Supplemental Table 1. Hormones and bone turnover markers in response to weight loss followed by regain or maintenance.

WL-M					WL-R	
Time (years)	Baseline <sup>1</sup>	6-mo	2 years	Baseline	6-mo	2 years
		% Change			% Change	
Hormone and markers	}					
PTH (pg/mL)	$30.1 \pm 20.2$	$1.5 \pm 18.5$	$24.6 \pm 52.9$	$37.9 \pm 16.3$	$-11.3 \pm 26.1$	$-9.0 \pm 37.5$ *
25OHD (ng/mL)	$28.9 \pm 8.6$	$13.4 \pm 18.0^{\circ}$	$33.5 \pm 41.0^{\circ}$	$31.7 \pm 9.2$	$12.3 \pm 17.9^{\dagger}$	$16.9 \pm 47.4$
Estradiol (pg/mL)	$15.3 \pm 2.1$	$-7.0 \pm 21.5$	$0.5 \pm 22.2$	$17.3 \pm 6.2$	$2.3 \pm 41.8$	$3.7 \pm 47.6$
Osteocalcin (ng/mL)	$10.0 \pm 2.6$	$7.9 \pm 12.8$	$4.0 \pm 25.5$	$8.7 \pm 2.3**$	$7.4 \pm 21.0$	$18.7 \pm 47.3$
NTx (BCE)	$11.2 \pm 2.8$	$15.4 \pm 54.8$	$87.8 \pm 63.2^{\text{f}}$	$13.3 \pm 4.6$	$-0.9 \pm 37.3$	$1.2 \pm 53.2**$

## Data are mean $\pm$ S.D

<sup>&</sup>lt;sup>1</sup> No significant differences among groups were observed for any variable at baseline.

<sup>&</sup>lt;sup>2</sup> Baseline biochemical values were done in the entire population (N=42) and did not differ from subset (N=22) reported for change due to regain (n=12) or maintenance (n=10). In addition, the wt loss (-9.8  $\pm$  2.9%) over 6 months in this subset was similar to the entire population (n=42), and the maintenance (0.7  $\pm$  2.0%) and regain (+6.9  $\pm$  3.9%) over the next 18 months (0.5 to 2 y) was similar to the WL-M and WL-R groups, respectively.

<sup>\*\*</sup> Differs from WL-M group, p < 0.05; \*  $p \le 0.09$  as compared to WL-M (same time period); † Differs from baseline, p < 0.05 Abbreviations: WL-M (weight loss maintained); WL-R (weight loss and then regained); 0 - 0.5 y, weight loss; 0 - 2 y, baseline to final; PTH (Parathyroid hormone), 25OHD (25hydroxy-vitamin D), NTx (N teleopeptide of type 1 collagen)