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# Bariatric Management Beyond Medical Treatment

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# ■ Conflicts of Interest

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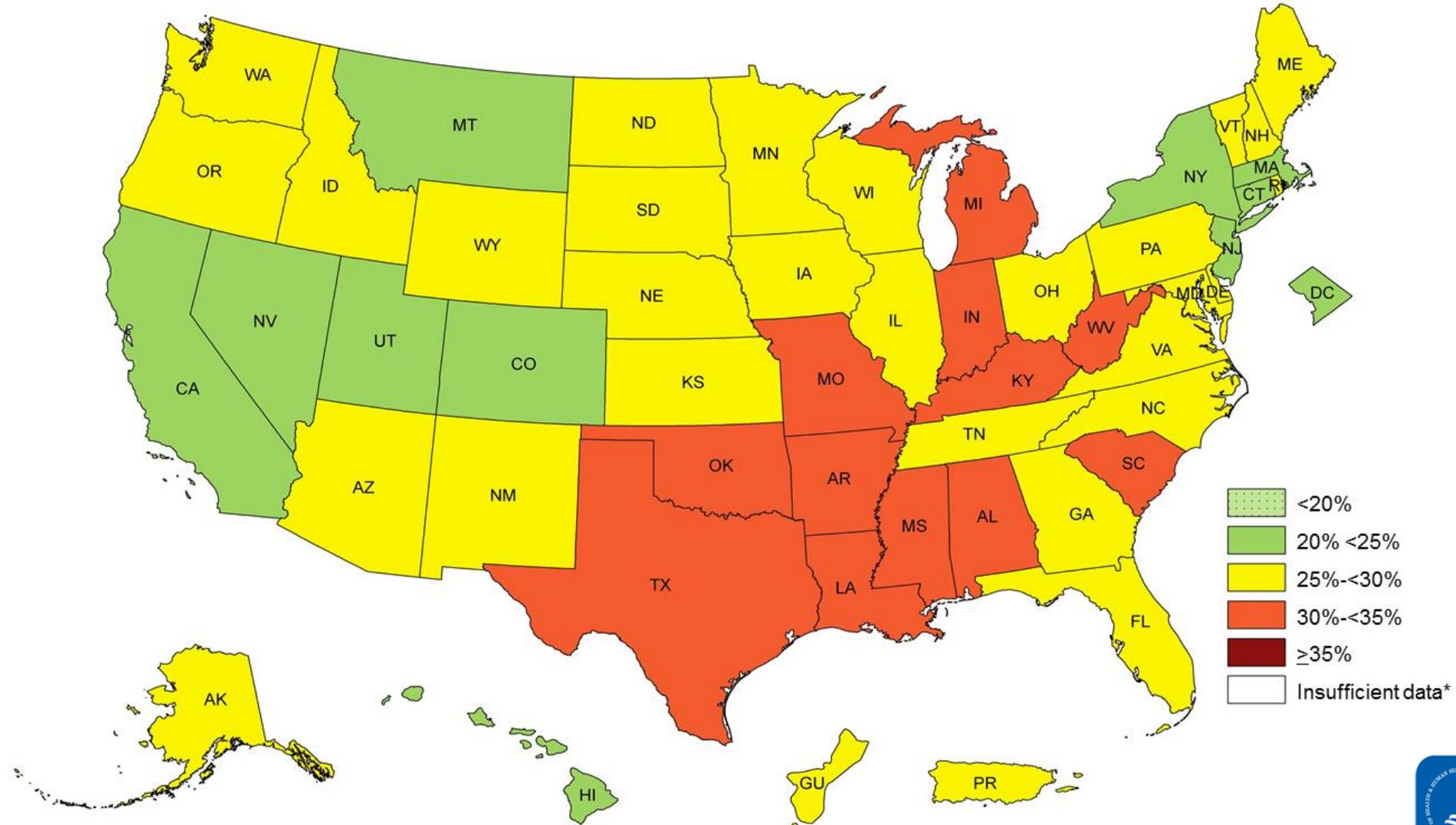
No Conflicts of Interest

# ■ Outline

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1. Obesity: Prevalence and Outcomes
2. Endoscopic Management For Obesity: Primary Therapy
  - a) Endoscopic Sleeve Gastroplasty
3. Revision After Bariatric Surgery
  - a) Revisional Endoscopic Sleeve Gastroplasty of L-ESG
  - b) Transoral Gastric Outlet Reduction

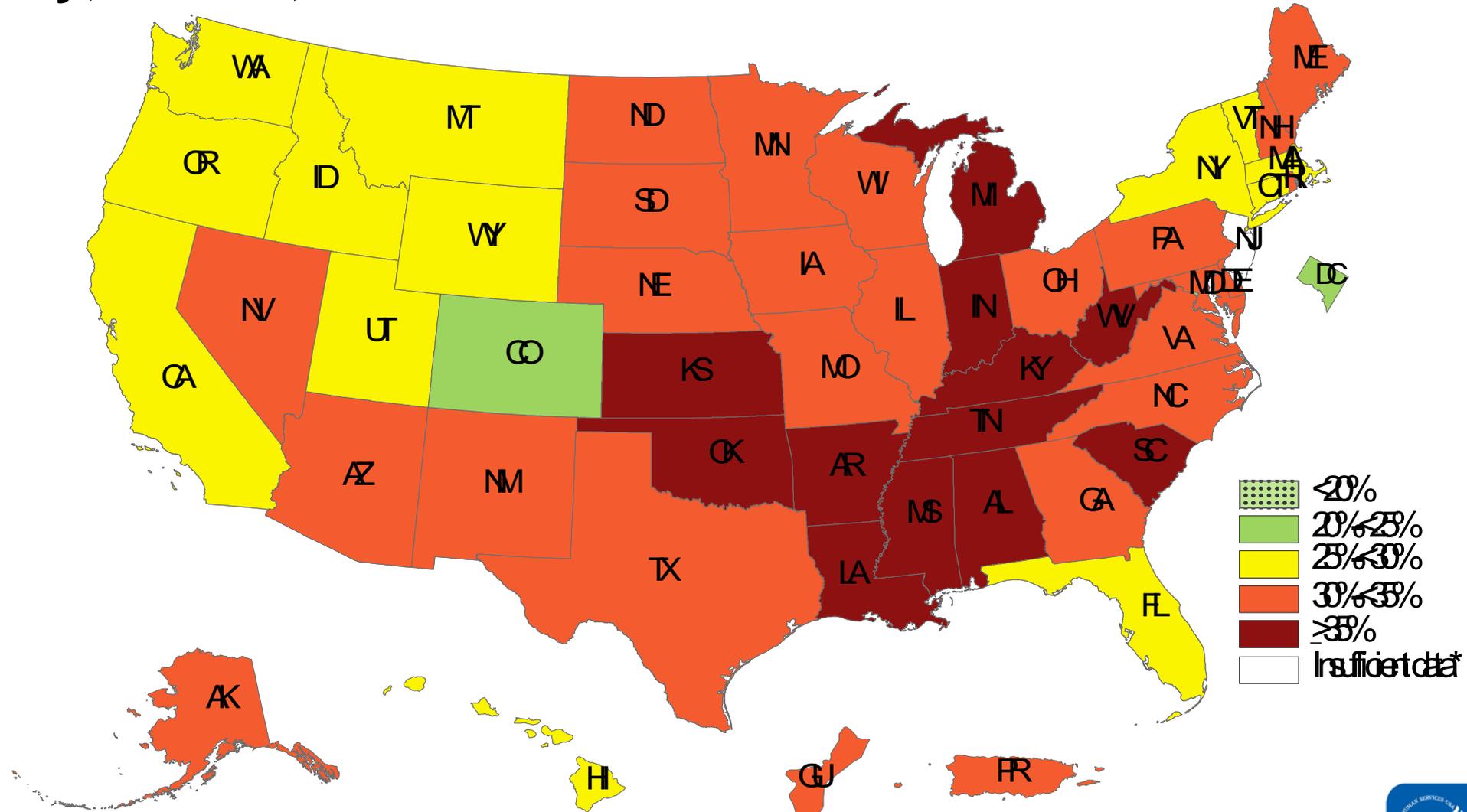
# Prevalence of Self-Reported Obesity Among U.S. Adults by State and Territory, BRFSS, 2011



\*Sample size <50, the relative standard error (dividing the standard error by the prevalence) ≥30%, or no data in a specific year.



