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The Impact of Band Type, BMI, and Gastrointestinal Symptoms on Laparoscopic Adjustable Gastric Band Removal

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INTRODUCTION:

Laparoscopic adjustable gastric banding (LAGB) was introduced over 20 years ago as a less invasive bariatric procedure. However, complications such as meal intolerance, band slippage, erosion, and aggravated reflux often necessitate band removal or revision, which can increase morbidity. Identifying factors associated with band removal could help patients and providers recognize warning signs, reducing the need for emergency interventions

METHODS AND PROCEDURES:

A retrospective review was conducted on patients who underwent LAGB or removal at Johns Hopkins Bayview Medical Center (JHBMC) between 2004 and 2020, including those who had LAGB performed elsewhere but underwent band removal at JHBMC. Outcomes, including body mass index (BMI), percent excess weight loss (%EWL), and percent total weight loss (%TWL), were specifically analyzed for patients whose LAGB was placed at JHBMC. Potential factors associated with band removal were assessed using multivariate logistic regression.

RESULTS:

Among the 146 patients who received LAGB at JHBMC, the median time to band removal was 5.0 years. The median follow-up duration was 45 months, and the median BMI decreased from 43.39 kg/m² to 40.33 kg/m² at five years (p = 0.007). The mean %EWL and %TWL at five years were 22.77% and 10.79%, respectively. Among the 83 patients who underwent LAGB at outside institutions and later presented for removal, the median BMI was 37.97 kg/m², with a median time to removal of 7 years.

CONCLUSION:

Band type and high BMI were significant factors associated with LAGB removal. Gastrointestinal symptoms, particularly meal intolerance, aggravated reflux, and abdominal pain, were the most common indications for removal. Patients with these symptoms and risk factors should be monitored with a low threshold for referral to a bariatric surgeon for removal. Given the limited sample size, larger studies are needed to develop a predictive model to implement preemptive removal before complications occur.

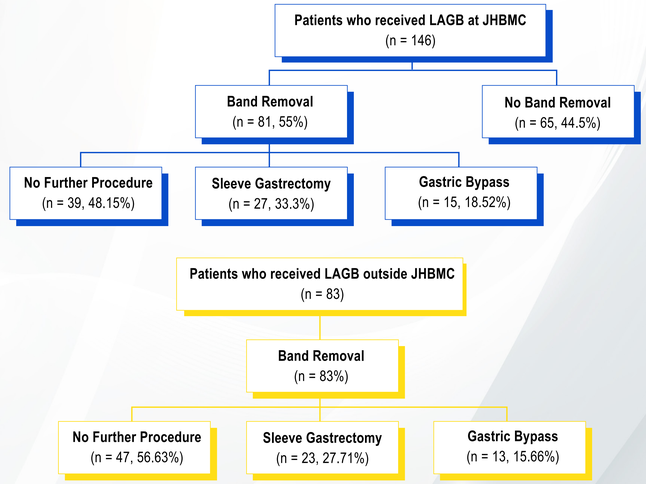


Figure 1. Flowchart of Patient Outcomes Following Laparoscopic Adjustable Gastric Banding (LAGB) Removal.

Table 1. Impact of Band Type, BMI, and Gastrointestinal Symptoms on LAGB Removal

Variable	Odds Ratio (OR)	95% CI	Proportion (%)	P-value
Band Type				
Realize bandTM	-	-	-	-
Lap-Band VG®	13.83	2.46 - 167.67	-	**0.002**
Lap-Band AP®	9.915	0.004 - 2492.397	-	0.598
Others	0.618	0.021 - 439.22	-	0.822
BMI Category				
BMI < 40	-	-	0/19	0.793
BMI 40-50	-	-	5/46	-
BMI > 50	-	-	76/81	**<0.001**
Reason for Band Removal				
Meal intolerance	-	-	55.82%	-
Aggravated reflux	-	-	52.76%	-
Abdominal pain	-	-	21.47%	-