.73 (-1362.90, -224.56)	**0.006** **	-753.03 (-1541.11, 35.06)	**0.06**
Trunk Percent Fat (%)	33.1 (30.5, 35.7)	33.1 (30.5, 35.7)	0.00 (-0.60, 0.60)	**0.99**	32.9 (30.4, 35.5)	32.7 (30.1, 35.3)	-0.25 (-0.88, 0.37)	**0.43**	-0.26 (-1.12, 0.61)	**0.56**
Left Leg Fat (g)	5061.1 (4506.4, 5615.7)	4991.9 (4436.9, 5547.0)	-69.16 (-173.97, 35.65)	**0.20**	4930.7 (4376.1, 5485.4)	4862.3 (4306.4, 5418.3)	-68.43 (-177.86, 41.01)	**0.22**	0.73 (-150.80, 152.26)	**0.99**
Left Leg Lean (g)	9933.3 (9162.2, 10704.4)	9872.8 (9101.4, 10644.2)	-60.52 (-167.07, 46.03)	**0.27**	10093.0 (9322.0, 10864.1)	9865.5 (9093.4, 10637.5)	-227.60 (-338.86, -116.33)	**<0.001*** **	-167.08 (-321.13, -13.02)	**0.034#**
Left Leg Mass (g)	15016.4 (14124.6, 15908.2)	14905.7 (14013.5, 15798.0)	-110.65 (-254.14, 32.83)	**0.13**	15023.8 (14132.0, 15915.6)	14727.4 (13834.1, 15620.7)	-296.39 (-446.22, -146.57)	**<0.001*** **	-185.74 (-393.19, 21.71)	**0.08**
Left Leg Percent Fat (%)	33.8 (30.5, 37.0)	33.5 (30.3, 36.8)	-0.24 (-0.78, 0.30)	**0.39**	33.2 (29.9, 36.5)	33.3 (30.0, 36.6)	0.10 (-0.47, 0.67)	**0.73**	0.34 (-0.44, 1.13)	**0.39**
Right Leg Fat (g)	5196.7 (4633.1, 5760.3)	5135.0 (4571.0, 5699.1)	-61.66 (-168.03, 44.70)	**0.26**	5056.7 (4493.1, 5620.3)	4954.3 (4389.4, 5519.2)	-102.37 (-213.43, 8.68)	**0.07**	-40.71 (-194.48, 113.06)	**0.60**

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Right Leg Lean (g)	10012.8 (9218.9, 10806.7)	9985.5 (9191.3, 10779.6)	-27.35 (-133.99, 79.28)	**0.62**	10272.4 (9478.5, 11066.3)	10034.1 (9239.3, 10829.0)	-238.22 (-349.58, -126.87)	**<0.001*** **	-210.87 (-365.05, -56.69)	**0.007##**
Right Leg Mass (g)	15217.4 (14295.4, 16139.5)	15140.0 (14217.5, 16062.5)	-77.45 (-221.62, 66.72)	**0.29**	15329.1 (14407.0, 16251.1)	14991.5 (14067.9, 15915.0)	-337.59 (-488.14, -187.05)	**<0.001*** **	-260.14 (-468.58, -51.71)	**0.014#**
Right Leg Percent Fat (%)	34.2 (31.0, 37.4)	33.9 (30.7, 37.1)	-0.29 (-0.82, 0.24)	**0.28**	33.3 (30.1, 36.5)	33.3 (30.1, 36.6)	0.03 (-0.52, 0.59)	**0.91**	0.32 (-0.44, 1.09)	**0.41**
Subtot Fat (g)	29394.7 (26406.9, 32382.5)	29378.3 (26387.9, 32368.7)	-16.42 (-644.01, 611.17)	**0.96**	29059.9 (26072.2, 32047.7)	28551.8 (25555.5, 31548.1)	-508.15 (-1163.36, 147.07)	**0.13**	-491.73 (-1399.02, 415.56)	**0.29**
Subtot Lean (g)	58272.0 (53904.9, 62639.0)	57956.0 (53587.4, 62324.7)	-315.95 (-904.54, 272.64)	**0.29**	58588.6 (54221.5, 62955.6)	57489.0 (53116.8, 61861.2)	-1099.57 (-1714.23, -484.92)	**<0.001*** **	-783.62 (-1634.64, 67.40)	**0.07**
Subtot Mass (g)	87666.6 (82340.7, 92992.6)	87340.7 (82012.0, 92669.3)	-325.97 (-1173.80, 521.87)	**0.45**	87583.3 (82257.3, 92909.2)	85923.0 (80588.3, 91257.8)	-1660.23 (-2545.55, -774.92)	**<0.001*** **	-1334.27 (-2560.08, -108.46)	**0.033#**
Subtot Percent Fat (%)	33.5 (30.7, 36.3)	33.4 (30.6, 36.3)	-0.07 (-0.59, 0.44)	**0.78**	33.4 (30.6, 36.2)	33.3 (30.5, 36.2)	-0.08 (-0.61, 0.46)	**0.77**	0.00 (-0.74, 0.74)	**0.99**
Whole Body Fat Mass (g)	30671.7 (27676.2, 33667.2)	30643.6 (27645.5, 33641.7)	-28.10 (-658.75, 602.55)	**0.93**	30336.3 (27340.9, 33331.8)	29829.5 (26825.4, 32833.5)	-506.89 (-1165.31, 151.52)	**0.13**	-478.80 (-1390.52, 432.92)	**0.30**
Whole Body Lean Mass (g)	62232.5 (57729.5, 66735.5)	61887.3 (57382.7, 66391.9)	-345.24 (-943.82, 253.34)	**0.26**	62539.2 (58036.2, 67042.2)	61447.8 (56939.6, 65956.0)	-1091.44 (-1716.53, -466.35)	**<0.001*** **	-746.20 (-1611.67, 119.26)	**0.09**
Whole Body Total Mass (g)	92904.2 (87440.5, 98367.9)	92537.5 (87071.1, 98003.9)	-366.73 (-1227.63, 494.17)	**0.40**	92779.9 (87316.2, 98243.6)	91119.9 (85647.4, 96592.5)	-1659.96 (-2558.93, -760.99)	**<0.001*** **	-1293.23 (-2537.93, -48.53)	**0.042#**
Whole Body Percent Fat (%)	33.0 (30.4, 35.7)	32.9 (30.3, 35.6)	-0.07 (-0.55, 0.42)	**0.78**	32.9 (30.3, 35.6)	32.8 (30.2, 35.5)	-0.09 (-0.59, 0.42)	**0.74**	-0.02 (-0.72, 0.68)	**0.96**