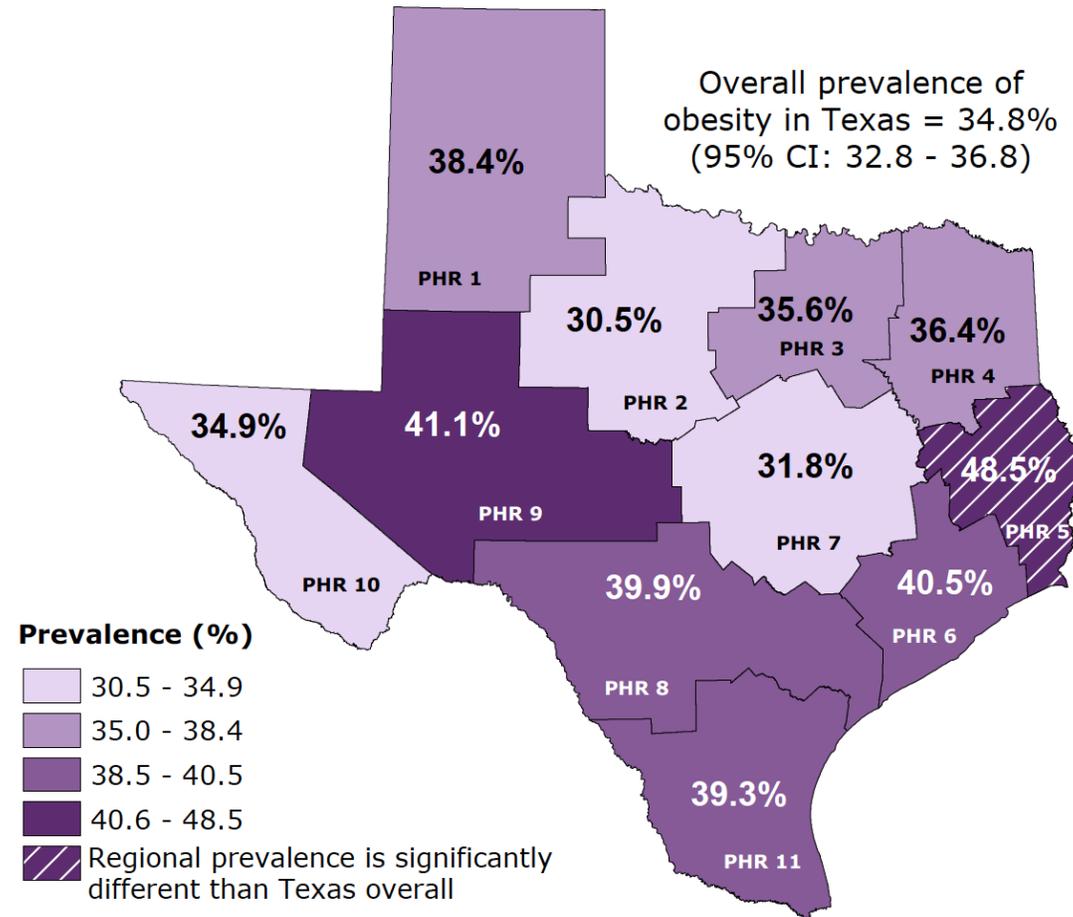
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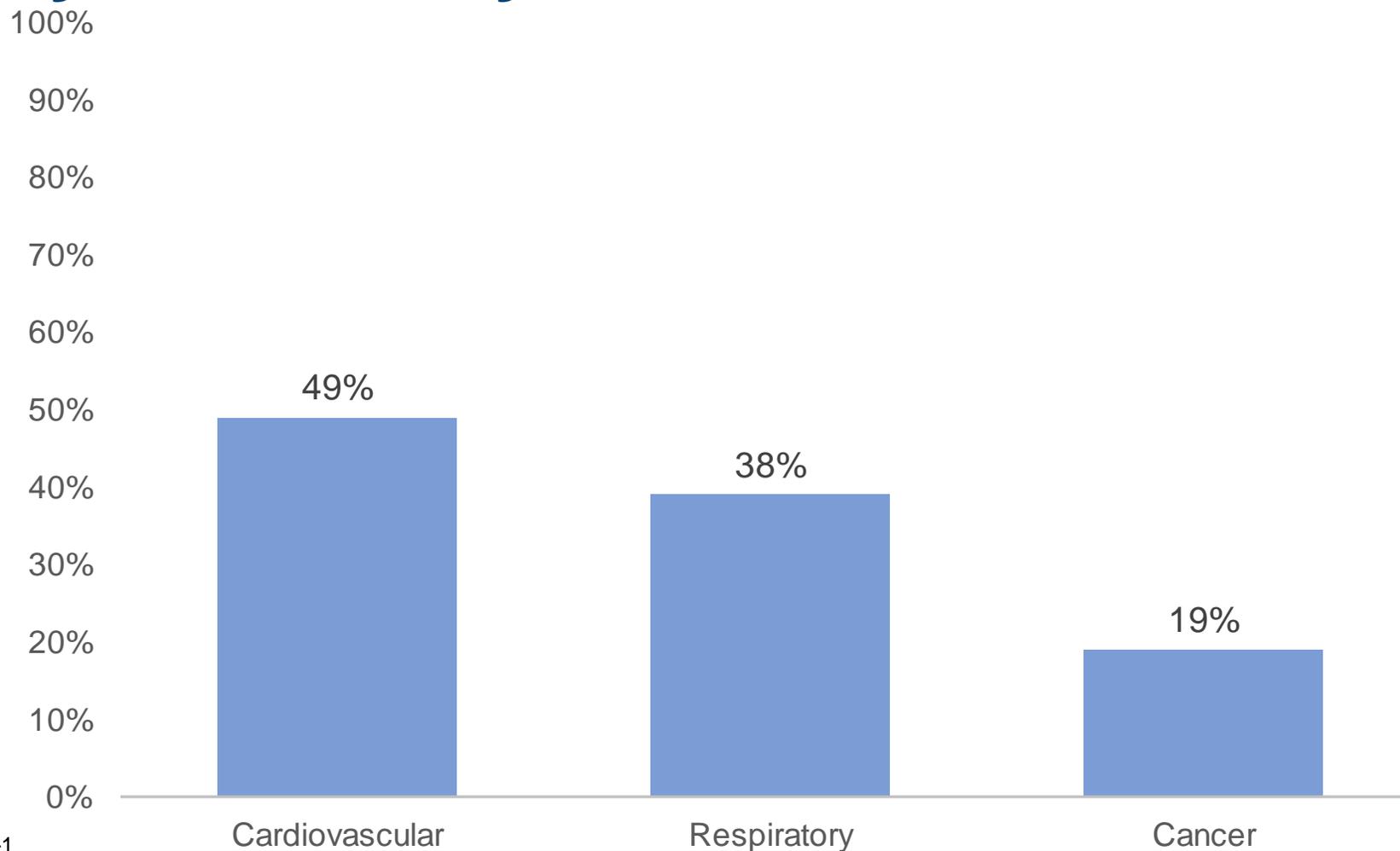


