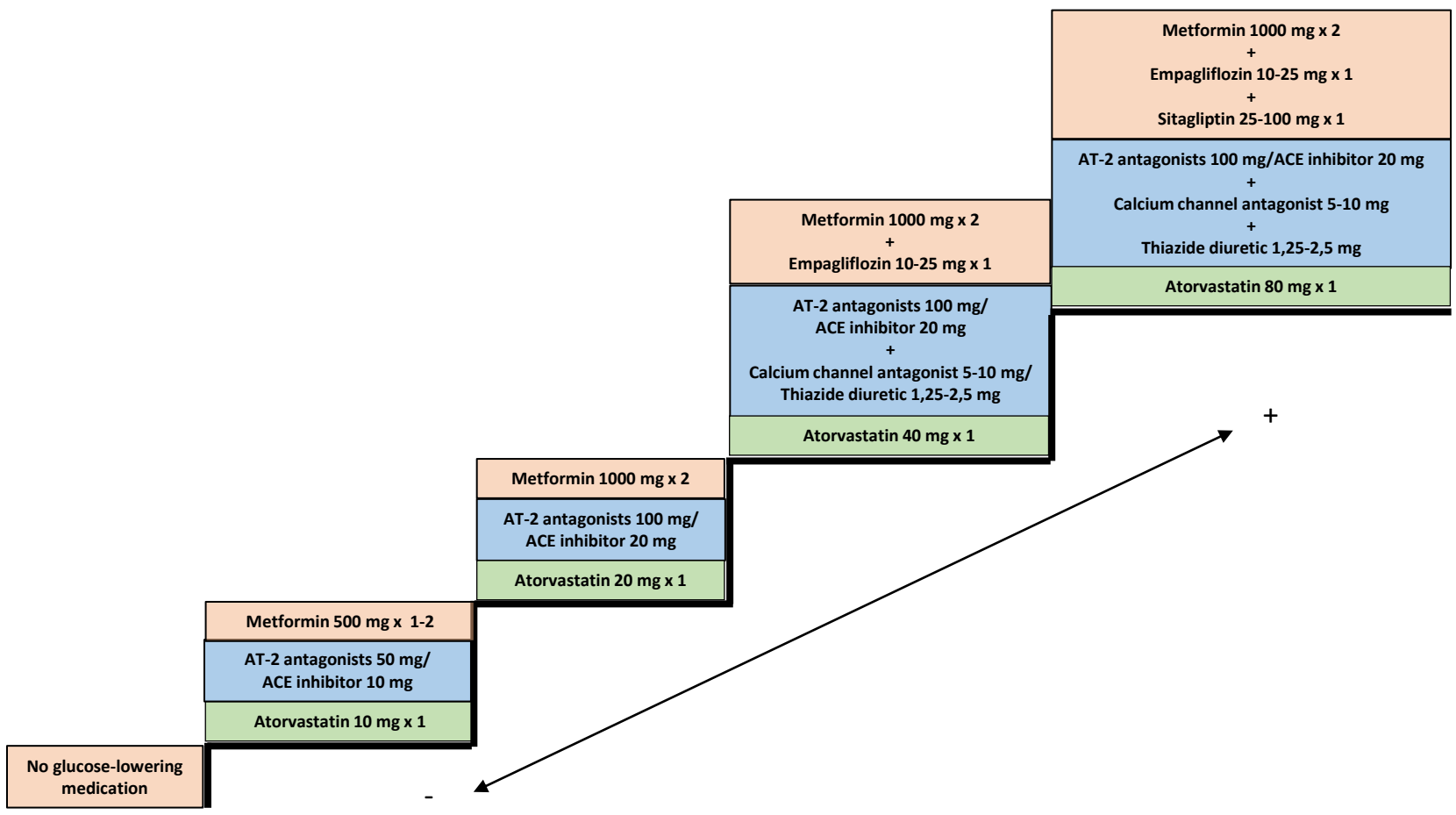
Supplementary Figure 1.

a.

	Therapeutic target	Intensification of treatment	Reduction in treatment
Blood glucose	HbA1c = 48 mmol/mol Fasting glucose < 7 mmol/l Postprandial BG < 7.8 mmol/l	HbA1c ≥ 53 mmol/mol Fasting BG > 7.0 mmol/l Postprandial PG > 11 mmol/l	HbA1c < 48 mmol/mol Fasting BG < 7 mmol/l and Postprandial BG< 7.8 mmol/l
Blood pressure	BP ≤ 130/80 mmHg	BP > 140/85 mmHg	BP < 125/75 mmHg
Lipids	LDL cholesterol = 2.5mmol/l	LDL cholesterol > 2.5mmol/l	Non

b.