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Manual Anthropometrics										
Manual Height (cm)	172.3 (168.9, 175.6)	172.3 (169.0, 175.7)	0.07 (-0.04, 0.18)	**0.24**	171.4 (168.0, 174.7)	171.4 (168.0, 174.7)	0.01 (-0.11, 0.12)	**0.90**	-0.06 (-0.22, 0.10)	**0.47**
Weight (Kg)	93.0 (87.4, 98.5)	92.4 (86.9, 97.9)	-0.57 (-1.40, 0.26)	**0.18**	92.6 (87.0, 98.1)	90.9 (85.3, 96.4)	-1.70 (-2.56, -0.83)	**<0.001*** **	-1.13 (-2.33, 0.07)	**0.07**
Manual BMI kg/m^2)	31.3 (29.8, 32.7)	31.1 (29.6, 32.5)	-0.22 (-0.50, 0.06)	**0.13**	31.3 (29.8, 32.7)	30.7 (29.2, 32.1)	-0.56 (-0.86, -0.27)	**<0.001*** **	-0.35 (-0.75, 0.06)	**0.09**
Waist Circumference (Cm)	106.6 (102.3, 110.8)	105.9 (101.6, 110.2)	-0.69 (-4.28, 2.90)	**0.71**	106.3 (102.1, 110.5)	104.5 (100.1, 108.9)	-1.81 (-5.53, 1.92)	**0.34**	-1.12 (-6.29, 4.05)	**0.67**
Hip Circumference (Cm)	109.5 (106.2, 112.8)	109.5 (106.2, 112.8)	0.01 (-2.16, 2.18)	**0.99**	111.5 (108.2, 114.7)	110.2 (106.8, 113.6)	-1.28 (-3.53, 0.98)	**0.27**	-1.29 (-4.42, 1.85)	**0.42**
Bicep Circumference (Cm)	35.4 (34.4, 36.4)	35.3 (34.3, 36.4)	-0.04 (-0.46, 0.38)	**0.86**	35.6 (34.6, 36.6)	35.3 (34.2, 36.3)	-0.30 (-0.74, 0.14)	**0.19**	-0.26 (-0.87, 0.35)	**0.41**
Thigh Circumference (Cm)	57.5 (55.9, 59.2)	57.8 (56.2, 59.5)	0.27 (-0.37, 0.90)	**0.41**	57.7 (56.1, 59.4)	57.6 (55.9, 59.2)	-0.16 (-0.82, 0.51)	**0.64**	-0.42 (-1.35, 0.50)	**0.37**
Waist/Hip Ratio	0.980 (0.957, 1.004)	0.970 (0.946, 0.994)	-0.0107 (-0.0287, 0.0074)	**0.25**	0.953 (0.929, 0.977)	0.948 (0.924, 0.973)	-0.0047 (-0.0234, 0.0140)	**0.62**	0.0060 (-0.0200, 0.0320)	**0.65**
Waist Height Ratio	0.623 (0.596, 0.650)	0.616 (0.588, 0.643)	-0.0071 (-0.0248, 0.0107)	**0.44**	0.622 (0.594, 0.649)	0.612 (0.584, 0.640)	-0.0096 (-0.0281, 0.0088)	**0.31**	-0.0026 (-0.0282, 0.0230)	**0.84**
Biodex and Grip Dynamometer										
Isometric Peak Torque Away (ft-lbs)	109.3 (97.1, 121.4)	100.9 (88.5, 113.3)	-8.39 (-17.60, 0.81)	**0.07**	105.8 (93.6, 117.9)	105.9 (93.4, 118.4)	0.15 (-9.24, 9.53)	**0.98**	8.54 (-4.60, 21.69)	**0.20**