# Prevalence of Obesity Among Adults, by Public Health Region (PHR), Texas, 2018



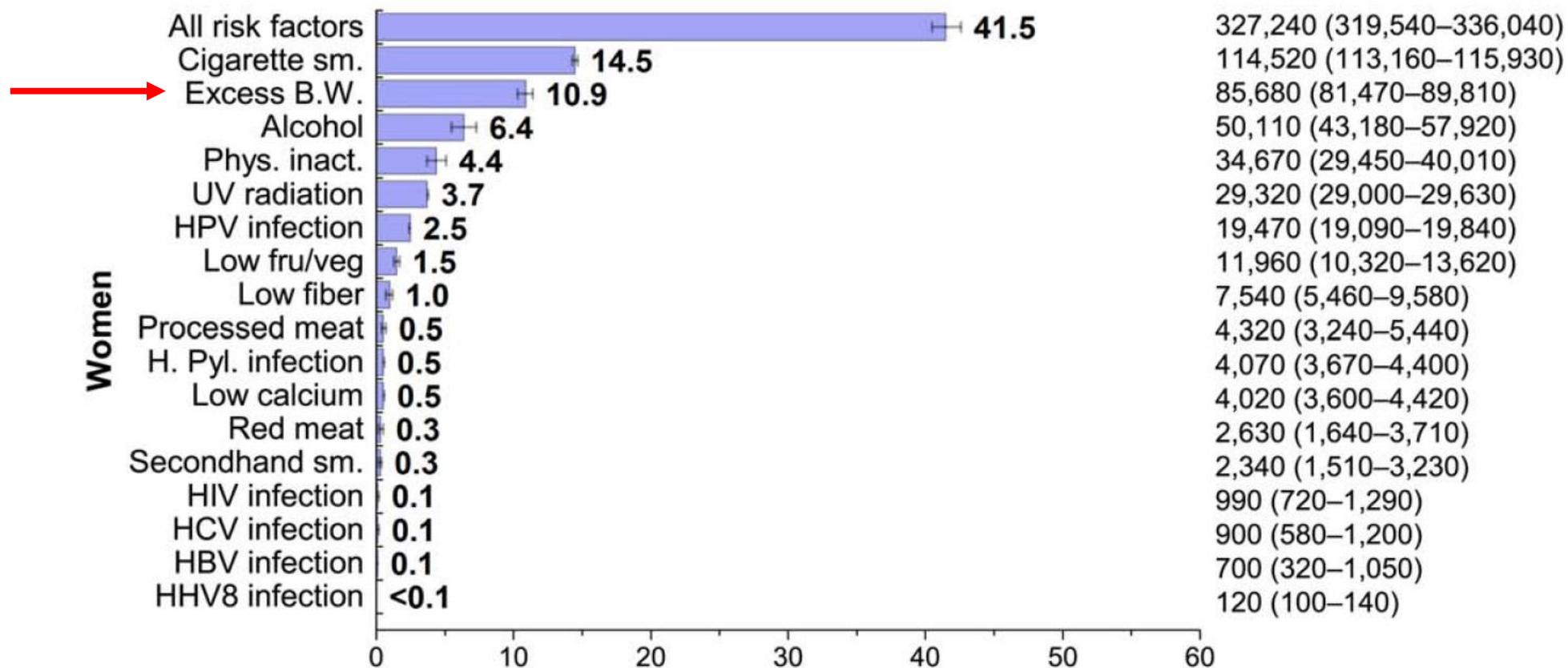
# ■ Obesity & Mortality

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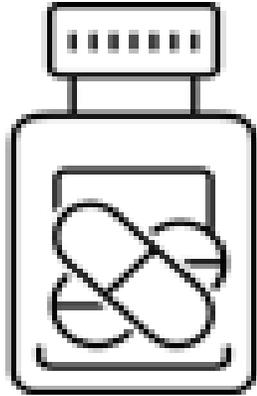
Doi:10.1016/S0140-6736(16)30175-1

# Obesity & Cancer

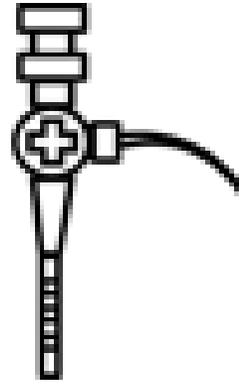


Doi: 10.3322/caac.21440.

