

## Supplementary table: Change in metabolic parameters in the entire cohort

	Baseline		Change		P*
	Mean	SEM	Mean	SEM	
Weight, kg	80.5	1.8	0.9	0.4	0.015
Total body fat, kg	23.04	2.12	0.66	0.37	0.009
Subcutaneous abdominal fat, kg †	10.11	0.91	0.23	0.15	0.066
Visceral fat, kg †	2.26	0.27	0.07	0.07	0.148
Liver fat, % signal	1.45	0.19	0.48	0.22	0.042
IMCL <sub>tibialis anterior</sub> , arbitrary units ‡	4.14	0.38	0.32	0.42	0.314
Systolic blood pressure, mmHg	117	3	4	2	0.104
Diastolic blood pressure, mmHg	77	2	1	2	0.702
Fasting glucose, mmol/l	4.86	0.06	0.23	0.08	0.007
Fasting insulin, pmol/l	48	7	11	5	0.007
Insulin sensitivity Matsuda, arbitrary units	17.6	2.1	-4.9	1.3	0.001
HOMA, arbitrary units	1.75	0.26	0.47	0.21	0.003
Total cholesterol, mg/dl	175	5	1	4	0.816
LDL cholesterol, mg/dl	106	5	1	4	0.867
HDL cholesterol, mg/dl	54	2	-1	1	0.228
Triglycerides, mg/dl	89	8	18	8	0.043
Free fatty acids, $\mu$ mol/l	608	51	-112	46	0.025
Uric acid, mg/dl	5.6	0.3	-0.1	0.2	0.599

SEM: standard error of the mean; IMCL: intramyocellular lipids; Change: absolute difference between visits 1 and 2; \* P value (not corrected for multiple testing) for change between visits 1 and 2 calculated with paired samples t-test (one-sided in case of body weight gain and body fat gain, two-sided in case of all other parameters); † number: 18; ‡ number: 17

## Supplementary figure:

The effects of very high fructose (individual patient data: black lines; average: dark blue line) and very high glucose (individual patient data: grey lines; average: light blue line) diets on **A)** triglycerides, **B)** free fatty acids, **C)** insulin sensitivity, and **D)** liver fat.

