

**Table S1: PYY and RYGB Surgery**

Author/year	Type of Study	Subjects	Preop BMI	% weight loss	F/U time	Change in Hormone
<b>Morinigo 2006 [51]</b>	Prospective controlled	9 ( 7 F) RYGB 6 obese (4 F)	47.4 ± 6.1 43.6 ± 7.9	NA	6 wk	Increase in PP total PYY AUC response in RYGB group (greater than in obese controls)
<b>Reinehr 2007[59]</b>	Prospective controlled	30 obese adults (26 F) 19 RYGB 11 GB	45.7±7.4	50	2 y	Increase in fasting PYY in both groups
<b>Le Roux 2007 [56]</b>	Double blind randomized prospective controlled	7 RYGB 6 AGB	44.5 ± 2.9 41.9 ± 7.5	NA	9.5 ±1.5 mo 17 ± 1.4 mo	Early (2 days) and increased responses of PP PYY in RYGB group only
<b>Karamanakos 2008[40]</b>	Prospective controlled	16 RYGB (12 F, 2 T2D)  16 LSG (15 F, 1 glucose intolerance)	46.6 ± 3.7  45.1 ± 3.6	% EWL 60.5 ± 10.7  69.7 ± 14.6	1, 3,6 and 12 mo	Fasting PYY increased significantly in both groups
<b>Morinigo 2008[35]</b>	Prospective controlled	25 non diabetics RYGB (6F)  6 non obese (2F)  10 severely obese T2D (5F) RYGB	48.8 ± 1.2  49.2 ± 2.0	43.0 ± 2.3	6 and 52 wk	No change in fasting PYY at 6 weeks Increase in PP PYY AUC response at 6 and 52 wk in RYGB group (significantly greater compared to normal weight controls)
<b>Olivan 2009 [39]</b>	Prospective controlled	21 T2D 10 RYGB 11 diet  9 obese non diabetics	47.4 ± 10.6 42.8 ± 3.8  45.5 ± 7.1	NA	After a 10 Kg weight loss	Increase in PP PYY 3-36 AUC in surgical group
<b>Valderas 2010 [89]</b>	Prospective controlled	8 RYGB 8 SG 8 diet 8 lean	37.8 ± 0.8 35.3 ± 0.7 39.1 ± 1.7 21.7 ± 0.7	17.7 ± 3 14.9 ± 2.4 16.6 ± 4	2 mo	PYY AUC increased in RYGB and SG group but not in diet group

<b>Borg 2006 [57]</b>	Prospective uncontrolled	6 RYGB	48.3	NA	1,3,6 mo post op	PP PYY increased at 3 and 6 mo post op
<b>Le Roux 2006 [55]</b>	Cross-sectional controlled	6 RYGB 6 GB 12 obese 15 lean	49.8 46.1 47.1 23.8	NA	6 to 36 mo	Higher postprandial PYY response in RYGB group compared to fasting levels and to other groups
<b>Rodieux 2008 [41]</b>	Cross-sectional controlled	8 RYGB 6 GB 8 weight matched	44.9 ± 1.8 41.1 ± 0.5 29.2 ± 0.8	NA	9 to 48 mo (RYGB) 25 to 85 mo (GB)	Fasting PYY and PYY response to oral glucose significantly greater in RYGB group compared to other groups

Abbreviations: AGB: adjustable gastric banding, LSG: laparoscopic sleeve gastrectomy, NA: data not available, Post op: postoperatively, PP: post prandial, RYGB: Roux-en-y gastric bypass, T2D: type 2 diabetes.

**Table S2: Amylin and RYGB Surgery**

Author/year	Type of Study	Subjects	Preop BMI	% weight loss	F/U time	Change in Hormone
<b>Bose 2010 [99]</b>	Prospective controlled	11(F) RYGB T2D 8 (F) non diabetic obese	45.1 ± 8.2 45.1 ± 7.5	NA	1, 6,12 mo	Fasting amylin and PP amylin AUC decrease at 1 month and remain unchanged up to 1 year
<b>Kashyap 2010 [73]</b>	Prospective uncontrolled	16 (7 F) T2D 9 RYGB 7 GR	47±9	10	4 wks	No change in fasting or PP amylin in both groups

Abbreviations: AUC: area under the curve, NA: data not available, PP: post prandial, RYGB: Roux-en-y gastric bypass, T2D: type 2 diabetes

**Table S3: Adiponectin and RYGB Surgery**

Author/year	Type of Study	Subjects	Preop BMI	% weight loss	F/U time	Change in Hormone
<b>Serra 2006 [112]</b>	Prospective controlled	70 (41 F) RYGB 24 (15 F) normal weight	53.3 ±9.6 23.5 ±2.6	NA	12 mo	Increase in adiponectin in the RYGB group compared to baseline and value reached higher than control group
<b>Whitson 2007[113]</b>	Prospective controlled non randomized	10 (9 F) 5 diabetics 5 nondiabetics	50 ± 6	NA	6 mo	Increase in adiponectin at 6 mo in both diabetics and non diabetics more so in nondiabetics