# Management of Obesity



Non-Surgical Options



Endoscopy

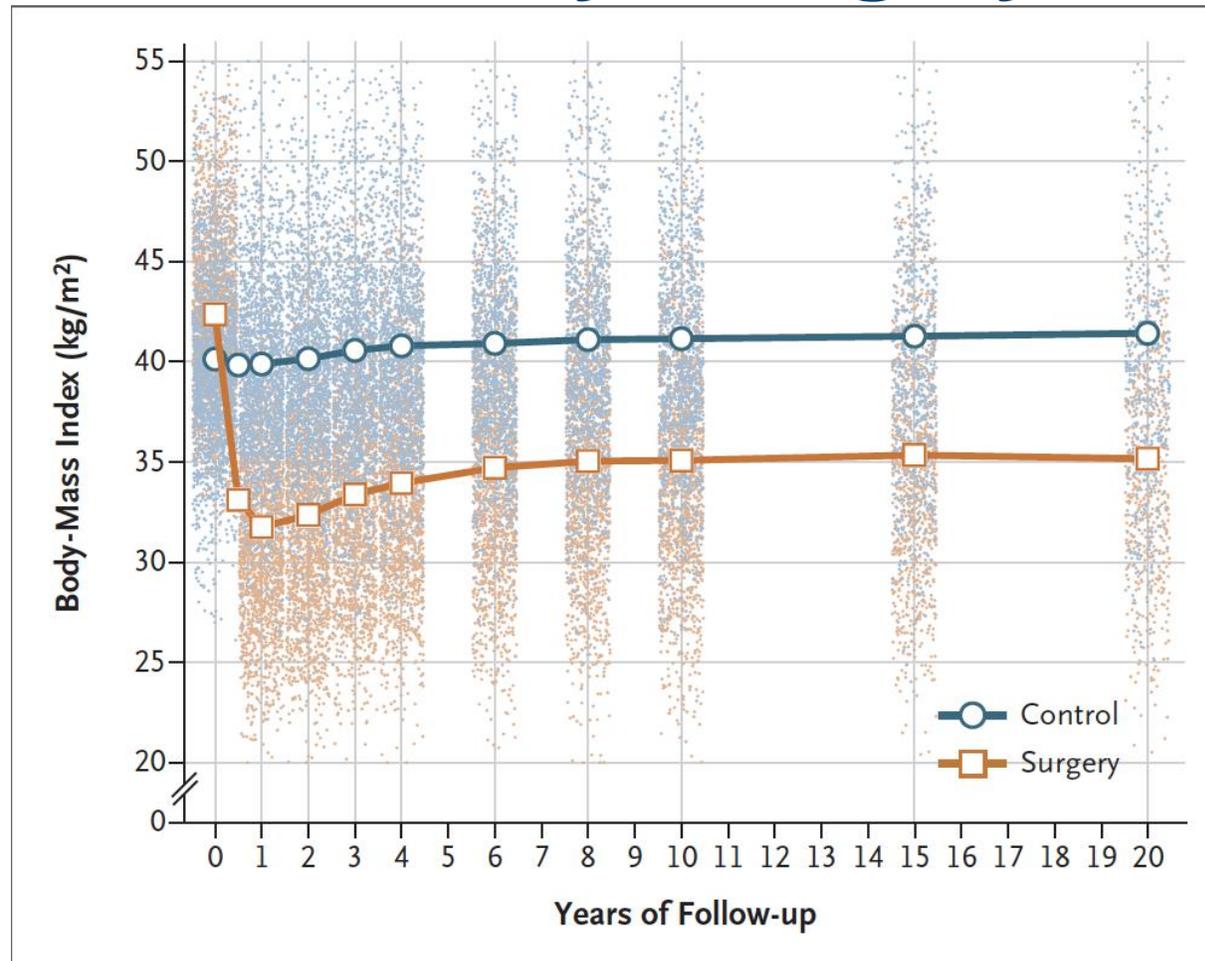


Surgery

Least Invasive

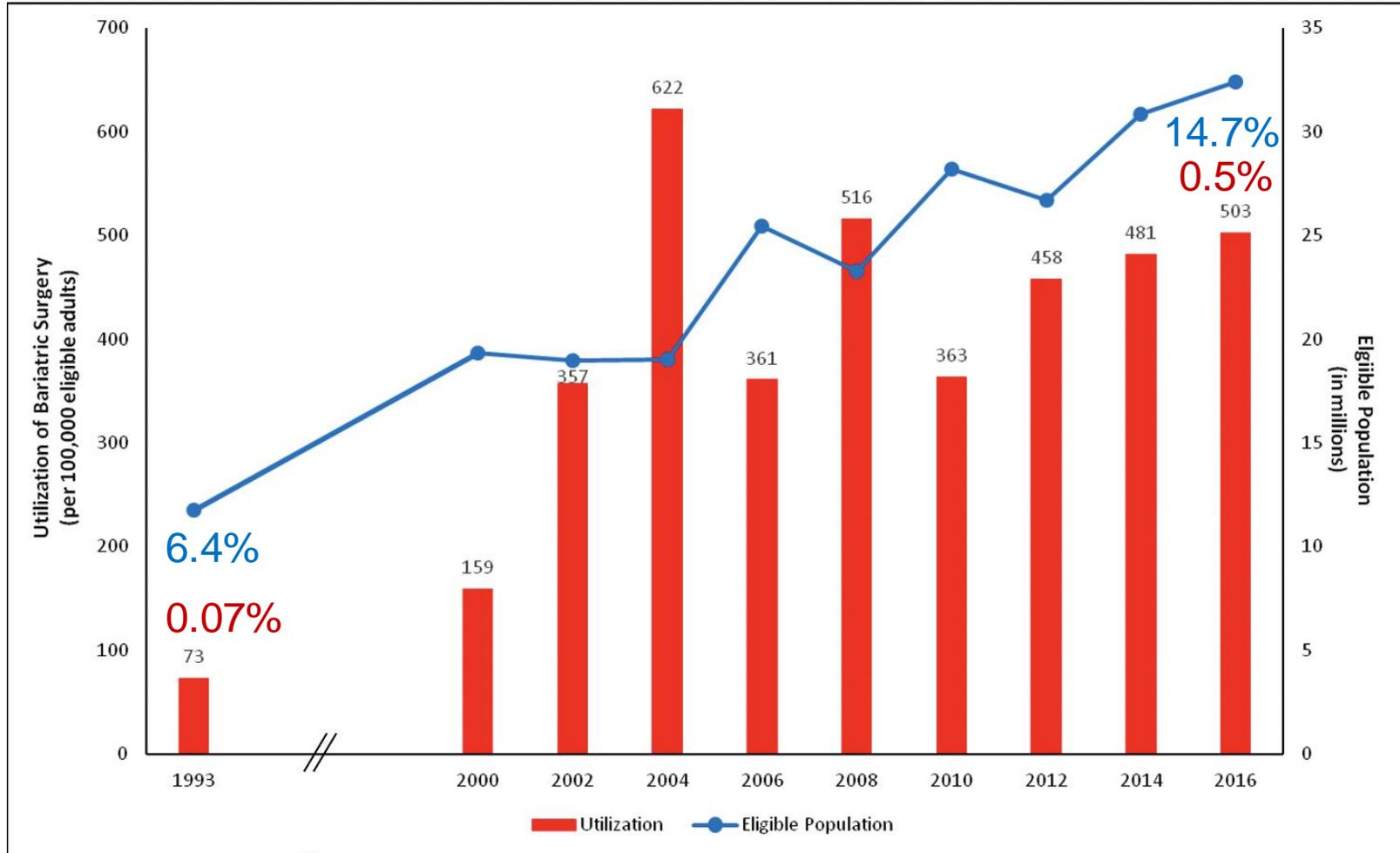
Most Invasive

# Management of Obesity: Surgery



★ HR for death from CV disease: 0.70 (95% CI 0.57, 0.85)  
HR for death from cancer: 0.77 (95% CI 0.61, 0.96)

# Utilization of Bariatric Surgery



Doi: 110.1097/SLA.0000000000003554