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Isometric Peak Torque Toward (ft-lbs)	70.3 (61.8, 78.7)	67.7 (59.1, 76.3)	-2.53 (-7.38, 2.32)	**0.31**	70.8 (62.3, 79.3)	70.8 (62.1, 79.5)	-0.03 (-4.98, 4.92)	**0.99**	2.50 (-4.42, 9.43)	**0.48**
Isometric Maximum Work Away (ft-lbs)	0.259 (0.205, 0.313)	0.218 (0.163, 0.273)	-0.0408 (-0.0832, 0.0016)	**0.06**	0.224 (0.170, 0.278)	0.238 (0.182, 0.294)	0.0134 (-0.0298, 0.0567)	**0.54**	0.0542 (-0.0064, 0.1147)	**0.08**
Isometric Maximum Work Toward (ft-lbs)	0.090 (0.067, 0.113)	0.102 (0.078, 0.125)	0.0116 (-0.0108, 0.0339)	**0.31**	0.099 (0.076, 0.122)	0.092 (0.068, 0.117)	-0.0068 (-0.0296, 0.0160)	**0.56**	-0.0184 (-0.0503, 0.0135)	**0.26**
Isokinetic Peak Torque Away (ft-lbs)	104.6 (91.3, 117.9)	103.7 (90.1, 117.3)	-0.88 (-11.25, 9.49)	**0.87**	98.9 (85.6, 112.2)	90.8 (76.9, 104.7)	-8.09 (-18.88, 2.70)	**0.14**	-7.21 (-22.18, 7.76)	**0.35**
Isokinetic Peak Torque Toward (ft-lbs)	55.9 (48.9, 62.8)	58.2 (51.0, 65.3)	2.29 (-4.31, 8.90)	**0.50**	53.0 (46.1, 59.9)	51.4 (44.0, 58.7)	-1.64 (-8.50, 5.21)	**0.64**	-3.94 (-13.46, 5.58)	**0.42**
Isokinetic Maximum Work Away (ft-lbs)	124.1 (106.8, 141.3)	122.0 (104.5, 139.5)	-2.10 (-13.00, 8.79)	**0.71**	119.9 (102.7, 137.2)	109.7 (91.9, 127.5)	-10.20 (-21.55, 1.16)	**0.08**	-8.09 (-23.83, 7.64)	**0.31**
Isokinetic Maximum Work Toward (ft-lbs)	65.1 (55.2, 74.9)	68.7 (58.6, 78.9)	3.68 (-6.30, 13.66)	**0.47**	63.4 (53.6, 73.2)	59.9 (49.4, 70.4)	-3.56 (-13.90, 6.78)	**0.50**	-7.24 (-21.62, 7.13)	**0.32**
Handgrip Strength (kg)	30.8 (26.8, 34.8)	31.1 (27.1, 35.1)	0.31 (-1.21, 1.83)	**0.69**	28.3 (24.3, 32.3)	28.8 (24.8, 32.8)	0.49 (-1.09, 2.08)	**0.54**	0.18 (-2.02, 2.38)	**0.87**

All data is presented as means (95% confidence interval). For data with statistical outliers, winsorised data was used to generate means, confidence intervals, and *p* values.
*within-group *p* value less than 0.05
**within group *p* value less than 0.01
***within group *p* value less than 0.001
#between group *p* value less than 0.05
##between group *p* value less than 0.01
###between group *p* value less than 0.001

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eTable 3. Other blood markers in in-person cohort

	CMT Pre (n=25)	CMT Post (n=24)	ΔCMT	ΔCMT *p* value	TRE Pre (n=25)	TRE Post (n=22)	ΔTRE	ΔTRE *p* value	Difference between groups	*p* value
GGT (U/L)	25.9 (19.9, 31.9)	23.7 (17.7, 29.6)	-2.22 (-3.93, -0.50)	**0.011***	24.0 (18.0, 30.0)	22.1 (16.2, 28.1)	-1.86 (-3.65, -0.07)	**0.042***	0.36 (-2.12, 2.84)	**0.78**
ALT (U/L)	34.0 (27.3, 40.6)	30.6 (23.9, 37.3)	-3.38 (-5.63, -1.13)	**0.003****	30.5 (23.8, 37.2)	28.1 (21.4, 34.8)	-2.40 (-4.75, -0.06)	**0.045***	0.98 (-2.27, 4.23)	**0.55**
AST (U/L)	28.1 (24.8, 31.4)	26.5 (23.2, 29.8)	-1.59 (-3.56, 0.38)	**0.11**	26.5 (23.2, 29.8)	25.7 (22.4, 29.1)	-0.77 (-2.82, 1.29)	**0.46**	0.82 (-2.02, 3.67)	**0.57**
ALK (U/L)	58.3 (51.5, 65.1)	56.9 (50.1, 63.7)	-1.37 (-3.60, 0.86)	**0.23**	57.8 (51.0, 64.6)	56.7 (49.9, 63.6)	-1.09 (-3.41, 1.24)	**0.36**	0.28 (-2.94, 3.51)	**0.86**
AMY (U/L)	61.3 (53.3, 69.3)	62.2 (54.2, 70.3)	0.93 (-3.42, 5.28)	**0.68**	57.2 (49.2, 65.2)	57.9 (49.8, 66.1)	0.71 (-3.82, 5.24)	**0.76**	-0.22 (-6.50, 6.06)	**0.95**
LDH (U/L)	155.2 (144.3, 166.0)	145.2 (134.3, 156.2)	-9.92 (-19.80, -0.04)	**0.049***	149.8 (139.0, 160.7)	154.3 (143.0, 165.6)	4.45 (-5.79, 14.68)	**0.39**	14.37 (0.14, 28.60)	**0.048#**
Total Bilirubin (mg/dL)	0.790 (0.694, 0.886)	0.762 (0.664, 0.859)	-0.0284 (-0.1113, 0.0544)	**0.50**	0.856 (0.760, 0.952)	0.829 (0.729, 0.929)	-0.0267 (-0.1126, 0.0592)	**0.54**	0.0018 (-0.1176, 0.1211)	**0.98**
BUN (mg/dL)	16.4 (15.0, 17.8)	16.5 (15.1, 17.9)	0.11 (-1.03, 1.24)	**0.85**	14.9 (13.5, 16.3)	14.8 (13.3, 16.2)	-0.10 (-1.28, 1.08)	**0.87**	-0.21 (-1.84, 1.43)	**0.80**
CRE (mg/dL)	0.864 (0.794, 0.934)	0.845 (0.774, 0.915)	-0.0195 (-0.0548, 0.0158)	**0.28**	0.854 (0.784, 0.924)	0.841 (0.770, 0.912)	-0.0127 (-0.0495, 0.0241)	**0.50**	0.0068 (-0.0442, 0.0578)	**0.79**
CPK (U/L)	140.2 (105.3, 175.1)	145.5 (110.2, 180.7)	5.28 (-21.95, 32.50)	**0.70**	142.1 (107.2, 177.0)	128.0 (91.9, 164.0)	-14.15 (-42.42, 14.11)	**0.33**	-19.43 (-58.68, 19.82)	**0.33**
Albumin (g/dL)	4.25 (4.14, 4.35)	4.22 (4.11, 4.32)	-0.033 (-0.119, 0.053)	**0.45**	4.21 (4.10, 4.31)	4.22 (4.11, 4.33)	0.013 (-0.077, 0.102)	**0.78**	0.046 (-0.078, 0.170)	**0.47**

