

Laparoscopic Adjustable Gastric Banding in Obese Adolescents Results in Android Fat Loss and Resolution of Co-morbid Conditions

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Background: Laparoscopic adjustable gastric banding (LAGB) in morbidly obese adolescents provides excellent short term weight loss. However, the distribution of this weight loss has not been characterized. We hypothesized that LAGB in morbidly obese adolescents would result in loss of fat mass and resolution of co-morbidities.

Methods: Patients ages 14-17 who have undergone LAGB at our institution since 2005 were reviewed. Data were collected at baseline and at one-year follow-up. Data abstracted included age, gender, weight, percent excess weight loss (%EWL), BMI, body composition data by dual-energy X-ray absorptionmetry, and presence of co-morbidities.

Results: 10 females and 4 males had at least one year of follow-up after LAGB. Mean pre-operative age was 16.1 ± 1.2 years, weight was 305 ± 85 lbs., and BMI was 48 ± 7 . At one year, %EWL and BMI were 55 ± 21 and 34 ± 8 respectively (Table). Fat mass, lean mass, and the android (visceral) fat loss were all significantly decreased. There were a total of 43 co-morbidities preoperatively. One year after surgery, 34 of the co-morbidities were able to be assessed. 25 were completely resolved and 5 were improved.

Conclusions: LAGB in morbidly obese adolescents produces loss in android fat mass in excess of gynecoid fat mass and lean mass. The vast majority of co-morbidities were either completely resolved or improved one year after LAGB. Longitudinal analysis is warranted to ensure that lean mass loss plateaus as overall weight loss abates, however LAGB remains an attractive option in this patient population.

	Age (yrs)	Wt. (lbs)	BMI (kg/m ²)	% EWL	Fat mass (kg)	Lean Mass (kg)	Android Fat (%)	Gynecoid Fat (%)
Pre-op	16.1 ± 1.2	305 ± 85	48 ± 7	N/A	61.6 ± 12	62.9 ± 14	54.3 ± 4.1	49.8 ± 3.3
1 Year Follow-up	17.1 ± 1.2	201 ± 55	34 ± 8	55 ± 21	37.9 ± 13	46.4 ± 11	47.4 ± 9.0	48.5 ± 9.0
P-value (Student's <i>t</i> -test)	N/A	<0.001	<0.001	N/A	<0.001	0.005	0.04	0.66