# Multi-Disciplinary Approach To Weight Loss

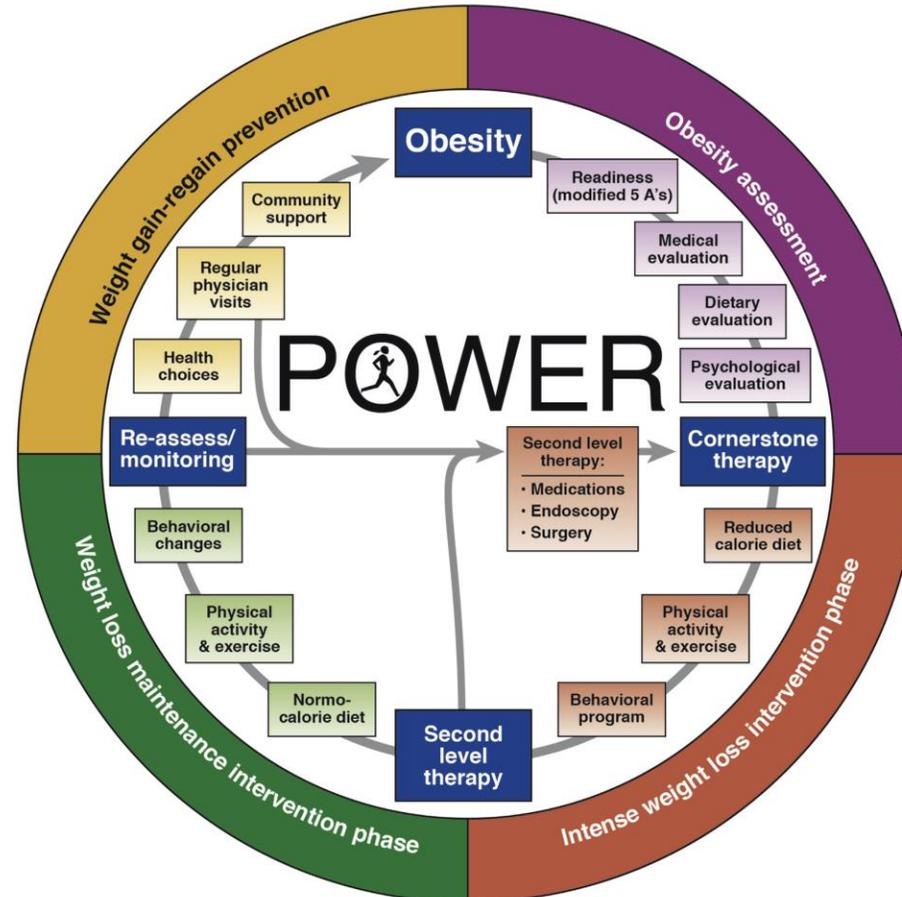


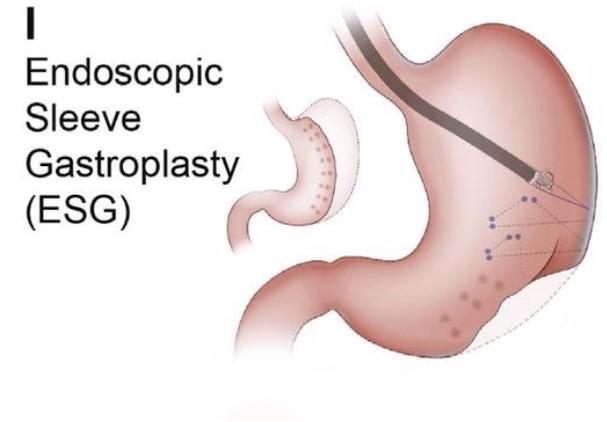
Figure 1. POWER: Practice Guide on Obesity and Weight Management, Education and Resources.

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# Endoscopic Management For Obesity: Endoscopic Sleeve Gastroplasty (ESG)

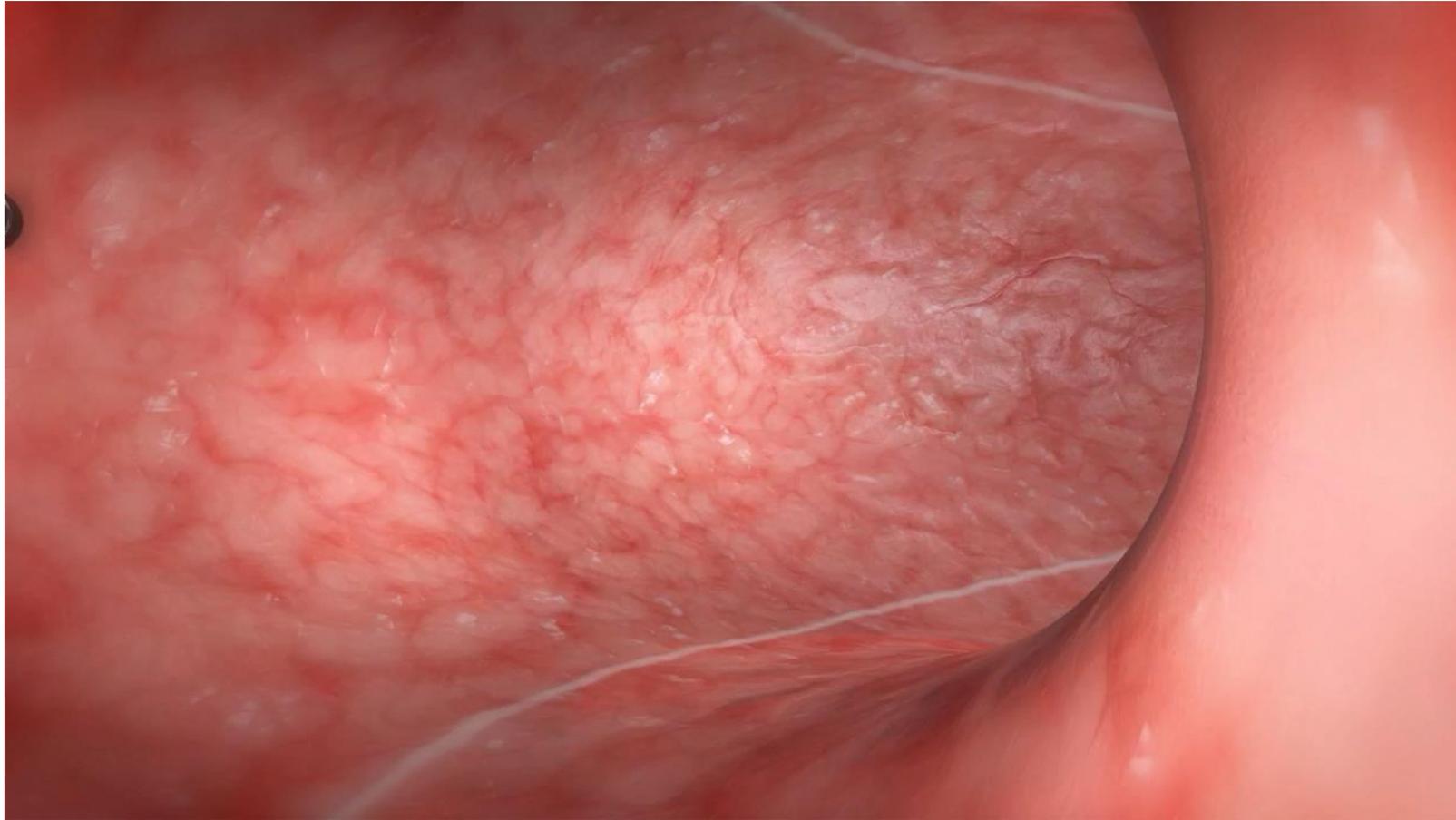
# ■ Endoscopic Sleeve Gastroplasty (ESG)