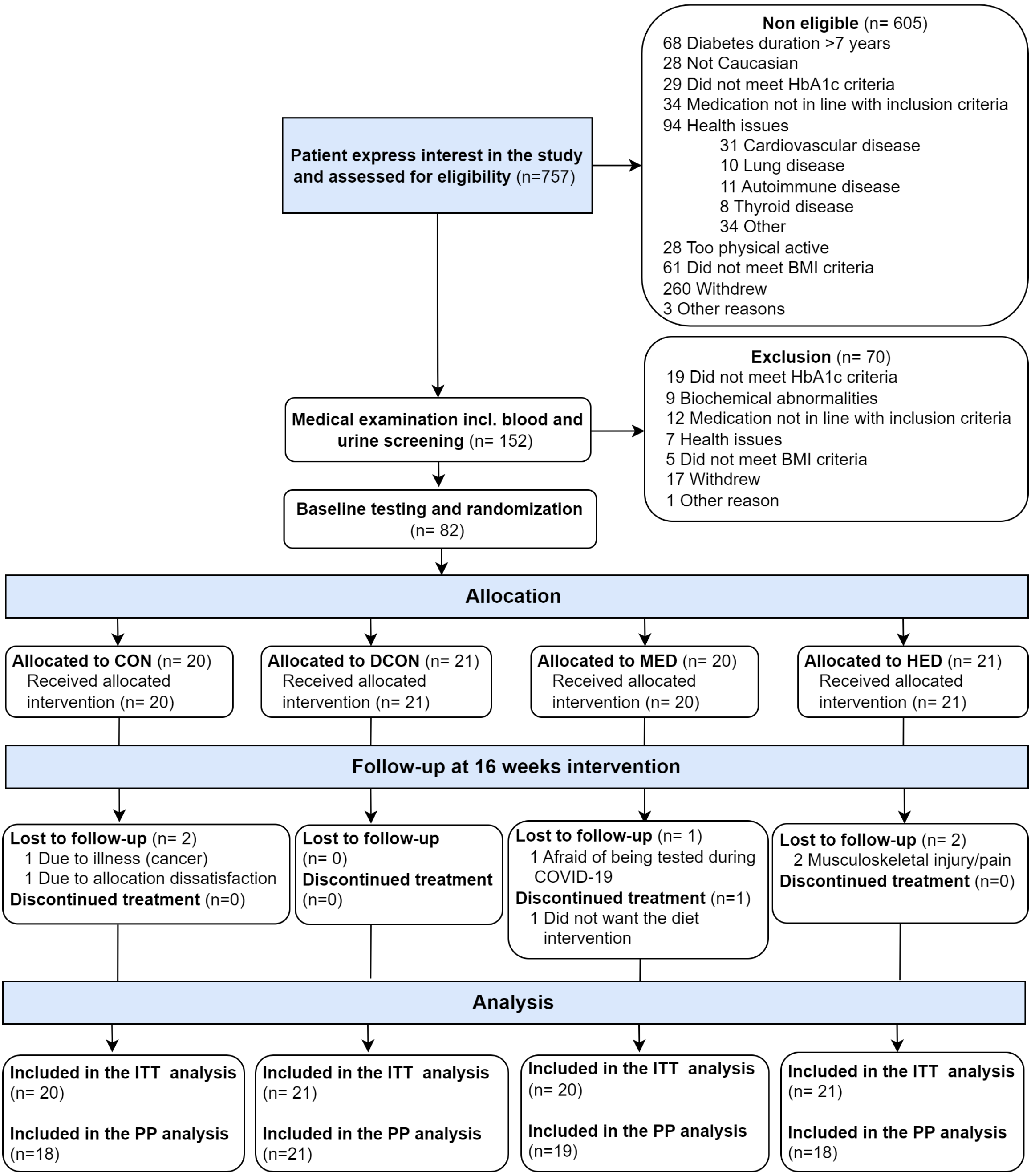
The individual need for pharmacological management of hyperglycemia will be evaluated based on latest measured HbA1c. If HbA1c exceeds 53 mmol/mol the pharmacological treatment is intensified and the next step in the algorithm is prescribed. If HbA1c drops below 48 mmol/mol the pharmacological treatment is reduced corresponding to the previous step in the algorithm. In case of patient-reported symptoms of glycemic dysregulation the participant will be asked to measure fasting and postprandial blood glucose with a glucose meter at home. Both blood glucose and reported symptoms will be taking into consideration when evaluating level of pharmacological treatment.

Blood pressure (BP) will be evaluated based on 3-days home blood pressure-measurements. Therapeutic target is average BP ≤ 130/80 mmHg. If target is not met the pharmacological treatment is intensified and the next step in the algorithm is prescribed. If average BP drops below 125/75 mmHg or the participant reports symptoms of hypotension, the pharmacological treatment is reduced corresponding to the previous step in the algorithm.

Lipid lowering treatment will continue at any given dosage if LDL cholesterol is > 2.5 mmol/L at inclusion. If LDL cholesterol is measured above 2.5 mmol/L at inclusion or at 4- or 12-weeks follow-up, the pharmacological treatment is intensified according to the algorithm. No indication for reduction in pharmacological treatment.