<b>García de la Torre 2008 [114]</b>	Prospective controlled	45 obese F VBG =17 GB=17 BPD=11  9 lean	49.9±8.1	33.6	9-12 mo	Adiponectin lower in obese compared to lean group. Increase in adiponectin in all groups after surgery
<b>Trakhtenbroit 2009 [115]</b>	Prospective controlled	10 F RYGB  5 F AGB	47.6 ±2.2	37.36 ± 3.13	3 mo 9 mo 24 mo	Increase in adiponectin levels more in the RYGB group
<b>Holdstock 2003 [116]</b>	Prospective uncontrolled	66 (54 F)	44.8 ±6.4	22.3	6 mo 12 mo	Increase in adiponectin at 6 and 12 mo
<b>Swarbrick 2006 [117]</b>	Prospective uncontrolled	19 F	45.6 ±1.6	31.8	1 mo 12 mo	No change at one month Increase in HMW and total adiponectin at 12 mo
<b>Lin 2007 [118]</b>	Prospective uncontrolled	28 F	48.2 ±0.7	27	1 mo 6 mo	Increase in adiponectin at 1 and 6 months
<b>Vilarrasa 2007 [119]</b>	Prospective uncontrolled	65 (60 F)	49.2 ± 7.7	35.4	12 mo	Increase in adiponectin after surgery
<b>Coughlin 2007 [120]</b>	Prospective uncontrolled	6 F	57.1 ± 4.1	36 ± 5	12 mo	Increase in adiponectin

Abbreviations: AGB: adjustable gastric banding, BPD: biliopancreatic diversion, GB: gastric banding, NA: data not available, RYGB: Roux-en-Y gastric bypass, VBG: vertical banded gastroplasty

**Table S4: Leptin and RYGB Surgery**

Author/year	Type of Study	Subjects	Preop BMI	% weight loss	F/U time	Change in Hormone
<b>Molina 2003 [127]</b>	Prospective controlled	29 F RYGB (9 T2D)  13 F non obese	49 ± 6	NA	1,3,6 mo post op	Leptin decreased at all time points
<b>Fruhbeck 2004 [38]</b>	Prospective controlled	16 (7 F) 6 RYGB 7 AGB 3 BPD	42.6 ± 1.6 45.6 ± 1.8 60.5 ± 7.3	50.1 ± 4.4 42.2 ± 3.1 54.2 ± 4.3	6.1 ± 0.4 mo	Decrease in leptin post op in all 3 groups

<b>Bobbioni-Harsch 2000 [128]</b>	Prospective uncontrolled	20 F RYGB	43.9 ± 1.3	NA	3,6,12 mo post op	Leptin decreased post op
<b>Holdstock 2003 [116]</b>	Prospective uncontrolled	66 obese (54 F) (2 on medical trt for T2D)	45	30%	6 and 12 mo	Decrease in leptin levels at 6 and 12 mo
<b>Faraj 2003 [111]</b>	Prospective uncontrolled	50 RYGB ( 39 F) ( 10 receiving OHA not specified)	48.5 ± 10.1	36.4 ± 9.6	15 ± 6 mo	Decrease in leptin levels
<b>Das 2003 [129]</b>	Prospective uncontrolled	30 (24 F) RYB (diabetics excluded)	50.1 ± 9.3	38 ± 19	1 y	Decrease in fasting leptin levels
<b>Rubino 2004 [60]</b>	Prospective uncontrolled	S: 10 (9 F, 6 T2D) obese RYGB	46.2	NA	3 wk	Decrease in fasting leptin in all
<b>Borg 2006 [57]</b>	Prospective uncontrolled	6 RYGB	48.3	NA	1,3,6 mo post op	Fasting leptin decreased at 3 and 6 mo post op
<b>Lin 2007 [118]</b>	Prospective uncontrolled	28 F	48.2 ± 0.7	27	1 mo 6 mo	Decrease in leptin at 1 and 6 mo
<b>Czupryniak 2007 [130]</b>	Prospective uncontrolled	68 ( 39 F) RYGB	44.4 ± 6.8	38.0 ± 9.0 ( max weight reduction at 15 ± 4 months)	Q 1-2 mo during 1 <sup>st</sup> y Q 3 mo during 2 <sup>nd</sup> -3 <sup>rd</sup> y	At time of max weight loss(15 ± 4 mo) ,leptin decreased significantly
<b>Whitson 2007 [113]</b>	Prospective uncontrolled	10 ( 9 F, 5 T2DM) RYGB	50 ± 6	NA	6 mo	Decrease in leptin in both diabetics and nondiabetics
<b>Swarbrick 2008 [131]</b>	Prospective uncontrolled	19 F RYGB	45.6 ± 1.6	49.6 ± 2.5	1, 3, 6,12 mo post op	Fasting leptin significantly lower than baseline at all time points

Abbreviations: ABG: adjustable gastric banding, BPD: biliopancreatic diversion, NA: data not available, OHA: oral hypoglycemic agents, Post op: postoperatively, RYGB: Roux-en-y gastric bypass, T2D: type 2 diabetes, trt: treatment.