- **What is it:**
  - Endoscopically suturing anterior and posterior aspects of the stomach together using the OverStich Device.
  - Created a tubular 'sleeve' appearing stomach to help restrict food intake
  - Ideally reduces stomach volume by 70-80%
  - Outpatient procedure
- **Who Qualifies?**
  - Patients 18 years and older
  - BMI at least 27 kg/m<sup>2</sup>
  - Prior attempts at weight loss were unsuccessful
  - Do not qualify for surgery or do not want surgery
  - Bridge to surgery for patients who do not qualify due to BMI and/or comorbidities

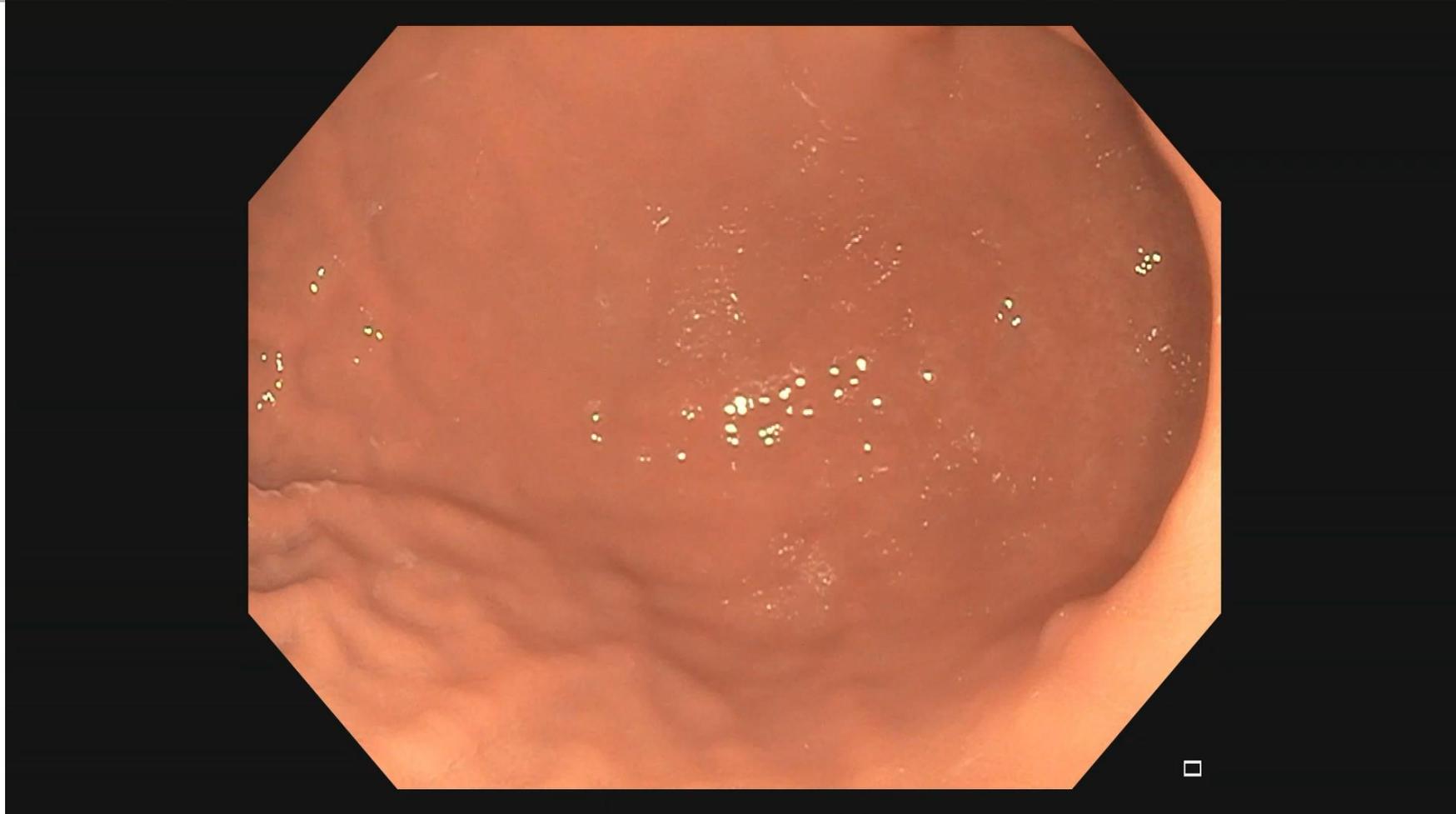


# ■ Endoscopic Sleeve Gastroplasty (ESG)

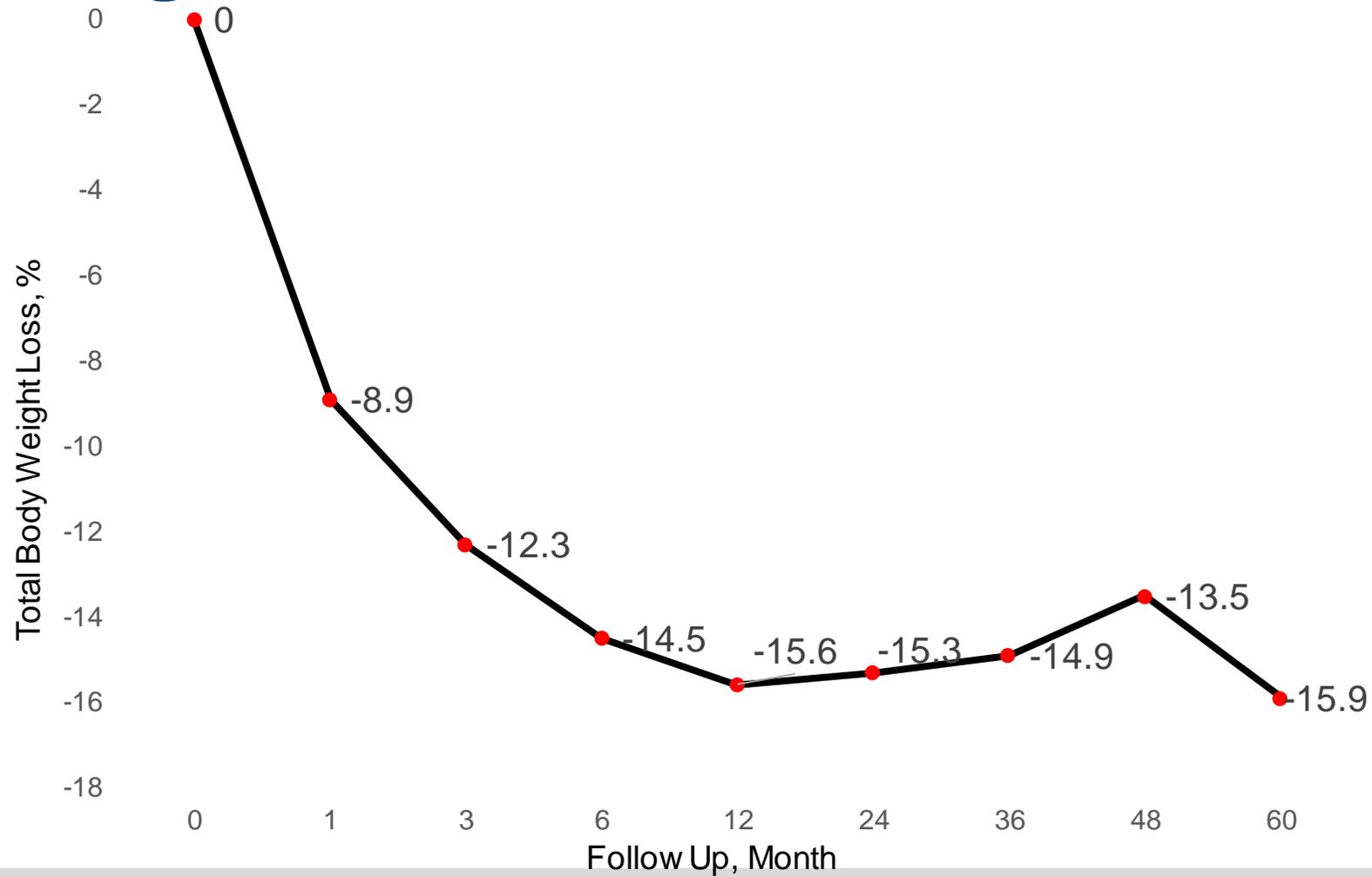
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# ■ Endoscopic Sleeve Gastroplasty (ESG): Video