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TP (g/dL)	7.00 (6.85, 7.16)	6.93 (6.77, 7.08)	-0.079 (-0.211, 0.053)	**0.24**	6.98 (6.83, 7.14)	6.98 (6.83, 7.14)	-0.001 (-0.138, 0.135)	**0.99**	0.077 (-0.112, 0.267)	**0.42**
BHBA (mmol/L)	0.052 (0.039, 0.065)	0.061 (0.048, 0.075)	0.0089 (-0.0072, 0.0250)	**0.28**	0.041 (0.028, 0.054)	0.051 (0.037, 0.065)	0.0098 (-0.0067, 0.0264)	**0.24**	0.0009 (-0.0221, 0.0240)	**0.94**
CO_2 (mEq/L)	24.5 (23.8, 25.2)	24.3 (23.6, 25.0)	-0.15 (-0.78, 0.48)	**0.64**	24.6 (23.9, 25.3)	24.2 (23.5, 24.9)	-0.44 (-1.09, 0.22)	**0.19**	-0.29 (-1.20, 0.62)	**0.53**
Uric Acid (mg/dL)	5.59 (5.16, 6.02)	5.99 (5.56, 6.43)	0.401 (0.096, 0.706)	**0.01***	5.94 (5.52, 6.37)	5.75 (5.31, 6.19)	-0.194 (-0.511, 0.123)	**0.23**	-0.595 (-1.034, -0.155)	**0.008**[##]
Ca (mg/dL)	9.24 (9.12, 9.37)	9.22 (9.10, 9.35)	-0.022 (-0.109, 0.065)	**0.62**	9.28 (9.15, 9.40)	9.30 (9.17, 9.43)	0.027 (-0.063, 0.118)	**0.56**	0.049 (-0.076, 0.174)	**0.44**
Cl (mEq/L)	104.0 (103.4, 104.7)	104.1 (103.4, 104.8)	0.08 (-0.63, 0.78)	**0.83**	103.9 (103.3, 104.6)	104.1 (103.4, 104.9)	0.21 (-0.52, 0.94)	**0.58**	0.13 (-0.88, 1.14)	**0.80**
Fe (mcg/dL)	110.5 (98.2, 122.7)	102.1 (89.7, 114.6)	-8.32 (-21.49, 4.84)	**0.22**	93.4 (81.1, 105.7)	93.4 (80.4, 106.3)	-0.03 (-13.62, 13.56)	**1.00**	8.29 (-10.62, 27.21)	**0.39**
Hb (g/dL)	15.3 (14.6, 15.9)	15.6 (15.0, 16.3)	0.36 (-0.38, 1.10)	**0.34**	16.0 (15.4, 16.7)	15.8 (15.1, 16.5)	-0.18 (-0.94, 0.59)	**0.65**	-0.54 (-1.60, 0.53)	**0.32**
K (mEq/L)	4.12 (4.00, 4.23)	4.10 (3.99, 4.22)	-0.011 (-0.117, 0.096)	**0.84**	4.12 (4.00, 4.23)	4.17 (4.05, 4.29)	0.050 (-0.060, 0.161)	**0.37**	0.061 (-0.093, 0.214)	**0.44**
Mg (mg/dL)	2.09 (2.03, 2.15)	2.07 (2.01, 2.13)	-0.015 (-0.057, 0.028)	**0.50**	2.07 (2.01, 2.13)	2.06 (2.00, 2.12)	-0.007 (-0.051, 0.038)	**0.77**	0.008 (-0.053, 0.069)	**0.80**
Na (mEq/L)	137.5 (136.9, 138.1)	137.8 (137.1, 138.4)	0.24 (-0.34, 0.82)	**0.42**	137.7 (137.1, 138.3)	137.7 (137.1, 138.3)	0.01 (-0.60, 0.61)	**0.99**	-0.23 (-1.07, 0.60)	**0.59**
Phos (mg/dL)	3.22 (3.04, 3.39)	3.37 (3.19, 3.54)	0.153 (-0.034, 0.340)	**0.11**	3.61 (3.44, 3.78)	3.61 (3.42, 3.79)	-0.003 (-0.196, 0.190)	**0.98**	-0.156 (-0.424, 0.112)	**0.25**

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All data is presented as means (95% confidence interval). For data with statistical outliers, winsorised data was used to generate *p* value.
GGT, gamma-glutamyl transferase; ALT, alanine aminotransferase; AST, aspartate aminotransferase; ALK, alkaline phosphatase; AMY, amylase; LDH, lactate dehydrogenase; BUN, blood urea nitrogen; Cre, creatinine; CPK, creatine phosphokinase; TP, total protein; BHBA, beta hydroxy butyrate; CO_2, carbon dioxide; Ca, calcium; Cl, chloride; Fe, iron; Hb, hemoglobin; K, potassium; Mg, magnesium; Na, sodium; Phos, phosphate.
*within-group *p* value less than 0.05
**within group *p* value less than 0.01
#between group *p* value less than 0.05
##between group *p* value less than 0.01

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eTable 4. MOCACARE at home blood pressure measurements in total cohort.