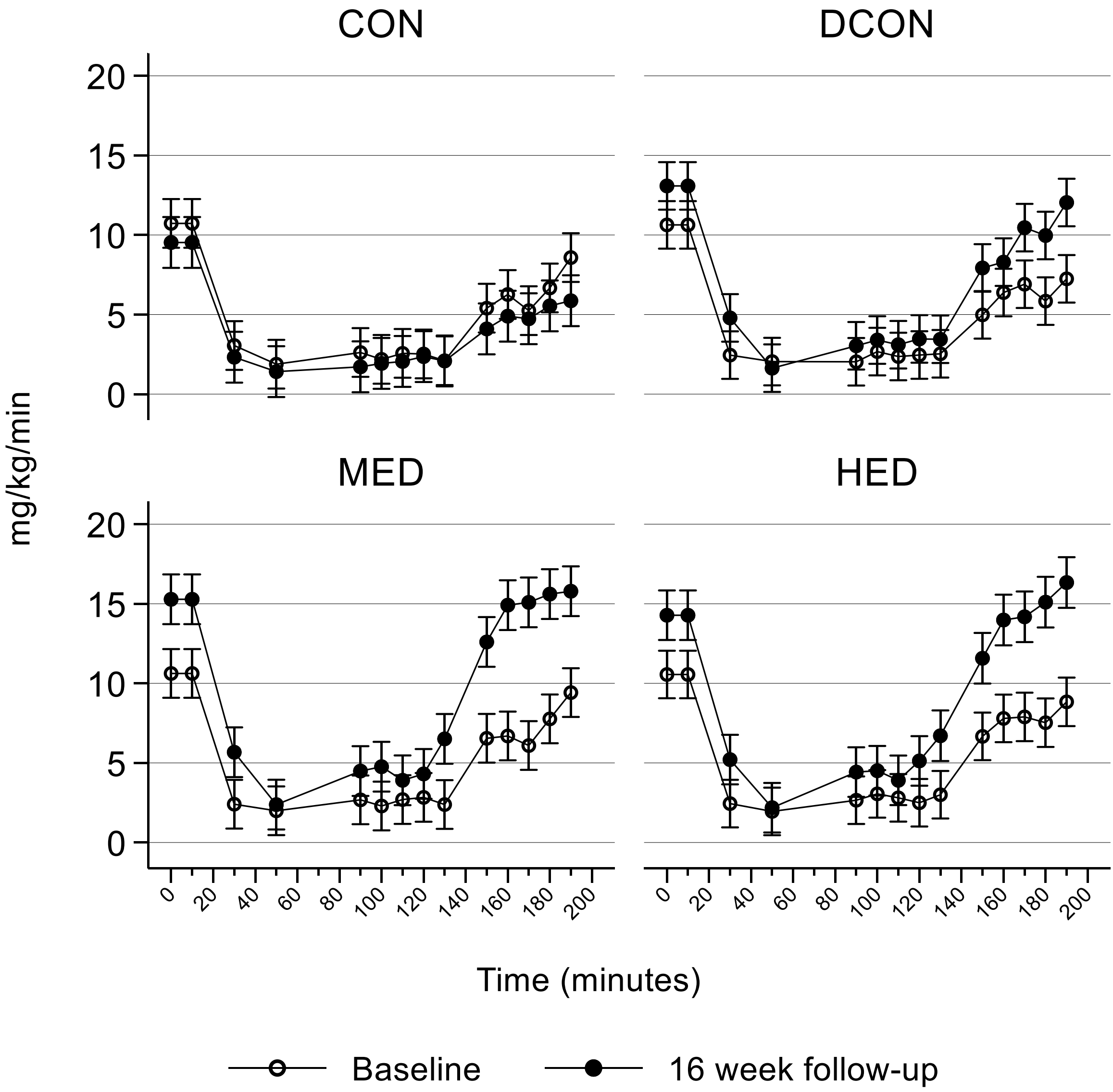
Dosage of glucose lowering-, blood pressure lowering- and lipid lowering medication is adjusted independently of each other, e.g., intensification of glucose lowering medication is not necessarily accompanied by increase in lipid lowering medication.

Supplementary Figure 2.