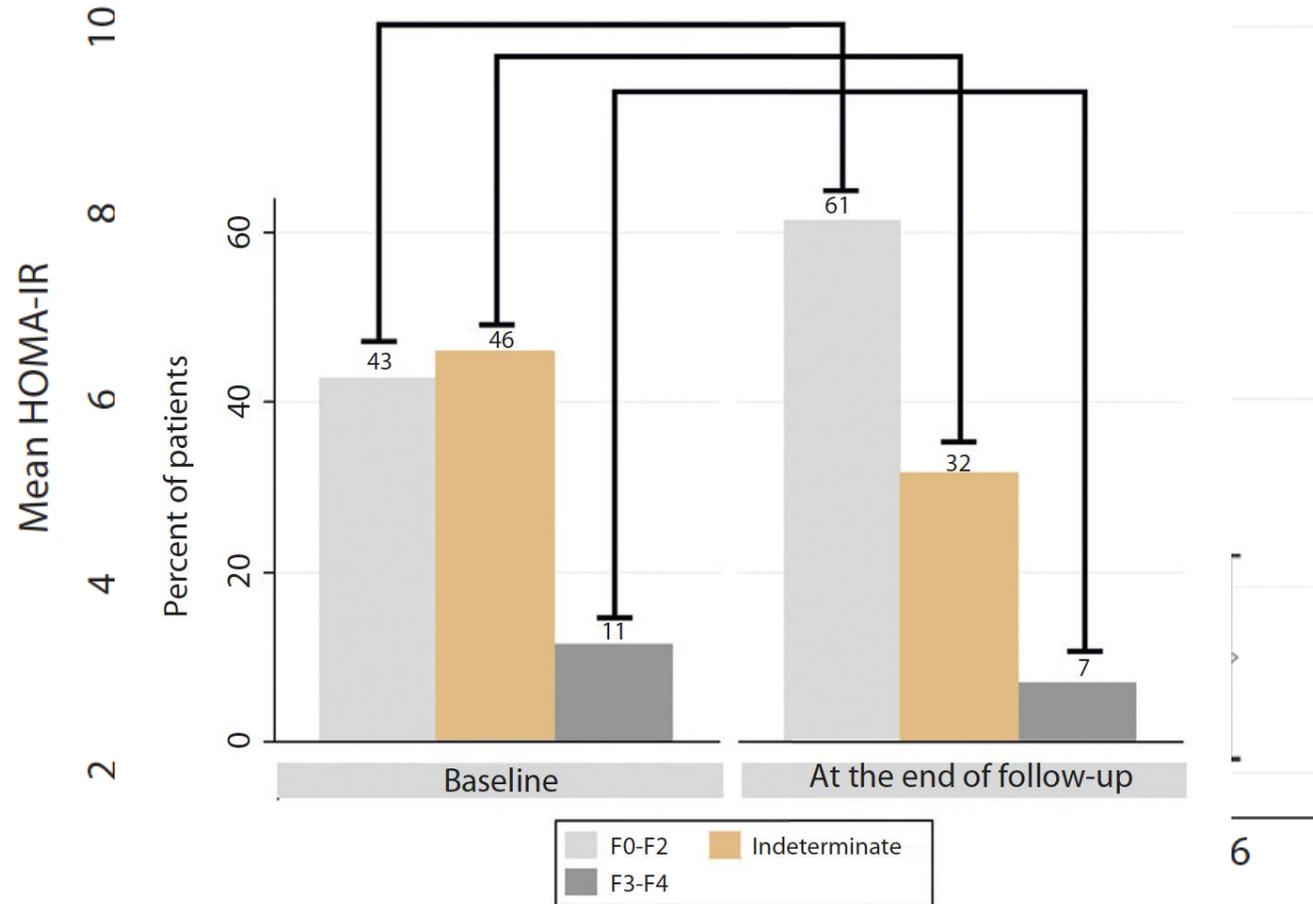


# ESG: Weight Loss Outcomes



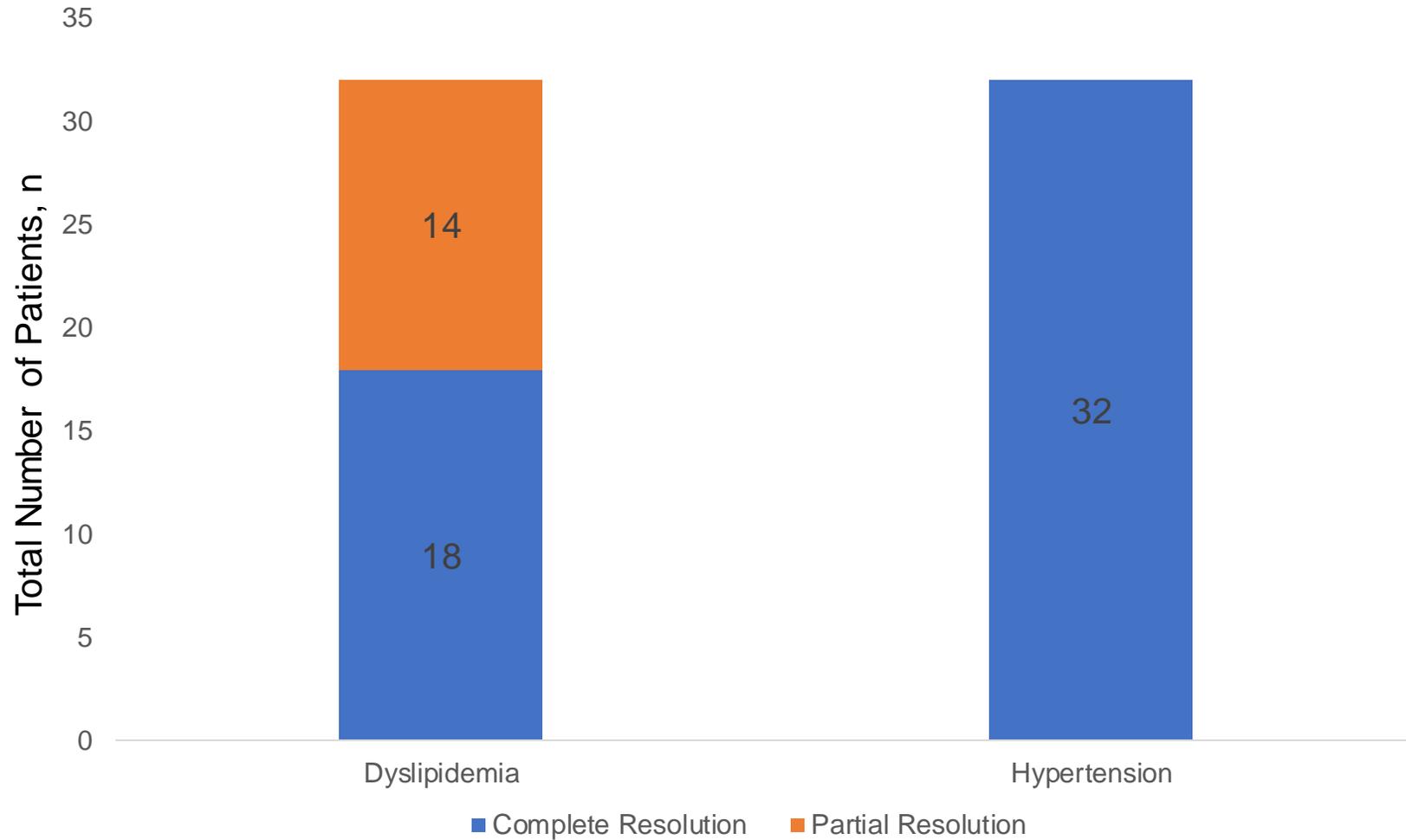
Doi: 10.1016/j.cgh.2020.09.055

# ESG: Metabolic Outcomes



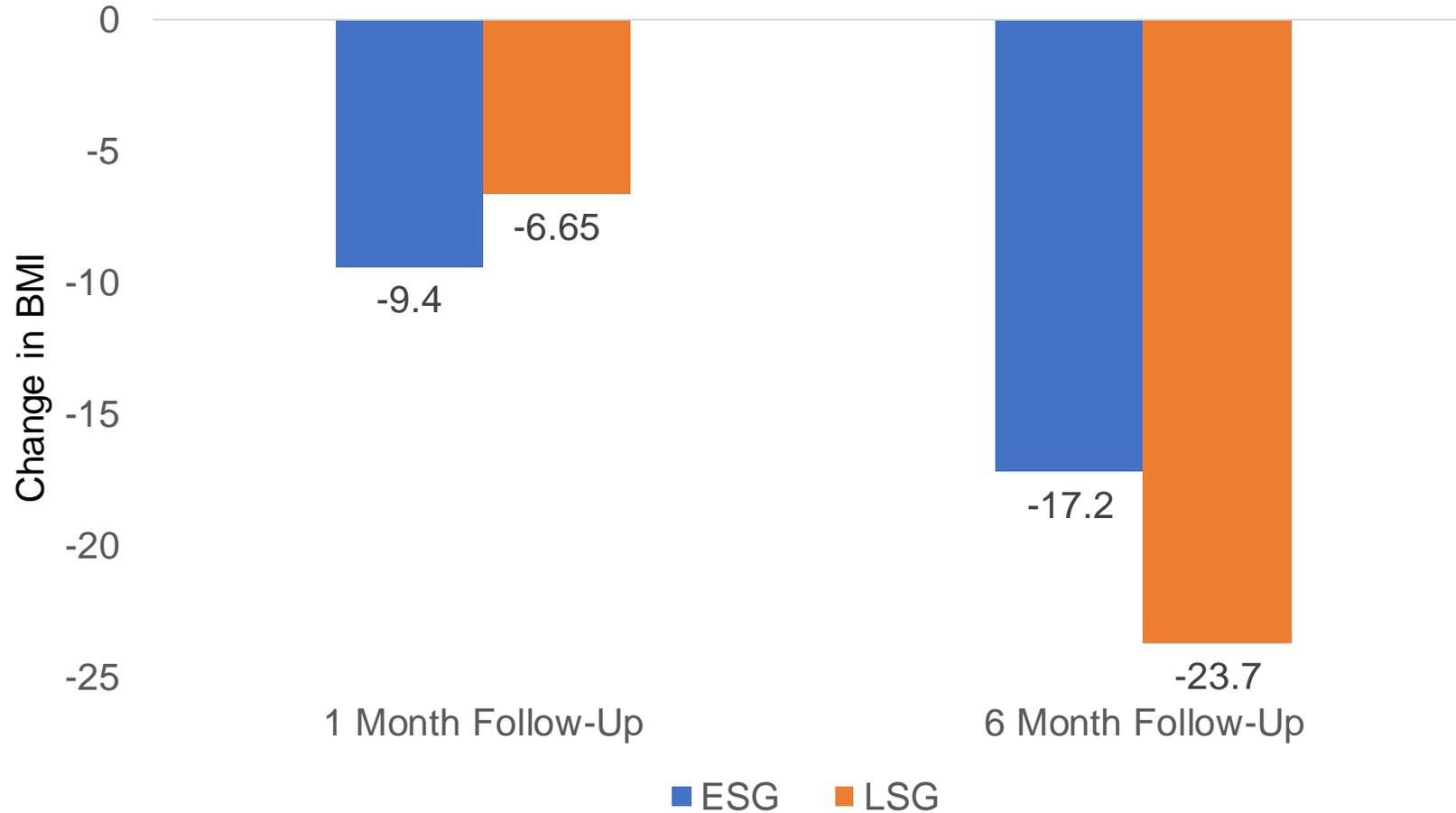
Doi: 10.1016/j.gie.2020.08.023

# ESG: Metabolic Outcomes



Doi: 10.1016/j.gie.2018.12.012

# ESG vs. LSG



# ■ ESG: Adverse Events

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- Pooled Adverse Event Rate: 2.2%
- Common Adverse Events
  - Nausea, Vomiting, Dehydration, Bloating, Abdominal Pain
- Less Common Adverse Events (<2%):
  - Peri-Gastric fluid collection, GI bleed, and GERD (1.9%)

# ■ ESG: Room For Improvement

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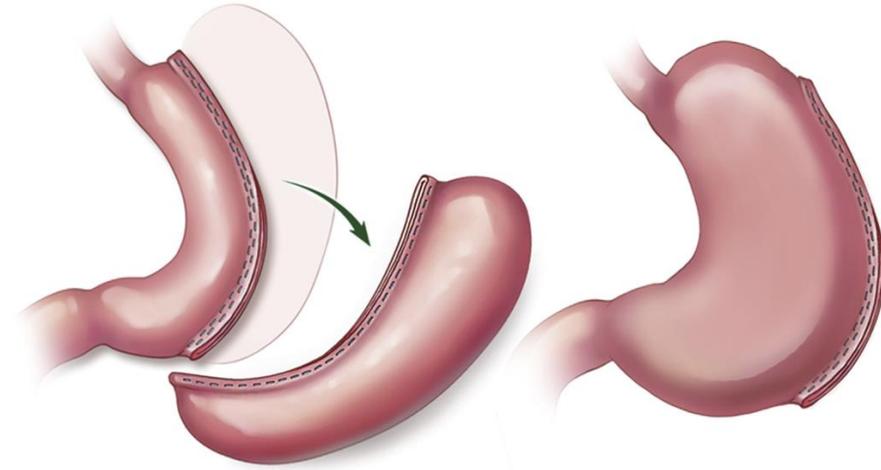
- Not covered by insurance at this time
  - UTSW: ~\$9000 out of pocket
  - Other Centers Across US: \$10,000-\$16,000
- Improve access to patient populations that lack data on efficacy
  - Cancer survivors
  - Minorities, including Hispanic and non-Hispanic Blacks
- Ideal timing to augment weight loss with medications