	CMT Pre (n=23)	**CMT Post (n=23)**	**ΔCMT**	**ΔCMT *p* value**	**TRE Pre (n=16)**	**TRE Post (n=16)**	**ΔTRE**	**ΔTRE *p* value**	**Difference between groups**	***p* value**
Systolic Blood Pressure (mmHg)	129.7 (124.9, 134.4)	124.3 (119.9, 128.7)	-5.38 (-9.13, -1.62)	**0.005****	126.5 (120.9, 132.1)	124.0 (118.8, 129.2)	-2.51 (-7.04, 2.03)	**0.28**	2.87 (-3.02, 8.76)	**0.34**
Diastolic Blood Pressure (mmHg)	81.0 (77.9, 84.1)	78.9 (75.9, 81.8)	-2.10 (-4.36, 0.17)	**0.07**	78.9 (75.2, 82.5)	75.3 (71.8, 78.8)	-3.55 (-6.28, -0.82)	**0.011***	-1.45 (-5.01, 2.10)	**0.42**

All data is presented as means (95% confidence interval). For data with statistical outliers, winsorised data was used to generate means, confidence intervals, and *p* values.

*within-group *p* value less than 0.05

**within group *p* value less than 0.01

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eTable 5. Self-reported sleep measures.

	CMT Pre	**CMT Post**	**ΔCMT**	**ΔCMT *p* value**	**TRE Pre**	**TRE Post**	**ΔTRE**	**ΔTRE *p* value**	**Difference between groups**	***P* value**
PSQI Score	4.63 (4.02, 5.24) (n=43)	4.26 (3.65, 4.87) (n=43)	-0.366 (-0.820, 0.087)	**0.11**	4.62 (4.02, 5.22) (n=46)	4.60 (3.99, 5.20) (n=44)	-0.018 (-0.455, 0.420)	**0.94**	0.349 (-0.281, 0.979)	**0.28**
RED Scale Score	21.8 (19.6, 23.9) (n=41)	21.1 (18.8, 23.4) (n=29)	-0.68 (-2.27, 0.91)	**0.40**	23.1 (21.0, 25.2) (n=44)	22.0 (19.8, 24.3) (n=28)	-1.11 (-2.68, 0.45)	**0.16**	-0.43 (-2.66, 1.79)	**0.70**

All data is presented as means (95% confidence interval). For data with statistical outliers, winsorised data was used to generate means, confidence intervals, and *p* values.

In scoring the PSQI, seven component scores are derived, each scored 0 (no difficulty) to 3 (severe difficulty). The component scores are summed to produce a global score (range 0 to 21). Higher scores indicate worse sleep quality.

For the RED Scale, participants read statements about food and eating. On a scale of 1- "Not at all like me" to 5- "Exactly like me", participants rated how they agreed with the statement. Score ranges from 9-45; higher scores indicate higher rewards-based eating drive.

PSQI, Pittsburg Sleep Quality Index; RED Scale, Rewards-based Eating Drive Scale.

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eTable 6. Sleep and activity measures from Oura ring in in-person cohort.

