

Table S1. Statistical output showing all variables and linear mixed effect models. Response variables are highlighted in bold. Corresponding predictors are underlined.

Model	Random factor	Estimated variance	Residual variance	numDF	denDF	t-value	F-value	P-value
mass ~ sex * <u>time</u> *trt + pre-mass	id	0.400	0.467	1	29	.	0.418	0.523
mass ~ <u>time</u> *trt + pre-mass	id	0.479	0.430	1	29	.	0.877	0.357
mass ~ sex * <u>time</u> + pre-mass	id	0.479	0.430	1	29	.	2.259	0.144
mass ~ sex * trt + pre-mass	id	0.479	0.430	1	51	.	0.254	0.616
mass ~ sex* <u>time</u> *trt + pre-mass	id	0.479	0.430	1	51	.	0.017	0.898
mass ~ sex* <u>time</u> *trt + pre-mass	id	0.479	0.430	1	29	.	41.283	<0.001
mass ~ sex* <u>time</u> *trt + pre-mass	id	0.479	0.430	1	51	.	0.728	0.398
MSDEE ~ sex * <u>time</u> *trt + pre-MSDEE	id	0.072	0.272	1	11	.	11.163	0.007
MSDEE ~ <u>time</u> *trt + pre-MSDEE	Female id			1	8	.	9.20	0.016
MSDEE ~ <u>time</u> *trt + pre-MSDEE	Male id			1	3	.	9.194	0.056

Table S2. Statistical output showing all variables and repeatability fitted by restricted maximum likelihood.

Variable	Treatment group	Random factor	95% Confidence Interval	R	P-value
mass	CTR and HF	id	0.288-0.609	0.457	<0.001
mass	HF	id	0.051-0.543	0.328	0.005
mass	CTR	id	0.309-0.749	0.569	<0.001
mass-specific DEE	CTR and HF	id	0.069-0.503	0.302	0.006
mass-specific DEE	HF	id	0-0.451	0.15	0.179
mass-specific DEE	CTR	id	0.072-0.669	0.421	0.013