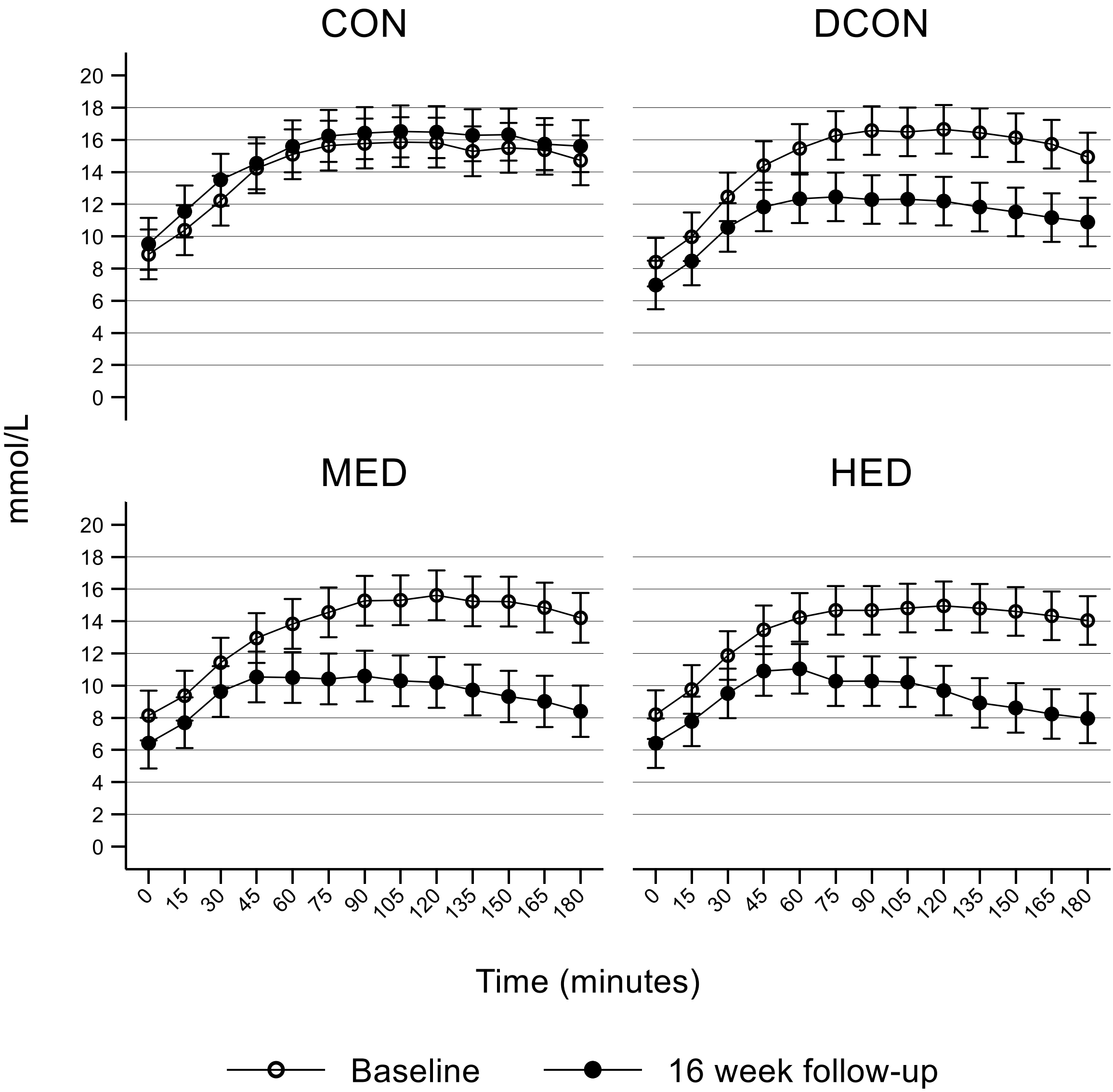
Flow of participants.
CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise, ITT: intention-to-treat, PP: per-protocol.

Supplementary Figure 3.