	CMT Pre	CMT Post	ΔCMT	ΔCMT *p* value	TRE Pre	TRE Post	ΔTRE	ΔTRE *p* value	Difference between groups	*P* value
	n=17 subjects analyzed				n=17 subjects analyzed					
Activity Balance Score	84.0 (79.9, 88.0)	84.1 (78.3, 90.0)	0.18 (-6.66, 7.03)	**0.96**	85.2 (81.1, 89.2)	89.0 (83.4, 94.7)	3.89 (-2.76, 10.53)	**0.25**	3.71 (-5.84, 13.25)	**0.45**
Activity Burn	401.1 (325.0, 477.2)	380.7 (292.6, 468.9)	-20.35 (-77.45, 36.75)	**0.48**	394.2 (318.1, 470.2)	289.9 (203.9, 375.8)	-104.29 (-158.60, -49.98)	**<0.001*** **	-83.94 (-162.74, -5.14)	**0.037#**
Activity Score	76.5 (70.4, 82.6)	72.6 (65.8, 79.4)	-3.89 (-9.74, 1.97)	**0.19**	80.2 (74.1, 86.3)	70.7 (64.1, 77.4)	-9.44 (-15.07, -3.82)	**<0.001*** **	-5.56 (-13.68, 2.56)	**0.18**
Average HRV	35.6 (25.8, 45.4)	30.6 (22.0, 39.2)	-5.04 (-13.29, 3.21)	**0.23**	39.9 (30.2, 49.7)	42.9 (34.5, 51.4)	3.00 (-5.03, 11.03)	**0.46**	8.04 (-3.47, 19.55)	**0.17**
Average MET	1.43 (1.37, 1.48)	1.42 (1.36, 1.48)	-0.007 (-0.046, 0.031)	**0.72**	1.42 (1.37, 1.48)	1.36 (1.30, 1.42)	-0.061 (-0.097, -0.024)	**0.001*** **	-0.054 (-0.107, 0.000)	**0.049#**
Average Resting Heart Rate	65.6 (61.9, 69.3)	65.9 (61.9, 69.9)	0.31 (-1.75, 2.36)	**0.77**	65.2 (61.5, 68.9)	64.9 (61.0, 68.9)	-0.25 (-2.25, 1.75)	**0.81**	-0.56 (-3.43, 2.31)	**0.70**
Awake Time	3829.7 (3285.1, 4374.3)	3414.5 (2710.7, 4118.3)	-415.26 (-1130.07, 299.55)	**0.25**	3270.9 (2727.9, 3813.9)	4169.4 (3477.9, 4861.0)	898.53 (195.68, 1601.37)	**0.012***	1313.79 (311.32, 2316.26)	**0.01#**
Daily Movement	7054.5 (5659.7, 8449.2)	6625.8 (4965.8, 8285.8)	-428.70 (-1542.25, 684.85)	**0.45**	7196.8 (5803.7, 8590.0)	5094.7 (3476.0, 6713.4)	-2102.14 (-3162.54, -1041.73)	**<0.001*** **	-1673.44 (-3211.11, -135.76)	**0.033#**
Deep Sleep Score	65.6 (54.5, 76.8)	66.7 (56.6, 76.8)	1.08 (-8.04, 10.20)	**0.82**	78.8 (67.7, 89.9)	83.0 (73.0, 93.0)	4.22 (-4.74, 13.19)	**0.36**	3.14 (-9.64, 15.93)	**0.63**
Deep Sleep Time	3827.3 (2722.7, 4931.9)	3669.7 (2603.2, 4736.2)	-157.57 (-1000.79, 685.65)	**0.71**	5106.5 (4002.6, 6210.4)	5467.7 (4416.1, 6519.4)	361.21 (-463.97, 1186.39)	**0.39**	518.79 (-661.02, 1698.59)	**0.39**
High Activity Time	1.21 (0.63, 1.78)	0.53 (-0.07, 1.13)	-0.677 (-1.061, -0.292)	**<0.001*** **	1.25 (0.67, 1.83)	0.98 (0.41, 1.56)	-0.265 (-0.627, 0.097)	**0.15**	0.412 (-0.116, 0.940)	**0.13**

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Inactive Time	514.6 (451.4, 577.9)	472.1 (395.6, 548.6)	-42.52 (-84.55, -0.49)	**0.047***	476.0 (412.8, 539.1)	387.1 (312.2, 462.0)	-88.90 (-128.60, -49.19)	**<0.001*****	-46.38 (-104.20, 11.44)	**0.12**
Light Sleep Time	13525.6 (12043.5, 15007.7)	14788.1 (12824.7, 16751.5)	1262.53 (-670.62, 3195.68)	**0.20**	14099.2 (12619.2, 15579.2)	14750.8 (12835.0, 16666.5)	651.54 (-1229.26, 2532.33)	**0.50**	-610.99 (-3308.12, 2086.13)	**0.66**
Long Periods of Inactivity	0.431 (0.257, 0.606)	0.454 (0.231, 0.678)	0.0230 (-0.1457, 0.1916)	**0.79**	0.538 (0.364, 0.712)	0.468 (0.257, 0.680)	-0.0697 (-0.2272, 0.0879)	**0.39**	-0.0926 (-0.3235, 0.1382)	**0.43**
Low Activity Time	266.3 (222.2, 310.4)	254.5 (208.9, 300.1)	-11.85 (-44.74, 21.04)	**0.48**	233.5 (189.5, 277.6)	184.9 (140.0, 229.8)	-48.62 (-80.28, -16.96)	**0.003****	-36.77 (-82.42, 8.88)	**0.11**
Lowest Resting Heart Rate	56.8 (53.2, 60.4)	57.6 (53.8, 61.4)	0.80 (-1.02, 2.61)	**0.39**	56.4 (52.8, 60.0)	56.0 (52.2, 59.8)	-0.42 (-2.19, 1.35)	**0.64**	-1.22 (-3.76, 1.32)	**0.35**
Medium Activity Time	33.6 (24.6, 42.6)	31.7 (19.7, 43.8)	-1.88 (-10.52, 6.76)	**0.67**	39.9 (30.9, 48.9)	28.6 (16.9, 40.3)	-11.22 (-19.45, -2.99)	**0.008****	-9.35 (-21.28, 2.59)	**0.12**
Meet Daily Targets Score	61.1 (45.9, 76.3)	54.8 (39.4, 70.2)	-6.33 (-20.09, 7.44)	**0.37**	59.4 (44.2, 74.6)	35.3 (20.3, 50.2)	-24.13 (-37.39, -10.86)	**<0.001*****	-17.80 (-36.92, 1.32)	**0.07**
Move Every Hour Score	97.6 (96.7, 98.6)	97.5 (96.3, 98.8)	-0.08 (-1.03, 0.87)	**0.87**	97.1 (96.2, 98.1)	97.5 (96.3, 98.7)	0.35 (-0.53, 1.24)	**0.43**	0.43 (-0.86, 1.73)	**0.51**
Non-wear Time	95.1 (37.1, 153.1)	124.8 (50.5, 199.1)	29.73 (-31.78, 91.24)	**0.34**	120.7 (62.8, 178.7)	230.2 (157.6, 302.9)	109.50 (50.46, 168.53)	**<0.001*****	79.76 (-5.49, 165.02)	**0.07**
Previous Day Activity Score	79.7 (73.9, 85.4)	77.0 (70.1, 83.9)	-2.66 (-7.38, 2.05)	**0.27**	75.3 (69.6, 81.1)	70.5 (63.7, 77.4)	-4.78 (-9.38, -0.19)	**0.041***	-2.12 (-8.70, 4.47)	**0.53**
Previous Night Score	73.7 (69.2, 78.2)	69.1 (63.7, 74.6)	-4.55 (-10.36, 1.27)	**0.13**	74.3 (69.8, 78.7)	69.3 (64.1, 74.5)	-4.95 (-10.63, 0.73)	**0.09**	-0.41 (-8.53, 7.72)	**0.92**
Readiness Score	77.2 (74.6, 79.8)	76.1 (73.4, 78.8)	-1.08 (-3.88, 1.72)	**0.45**	79.4 (76.8, 82.0)	77.5 (74.9, 80.0)	-1.97 (-4.70, 0.77)	**0.16**	-0.88 (-4.80, 3.03)	**0.66**

