Supplemental Table 1. Baseline characteristics of study subjects stratified by GH status (n=76). Data are presented as mean ± SEM. Relative GH Deficiency determined as peak stimulated GH ≤4.2 µg/l on GHRH-arginine stimulation test.

	Normal Weight	Obese GHS	Obese GHD	P
N	26	31	19	
Age	43.4 ± 1.9	41.1 ± 2.2	45.2 ± 1.2	0.38
Race				0.29
Caucasian	18 (69 %)	18 (58 %)	15 (79 %)	
Non-Caucasian	8 (31 %)	13 (42 %)	4 (21 %)	
Ethnicity				0.18
Hispanic	1 (4 %)	3 (10 %)	4 (21 %)	
Non-Hispanic	25 (96 %)	28 (90 %)	15 (79 %)	
Tobacco use (pack years)	5.9 ± 2.2	9.5 ± 3.0	2.2 ± 1.1	0.16
Blood Pressure				
Systolic BP (mmHg)	121 ± 2	126 ± 3	128 ± 3	0.14
Diastolic BP (mm Hg)	76 ± 2	78 ± 2	83 ± 2[*]	0.04
Anthropometrics				
BMI (kg/m^2)	22.5 ± 0.3	35.1 ± 0.8[*]	37.7 ± 1.0[*]	<0.0001
VAT (cm^2)	57 ± 9	195 ± 16[*]	240 ± 15[*]	<0.0001
SAT (cm^2)	104 ± 11	396 ± 27[*]	477 ± 33[*]	<0.0001
Metabolic Assessment				
Total Cholesterol (mmol/l)	4.73 ± 0.19	4.81 ± 0.16	4.78 ± 0.20	0.95
Triglyceride (mmol/l)	0.87 ± 0.10	1.38 ± 0.17	1.76 ± 0.24[*]	0.0003
HDL Chol (mmol/l)	1.53 ± 0.09	1.12 ± 0.05[*]	1.01 ± 0.04[*]	<0.0001
LDL Chol (mmol/l)	2.76 ± 0.15	3.11 ± 0.16	3.18 ± 0.18	0.17
Fasting Glucose (mmol/l)	4.70 ± 0.08	5.44 ± 0.30	5.18 ± 0.27	0.08
Fasting Insulin (pmol/l)	19.9 ± 3.2	60.5 ± 8.4[*]	69.6 ± 10.4[*]	<0.0001
Hormonal Assessment				
Basal GH (µg/l)	0.7 ± 0.2	0.3 ± 0.1	0.1 ± 0.05	0.07
Peak GH (µg/l)	36.4 ± 3.9	7.8 ± 0.7[*]	2.7 ± 0.2[*]	<0.0001
IGF-1 (nmol/l)	12.0 ± 0.6	11.8 ± 0.8	8.7 ± 0.6[*†]	0.007
Total Testosterone (nmol/l)	18.6 ± 1.2	14.6 ± 1.2[*]	11.0 ± 1.2[*]	0.0005
Free Testosterone (nmol/l)	0.56 ± 0.03	0.44 ± 0.04[*]	0.34 ± 0.03[*]	0.0004
SHBG (nmol/l)	45.3 ± 3.6	31.6 ± 4.6[*]	26.3 ± 3.5[*]	0.008
Estradiol (pmol/l)	102 ± 5	121 ± 11	111 ± 5	0.25
LH (IU/l)	4.5 ± 0.4	4.4 ± 0.8	3.3 ± 0.4	0.39
FSH (IU/l)	6.0 ± 0.8	6.4 ± 1.2	4.5 ± 0.8	0.46
Carotid IMT (mm)	0.658 ± 0.028	0.750 ± 0.032	0.777 ± 0.041[*]	0.04

[*] indicates significantly different from normal weight by Tukey-Kramer post-hoc test for significant ANOVA.
[†] indicates significantly different from Obese GHS by Tukey-Kramer post-hoc test for significant ANOVA.

