

# “Correlation of Marshmallow Esophagram with High Resolution Manometry and Clinical Outcomes”

Chloe Caudell, Dr. Shanu Kothari  
University of South Carolina School of Medicine Greenville; Prisma Health Upstate

## Background

- Esophageal motility is important in understanding candidacy for anti-reflux surgery.
- Traditionally, esophageal motility assessment has been performed with high-resolution manometry (HRM). HRM provides detailed analysis of esophageal motility and function.
- Unfortunately, it is performed with passage of a tube down the nares into the stomach, which some patients find quite intolerable and painful.
- In 2019, Prisma introduced a screening test for motility which involves a marshmallow swallow with radiographic visualization.

## Purpose

- To evaluate the accuracy of using the minimally invasive marshmallow esophagram as a preoperative screening technique for patients.

## Aims

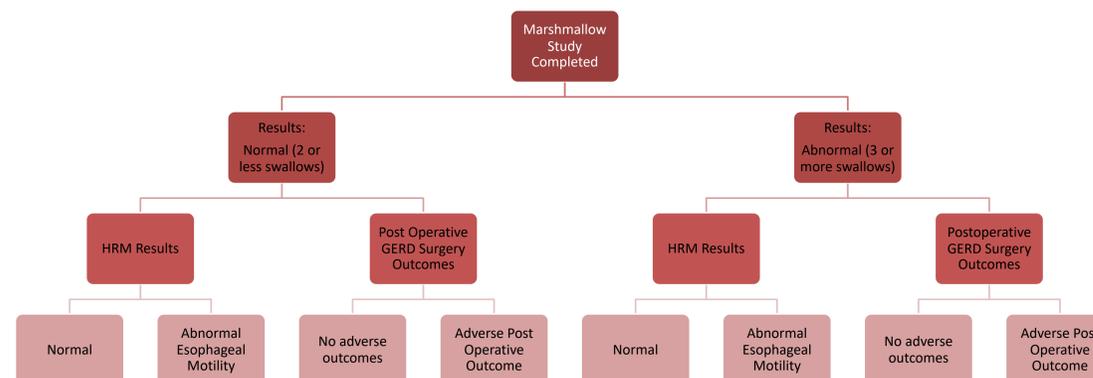
- Correlate marshmallow study results with HRM results.
- Correlate marshmallow study results with postoperative dysphagia and surgery outcomes.

## Methods

- Retrospective chart review of data on 100 adult patients ( $\geq 18$  years of age) who underwent marshmallow swallow studies at Prisma Health-Upstate from June 1, 2020 through May 1, 2021.
- Data abstraction and analysis focused on patient data routinely collected and documented in the Prisma Health electronic health record system (EPIC).

## Methods Continued

- To be included in the study patients must have undergone a **marshmallow study** plus one of the following options:
  1. Gastroesophageal reflux disorder (GERD) Surgery
  2. HRM study
  3. Both GERD Surgery and HRM study



- Adverse post operative outcomes include:
  - Need for post operative intervention
  - Readmission within 30 days
  - Readmission within a year
  - Need for post operative steroids
  - Need for post operative PPI use

## Results

**This is an ongoing study with results pending analysis.**

- Hypothesis 1: Marshmallow esophagram results will be correlated with HRM results. A pass on marshmallow study will be correlated with normal HRM.
- Hypothesis 2: Marshmallow esophagram results will be correlated with post-operative dysphagia. A pass on marshmallow study will be correlated with no adverse post operative outcomes.

## Conclusion

If results demonstrate that the marshmallow study correlates with outcomes of HRM, we would then be able to recommend this marshmallow screening technique in place of HRM. Marshmallow study would then serve as an accurate and minimally invasive screen, improving the comfort level of patient care when assessing candidacy for antireflux surgery.

## References

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3. Xiao Y, Nicodeme F, Kahrilas PJ, et al. Optimizing the swallow protocol of clinical high resolution esophageal manometry studies. Neurogastroenterol Motil. 2012;24(10):e489-496. Doi:10.1111/j.1365-2982.2012.01989.x

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