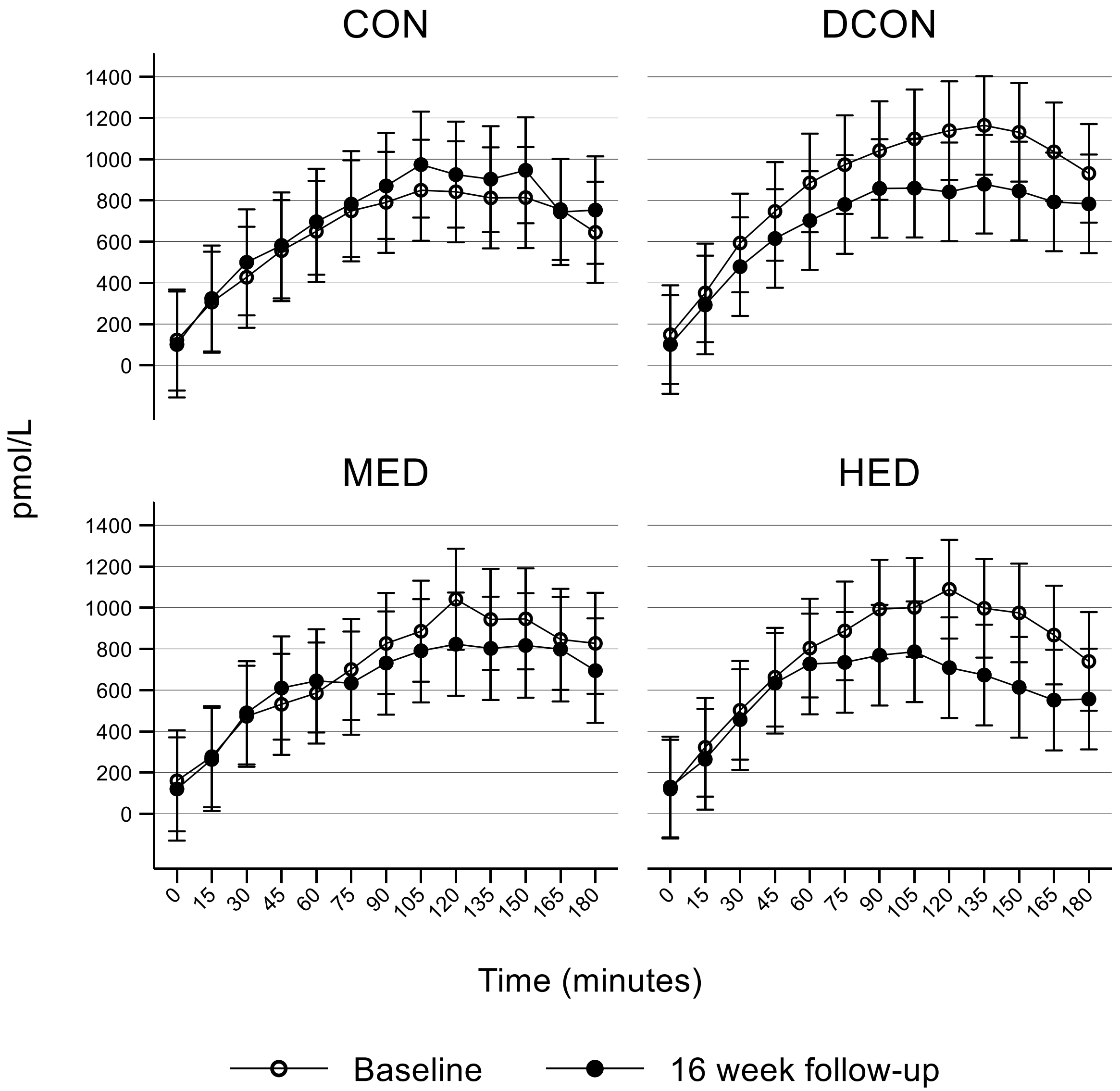
Glucose infusion rate across a 3-phase hyperglycemic clamp.
The open circles represents baseline values, and the black circles represents the 16-week follow-up values. Data are represented as the least-squares means. Error bars are 95% confidence intervals. Results are adjusted for sex.
Time 0-120 minutes is the hyperglycemic phase. Time 120-180 minutes is the hyperglycemic - and GLP-1 stimulation phase.
Time 180-190 minutes is the hyperglycemic, GLP-1, and Arginine HCl stimulation phase.
CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise.

Supplementary Figure 4.



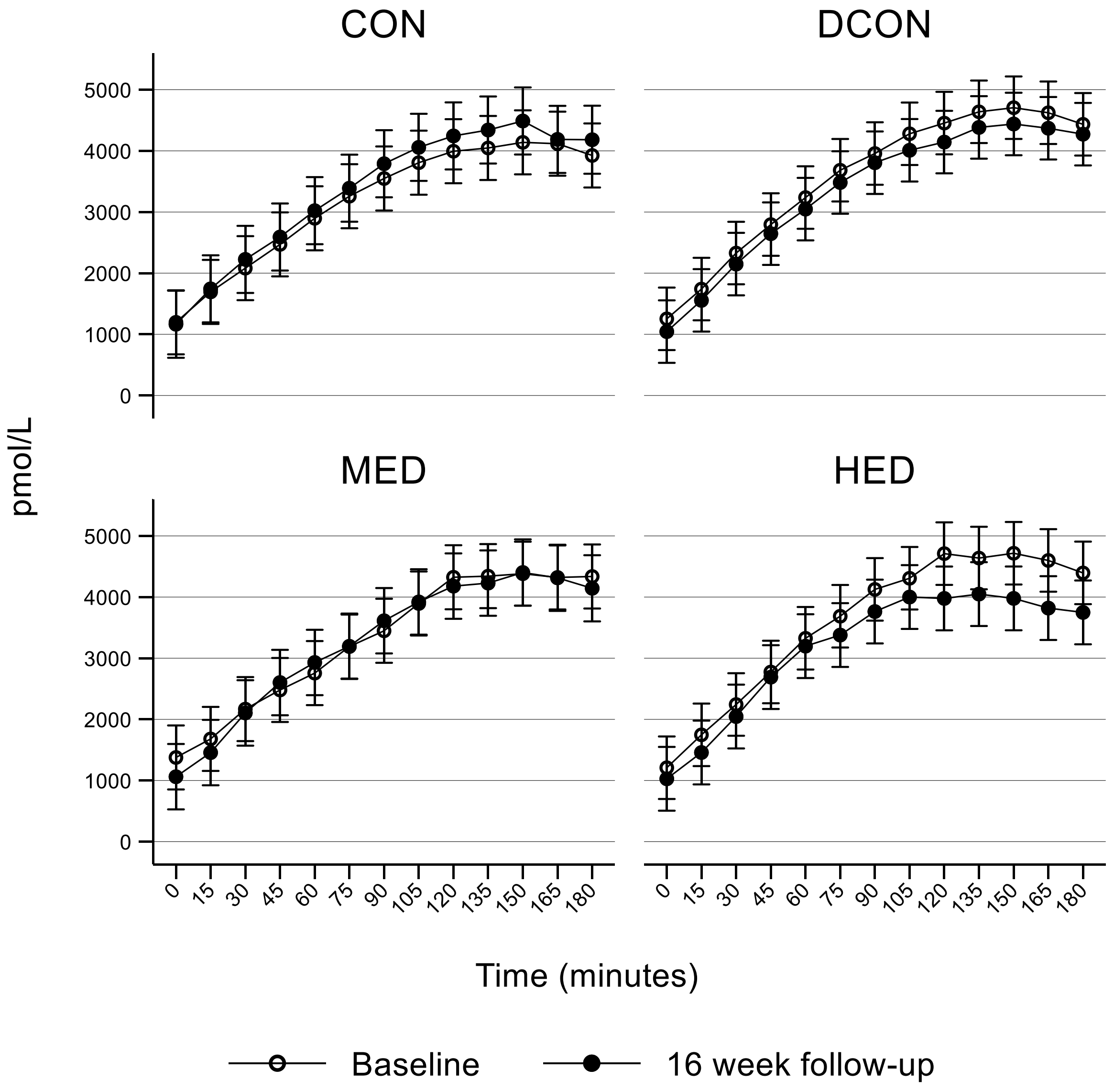
Plasma glucose concentrations across a mixed meal tolerance test.
The open circles represents baseline values, and the black circles represents the 16-week follow-up values. Data are represented as the least-squares means. Error bars are 95% confidence intervals. Results are adjusted for sex.
CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise.