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Recovery Index Score	67.5 (61.8, 73.1)	63.5 (56.1, 70.9)	-4.01 (-11.75, 3.74)	**0.31**	74.2 (68.6, 79.8)	67.7 (60.7, 74.8)	-6.48 (-14.00, 1.05)	**0.09**	-2.47 (-13.27, 8.33)	**0.65**
Recovery Time Score	94.6 (89.4, 99.9)	93.8 (88.2, 99.3)	-0.86 (-4.90, 3.18)	**0.68**	97.7 (92.4, 102.9)	100.7 (95.3, 106.0)	3.00 (-0.86, 6.86)	**0.13**	3.86 (-1.73, 9.45)	**0.18**
REM Sleep Score	83.4 (74.9, 91.8)	79.7 (70.3, 89.1)	-3.71 (-9.63, 2.21)	**0.22**	80.8 (72.4, 89.2)	74.9 (65.6, 84.2)	-5.86 (-11.65, -0.07)	**0.047***	-2.15 (-10.43, 6.13)	**0.61**
REM Sleep Time	7722.6 (6381.6, 9063.6)	6180.8 (4842.3, 7519.3)	-1541.78 (-2935.64, -147.92)	**0.03***	6649.8 (5310.0, 7989.6)	5456.5 (4147.4, 6765.6)	-1193.30 (-2557.89, 171.29)	**0.09**	348.48 (-1602.15, 2299.11)	**0.73**
Respiratory Rate	15.3 (14.6, 16.0)	15.3 (14.6, 16.0)	0.02 (-0.29, 0.32)	**0.91**	15.4 (14.7, 16.1)	15.6 (14.9, 16.3)	0.18 (-0.12, 0.48)	**0.23**	0.16 (-0.26, 0.59)	**0.45**
Resting Heart Rate Score	82.4 (78.3, 86.4)	79.1 (74.1, 84.2)	-3.24 (-9.32, 2.85)	**0.30**	84.9 (80.9, 88.9)	81.7 (76.9, 86.5)	-3.18 (-9.13, 2.76)	**0.29**	0.05 (-8.45, 8.56)	**0.99**
Restless Sleep	36.6 (30.5, 42.8)	35.9 (29.7, 42.2)	-0.68 (-3.82, 2.45)	**0.67**	38.2 (32.0, 44.3)	38.4 (32.2, 44.6)	0.21 (-2.85, 3.27)	**0.89**	0.90 (-3.49, 5.28)	**0.69**
Rest Time	472.9 (438.5, 507.3)	412.5 (355.3, 469.7)	-60.39 (-115.47, -5.31)	**0.032***	486.5 (452.2, 520.9)	383.3 (328.3, 438.2)	-103.25 (-155.98, -50.52)	**<0.001*****	-42.86 (-119.11, 33.40)	**0.27**
Sleep Balance Score	74.2 (68.9, 79.4)	78.4 (71.0, 85.8)	4.25 (-3.53, 12.04)	**0.28**	78.6 (73.3, 83.8)	77.4 (70.3, 84.6)	-1.17 (-8.69, 6.36)	**0.76**	-5.42 (-16.25, 5.40)	**0.33**
Sleep Efficiency	87.1 (85.4, 88.9)	88.0 (85.9, 90.1)	0.89 (-1.28, 3.06)	**0.42**	88.8 (87.1, 90.5)	86.1 (84.0, 88.2)	-2.68 (-4.82, -0.55)	**0.014***	-3.58 (-6.62, -0.53)	**0.021#**
Sleep Efficiency Score	86.8 (83.6, 90.1)	88.6 (84.4, 92.7)	1.74 (-2.62, 6.09)	**0.43**	90.0 (86.7, 93.2)	84.8 (80.7, 88.8)	-5.22 (-9.50, -0.94)	**0.017***	-6.96 (-13.06, -0.85)	**0.026#**
Sleep Latency	673.8 (513.3, 834.4)	634.2 (449.3, 819.1)	-39.65 (-211.18, 131.88)	**0.65**	736.5 (576.4, 896.6)	767.1 (587.9, 946.2)	30.55 (-137.42, 198.52)	**0.72**	70.20 (-169.87, 310.27)	**0.57**

