How does Sleeve Gastrectomy Impact Patient Satiety? A Cross-Sectional Analysis at a Major Academic Center

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Background

- Satiety, or the feeling of being full, is a primary driver of eating behavior.
- Sleeve gastrectomy (SG) alters the gastrointestinal physiologic and hormonal responses controlling hunger and satiation.
- However, assessment of patient-reported satiety following SG is lacking, and the temporal relationship between satiety and SG is not well understood.
- Furthermore, the affect of SG on patient cravings has yet to be elucidated.

Objectives

- Evaluate hunger, appetite, cravings, and satiation pre- and post-SG via a validated patient-reported outcome measure.
- Compare pre-operative levels of eating behaviors to post-operative levels at various time points

Methods and Procedures

- All patients at a major academic institution undergoing evaluation for metabolic and bariatric surgery (MBS) were given Daily Eats electronic questionnaire
  - Daily Eats questionnaire contains 5 questions, scaled 0 to 10, assessing feelings after eating.
    - Specifically addresses: average hunger, worst hunger, appetite, cravings, satiation
- Cross-sectional data, including demographics, obtained at four time points:
  - Preoperatively (baseline)
  - 0-6 months postoperatively
  - 7-12 months postoperatively
  - 13+ months postoperatively
- Average scores for each individual question was compared between each post-operative time point and the preoperative baseline

Results

Survey Compliance & Demographics

- 569 Daily Eats questionnaires completed
  - 518 pre-operatively
  - 51 post-operatively
- Overall survey compliance 82%

Table 1. Cohort Demographics

	Pre-Operative	Post-Operative	*p-value*
Age	44.6 (11.9)	44.3 (10.7)	0.30
Gender (M, n%)	28.6%	23.5%	0.43
BMI	46.2 (7.4)	40.9 (7.6)	<0.001

Daily Eats Questionnaire

- Significantly improved appetite, cravings, and satiety within 0-6 months post-SG
  - These food behaviors return to pre-operative levels by 1 year
- Significantly worse average hunger at 13+ months post-SG

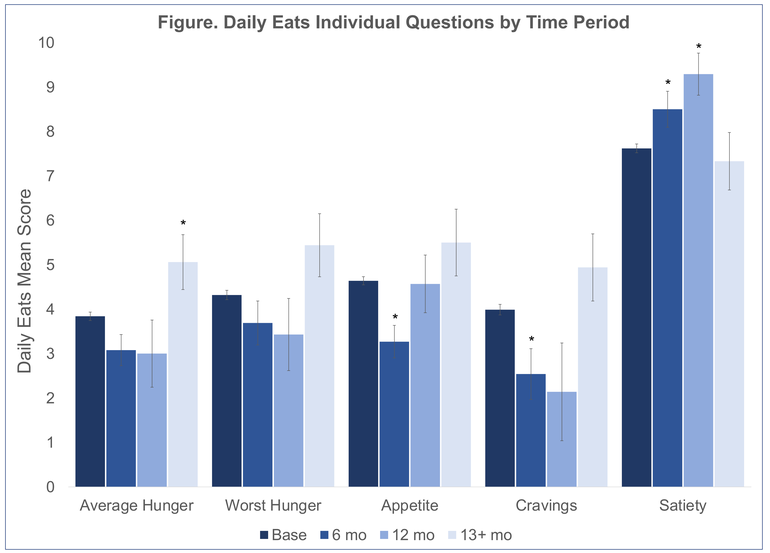
Table 2. Mean (SD) Values for Daily Eats Questions at Each Time Point

	Preoperative	0-6 Months	p-value	7-12 Months	p-value	13+ Months	p-value
Average Hunger	3.8 (2.1)	3.1 (1.7)	0.08	3.0 (2.0)	0.31	**5.1 (2.6)**	**0.02**
Worst Hunger	4.3 (2.4)	3.7 (2.5)	0.19	3.4 (2.1)	0.33	5.4 (3.0)	0.06
Appetite	4.6 (2.1)	**3.3 (1.9)**	**<0.01**	4.5 (1.7)	0.93	5.5 (3.1)	0.27
Cravings	4.0 (2.7)	**2.5 (2.9)**	**0.01**	2.1 (2.9)	0.07	4.9 (3.2)	0.15
Satiety	7.6 (2.2)	**8.5 (2.1)**	**0.05**	**9.3 (1.2)**	**0.05**	7.3 (2.7)	0.60

All post-operative time points compared to pre-operative values

Results

Figure. Daily Eats Individual Questions by Time Period



** Denotes p<0.05 compared to preoperative mean*

Conclusions

- There is a noticeable improvement in appetite, unhealthy cravings, and satiety immediately post-operatively following sleeve gastrectomy.
  - These improvements are not durable; after 1 year improvement in behaviors and feelings towards eating are lost.
- Average hunger is noticeably higher than pre-operative levels and satiety is substantially reduced after the first post-operative year.
- Bariatric programs should prioritize interventions during this period to maintain postoperative weight loss following SG.

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