Supplementary Figure 5.



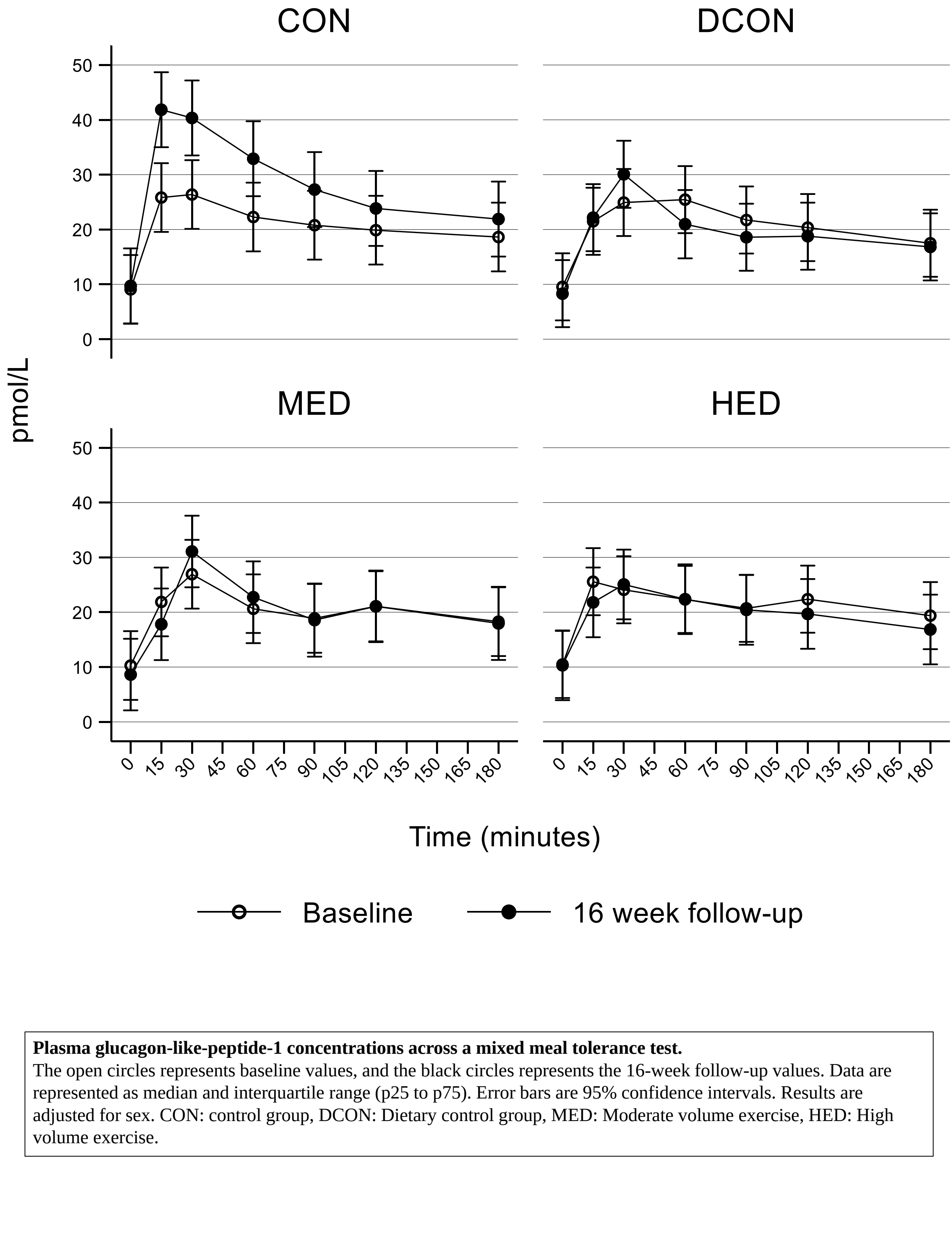
Plasma insulin concentrations across a mixed meal tolerance test.
The open circles represents baseline values, and the black circles represents the 16-week follow-up values. Data are represented as median and interquartile range (p25 to p75). Error bars are 95% confidence intervals. Results are adjusted for sex. CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise.