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Sleep Latency Score	84.1 (81.7, 86.5)	85.2 (82.1, 88.3)	1.03 (-1.69, 3.74)	**0.46**	84.6 (82.2, 87.0)	81.7 (78.7, 84.7)	-2.94 (-5.57, -0.32)	**0.028***	-3.97 (-7.75, -0.19)	**0.039#**
Sleep Score	79.7 (76.3, 83.1)	78.5 (75.2, 81.9)	-1.17 (-4.29, 1.95)	**0.46**	79.7 (76.3, 83.1)	77.6 (74.4, 80.8)	-2.14 (-5.21, 0.93)	**0.17**	-0.97 (-5.34, 3.41)	**0.67**
Sleep Timing	14743.5 (13995.1, 15491.9)	14095.1 (13294.8, 14895.4)	-648.44 (-1375.71, 78.84)	**0.08**	14546.0 (13800.5, 15291.6)	14966.9 (14174.8, 15759.1)	420.91 (-296.90, 1138.71)	**0.25**	1069.34 (47.50, 2091.19)	**0.04#**
Sleep Timing Score	88.4 (79.5, 97.3)	80.4 (69.5, 91.3)	-8.04 (-17.63, 1.56)	**0.10**	66.5 (57.6, 75.4)	65.6 (55.0, 76.3)	-0.85 (-10.24, 8.54)	**0.86**	7.19 (-6.24, 20.62)	**0.29**
Sleep Tranquility Score	76.9 (71.0, 82.9)	77.5 (71.1, 83.9)	0.53 (-3.09, 4.15)	**0.77**	78.0 (72.1, 84.0)	74.5 (68.2, 80.8)	-3.55 (-7.09, -0.01)	**0.049***	-4.08 (-9.15, 0.98)	**0.11**
Stay Active Score	73.9 (69.5, 78.4)	75.0 (70.2, 79.8)	1.05 (-2.44, 4.55)	**0.55**	77.2 (72.8, 81.6)	80.5 (75.7, 85.2)	3.24 (-0.10, 6.57)	**0.06**	2.18 (-2.65, 7.01)	**0.38**
Steps	8871.4 (7194.2, 10548.6)	8613.9 (6708.9, 10518.9)	-257.48 (-1756.20, 1241.23)	**0.74**	8555.4 (6879.5, 10231.4)	6056.6 (4189.0, 7924.1)	-2498.89 (-3939.91, -1057.88)	**<0.001*** **	-2241.41 (-4320.51, -162.31)	**0.035#**
Target Calories	402.9 (359.8, 446.1)	415.4 (371.6, 459.1)	12.45 (-20.48, 45.38)	**0.46**	425.6 (382.5, 468.7)	426.6 (383.6, 469.7)	1.07 (-30.65, 32.79)	**0.95**	-11.38 (-57.11, 34.34)	**0.63**
Temperature Deviation	-0.061 (-0.111, -0.010)	-0.088 (-0.162, -0.013)	-0.0271 (-0.1020, 0.0477)	**0.48**	-0.020 (-0.069, 0.030)	-0.007 (-0.079, 0.065)	0.0125 (-0.0607, 0.0856)	**0.74**	0.0396 (-0.0650, 0.1442)	**0.46**
Temperature Score	89.5 (86.9, 92.0)	88.4 (83.9, 92.8)	-1.12 (-6.19, 3.95)	**0.66**	89.2 (86.7, 91.7)	85.9 (81.6, 90.2)	-3.30 (-8.27, 1.67)	**0.19**	-2.18 (-9.28, 4.92)	**0.55**
Total Bedtime	29310.3 (27908.0, 30712.6)	28048.3 (26486.0, 29610.6)	-1261.99 (-2803.55, 279.56)	**0.11**	29103.3 (27706.1, 30500.6)	29774.0 (28230.8, 31317.3)	670.68 (-851.56, 2192.92)	**0.39**	1932.67 (-233.80, 4099.15)	**0.08**
Total Burn	2611.2 (2430.3, 2792.0)	2626.2 (2457.5, 2794.9)	15.00 (-106.66, 136.67)	**0.81**	2590.0 (2409.3, 2770.8)	2532.7 (2367.2, 2698.2)	-57.33 (-174.56, 59.90)	**0.34**	-72.33 (-241.29, 96.62)	**0.40**

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Total Sleep Score	78.7 (74.0, 83.4)	76.6 (71.5, 81.6)	-2.13 (-6.94, 2.68)	**0.39**	79.1 (74.5, 83.8)	77.5 (72.4, 82.5)	-1.66 (-6.41, 3.08)	**0.49**	0.47 (-6.29, 7.22)	**0.89**
Total Sleep Time	25305.6 (24042.3, 26569.0)	24568.6 (23321.1, 25816.1)	-737.01 (-1955.14, 481.12)	**0.24**	25840.0 (24580.9, 27099.2)	25469.4 (24234.4, 26704.3)	-370.67 (-1575.01, 833.66)	**0.55**	366.34 (-1346.64, 2079.31)	**0.68**
Training Frequency Score	57.6 (41.7, 73.5)	49.4 (29.8, 69.1)	-8.20 (-25.24, 8.84)	**0.35**	76.7 (60.9, 92.6)	54.4 (35.3, 73.5)	-22.31 (-38.66, -5.96)	**0.007****	-14.11 (-37.72, 9.51)	**0.24**
Training Volume Score	74.8 (63.9, 85.6)	63.6 (47.7, 79.5)	-11.21 (-23.00, 0.58)	**0.06**	81.3 (70.4, 92.1)	63.2 (47.6, 78.8)	-18.07 (-29.37, -6.78)	**0.002****	-6.87 (-23.19, 9.46)	**0.41**

All data is presented as means (95% confidence interval). For data with statistical outliers, winsorised data was used to generate means, confidence intervals, and *p* values.
*within-group *p* value less than 0.05
**within group *p* value less than 0.01
***within group *p* value less than 0.001
#between group *p* value less than 0.05

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