Supplemental Table 2. Baseline characteristics of study subjects stratified by free testosterone status (n=76). Data are presented as mean ± SEM. Relative hypogonadism of obesity is determined as fasting free testosterone <0.31 nmol/l (9 ng/dl).

	Normal Weight	Obese Eugonadal	Obese Hypogonadal	*P*
N	26	36	14	
Age	43.4 ± 1.9	41.7 ± 1.8	45.2 ± 2.3	0.52
Race				0.69
Caucasian	18 (69 %)	25 (69 %)	8 (57 %)	
Non-Caucasian	8 (31 %)	11 (31 %)	6 (43 %)	
Ethnicity				0.34
Hispanic	1 (4 %)	5 (14 %)	2 (14 %)	
Non-Hispanic	25 (96 %)	31 (86 %)	12 (86 %)	
Tobacco use (pack years)	5.9 ± 2.2	5.9 ± 2.2	9.0 ± 4.5	0.72
Blood Pressure				
Systolic BP (mmHg)	121 ± 2	126 ± 2	129 ± 3	0.12
Diastolic BP (mm Hg)	76 ± 2	79 ± 2	84 ± 2	0.06
Anthropometrics				
BMI (kg/m^2)	22.5 ± 0.3	35.6 ± 0.8*	37.4 ± 1.3*	<0.0001
VAT (cm^2)	57 ± 9	202 ± 13*	239 ± 22*	<0.0001
SAT (cm^2)	104 ± 11	411 ± 23*	468 ± 49*	<0.0001
Metabolic Assessment				
Total Cholesterol (mmol/l)	4.73 ± 0.19	4.84 ± 0.14	4.68 ± 0.25	0.83
Triglyceride (mmol/l)	0.87 ± 0.10	1.33 ± 0.11*	2.01 ± 0.39*†	0.0004
HDL Chol (mmol/l)	1.53 ± 0.09	1.14 ± 0.04*	0.94 ± 0.04*	<0.0001
LDL Chol (mmol/l)	2.76 ± 0.15	3.16 ± 0.13	3.08 ± 0.28	0.17
Fasting Glucose (mmol/l)	4.70 ± 0.08	5.13 ± 0.17	5.90 ± 0.60*	0.01
Fasting Insulin (pmol/l)	19.9 ± 3.2	53.5 ± 6.0*	90.8 ± 15.5*†	<0.0001
Hormonal Assessment				
Basal GH (μg/l)	0.7 ± 0.2	0.3 ± 0.1	0.2 ± 0.1	0.08
Peak GH (μg/l)	36.4 ± 3.9	6.1 ± 0.7*	5.2 ± 1.2*	<0.0001
IGF-1 (nmol/l)	12.0 ± 0.6	11.1 ± 0.8	9.4 ± 0.7	0.13
Total Testosterone (nmol/l)	18.6 ± 1.2	15.6 ± 0.9	7.1 ± 0.9*	<0.0001
Free Testosterone (nmol/l)	0.56 ± 0.03	0.49 ± 0.02	0.19 ± 0.02*	<0.0001
SHBG (nmol/l)	45.3 ± 3.6	32.6 ± 4.1	22.0 ± 2.8*	0.003
Estradiol (pmol/l)	102 ± 5	123 ± 9	102 ± 8	0.11
LH (IU/l)	4.5 ± 0.4	3.9 ± 0.2	4.1 ± 1.7	0.77
FSH (IU/l)	6.0 ± 0.7	5.0 ± 0.6	7.3 ± 2.5	0.36
Carotid IMT (mm)	0.658 ± 0.028	0.744 ± 0.027	0.801 ± 0.054*	0.02

* indicates significantly different from Normal Weight by Tukey-Kramer post-hoc test for significant ANOVA.
† indicates significantly different from Obese Eugonadal by Tukey-Kramer post-hoc test for significant ANOVA.