Supplementary Figure 6.



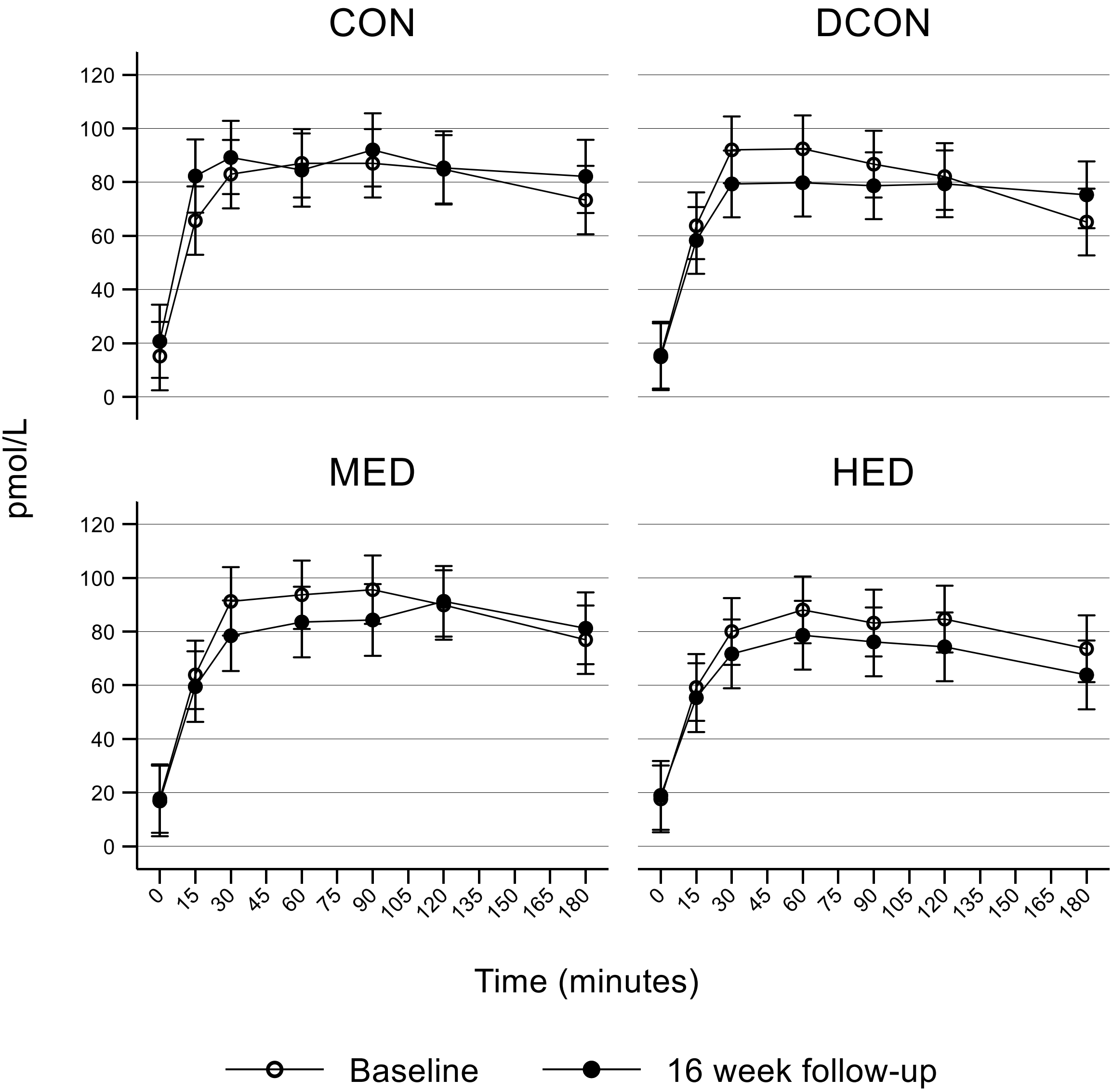
Plasma C-peptide concentrations across a mixed meal tolerance test.
The open circles represents baseline values, and the black circles represents the 16-week follow-up values. Data are represented as means and error bars are standard deviations. Results are adjusted for sex. CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise.

Supplementary Figure 7.



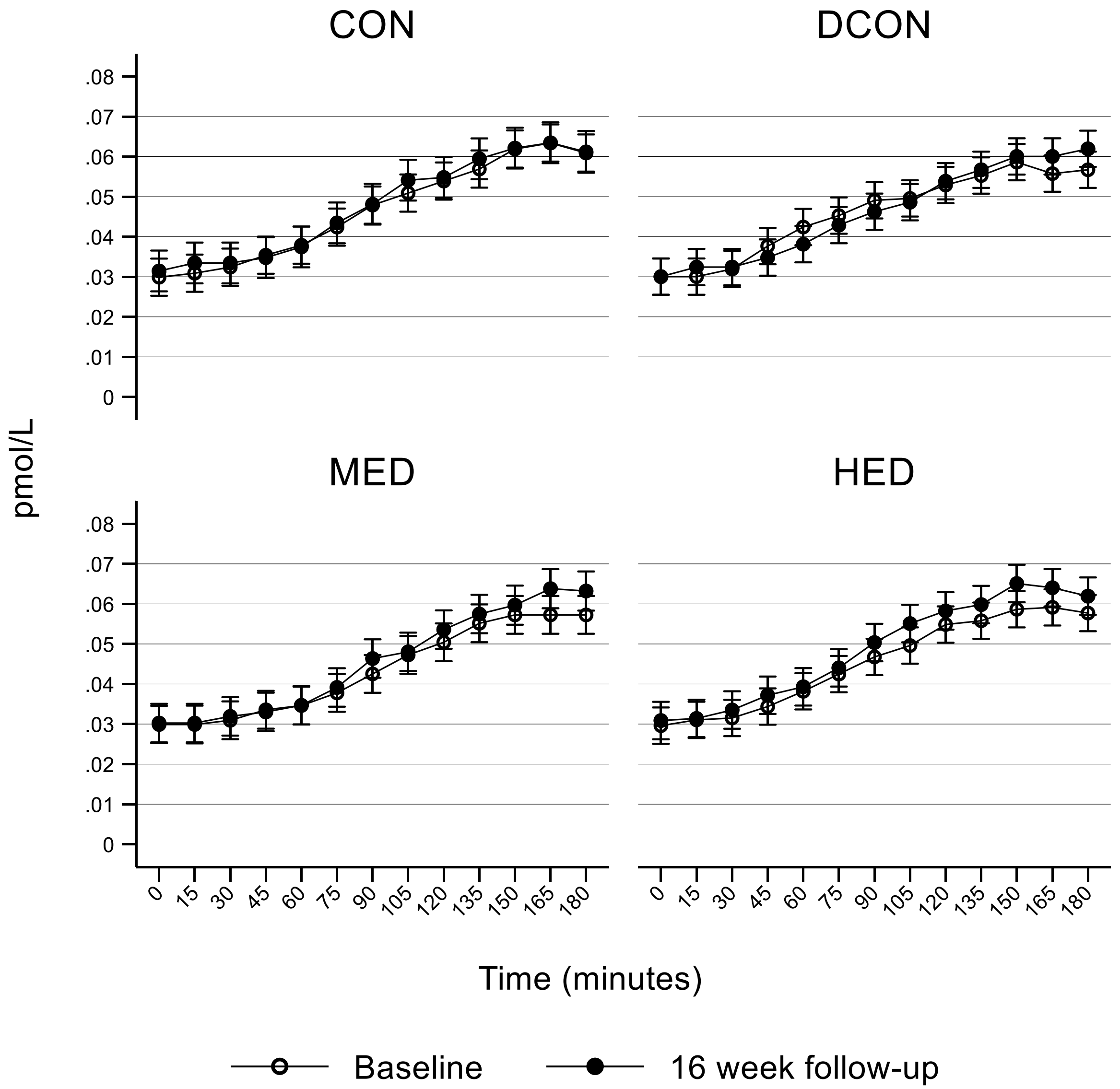
Plasma glucagon-like-peptide-1 concentrations across a mixed meal tolerance test.
The open circles represents baseline values, and the black circles represents the 16-week follow-up values. Data are represented as median and interquartile range (p25 to p75). Error bars are 95% confidence intervals. Results are adjusted for sex. CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise.

Supplementary Figure 8.



Plasma gastric inhibitory polypeptide concentrations across a mixed meal tolerance test.
The open circles represents baseline values, and the black circles represents the 16-week follow-up values. Data are represented as median and interquartile range (p25 to p75). Error bars are 95% confidence intervals. Results are adjusted for sex. CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise.

Supplementary Figure 9.



Plasma paracetamol concentrations across a mixed meal tolerance test.
The open circles represents baseline values, and the black circles represents the 16-week follow-up values. Data are represented as median and interquartile range (p25 to p75). Error bars are 95% confidence intervals. Results are adjusted for sex. CON: control group, DCON: Dietary control group, MED: Moderate volume exercise, HED: High volume exercise.