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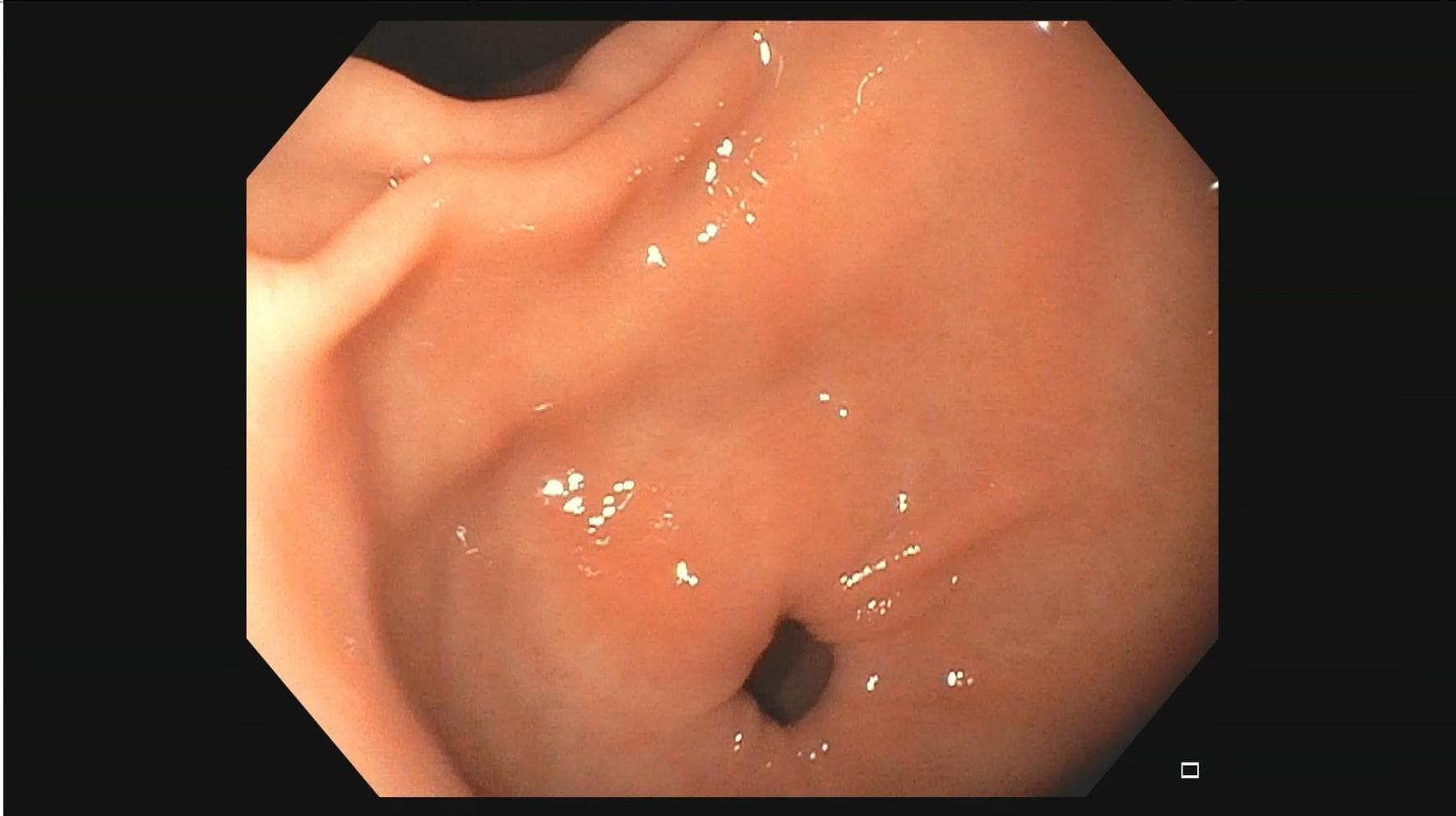
# Revision After Bariatric Surgery: r-ESG

# ■ Revisional Endoscopic Sleeve Gastroplasty (r-ESG)

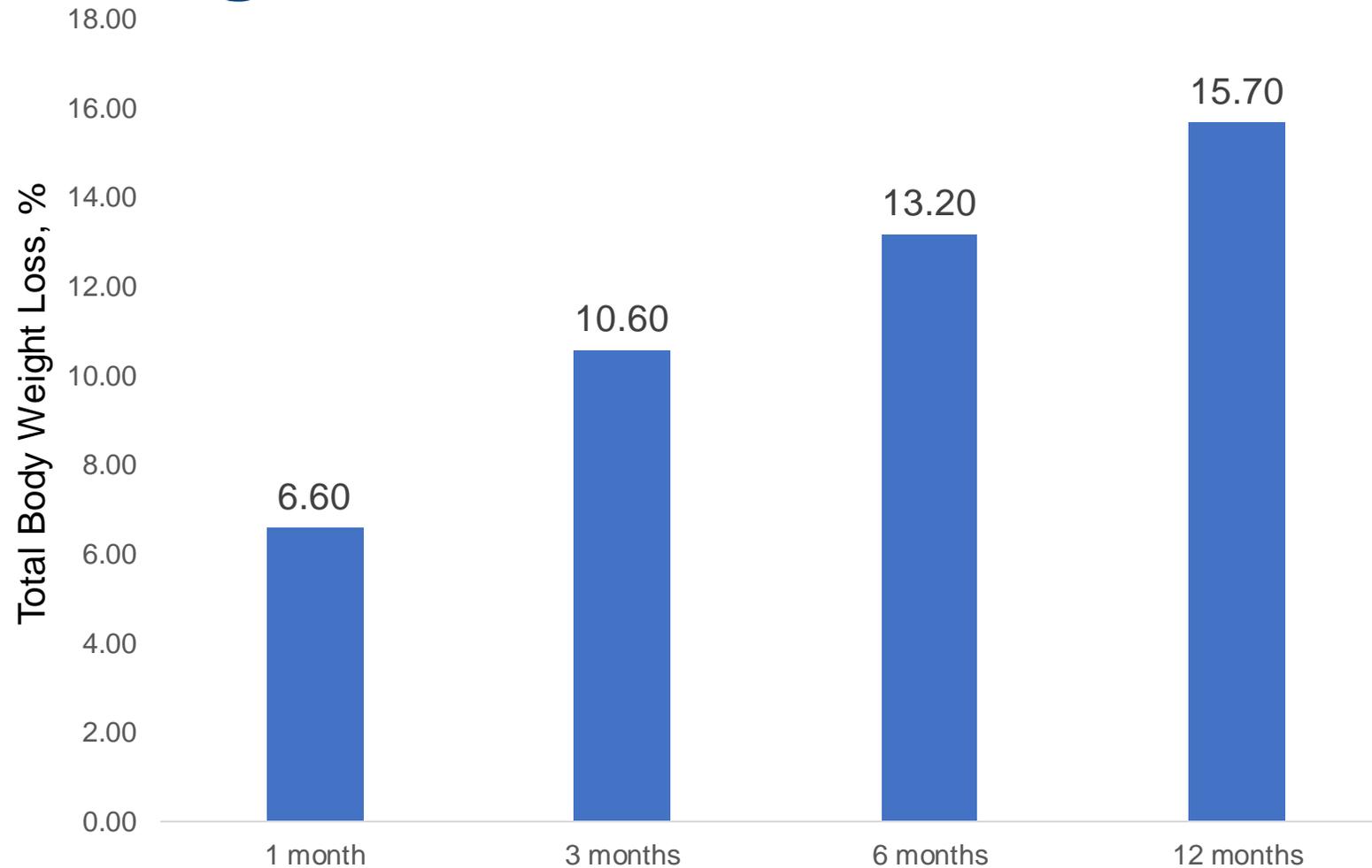
- **What is it:**
  - Reduction of a dilated laparoscopic sleeve gastrectomy using the approach used for an ESG
  - Aims to reduce the volume of the dilated gastric sleeve and shorten its length.
- **Who Qualifies?**
  - Weight regain after laparoscopic sleeve gastrectomy with a BMI of at least 27 kg/m<sup>2</sup>
  - High risk for surgical revision to Roux-en-Y gastric bypass or do not want to pursue surgery



# Revisional Endoscopic Sleeve Gastroplasty (r-ESG): Video



# r-ESG: Weight Loss Outcomes



# ■ r-ESG: Adverse Events

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- Similar adverse events to ESG
  - Dehydration
  - GERD
  - Nausea
  - Vomiting

## ■ r-ESG: Next Steps

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- Long term efficacy > 1 year
- Utilization of medications to augment weight loss
- Ideal timing to perform r-ESG after laparoscopic sleeve gastrectomy

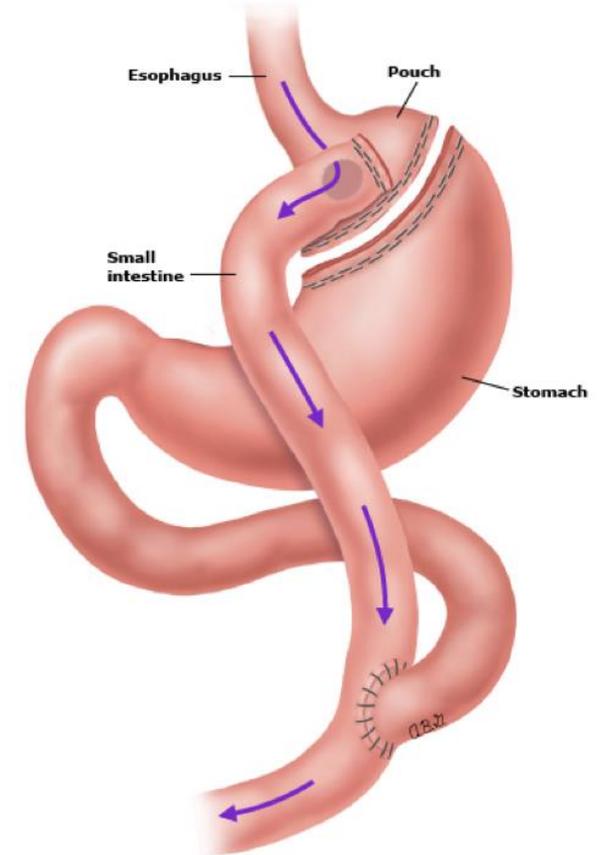
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# Revision After Bariatric Surgery: Transoral Gastric Outlet Reduction (TORE)

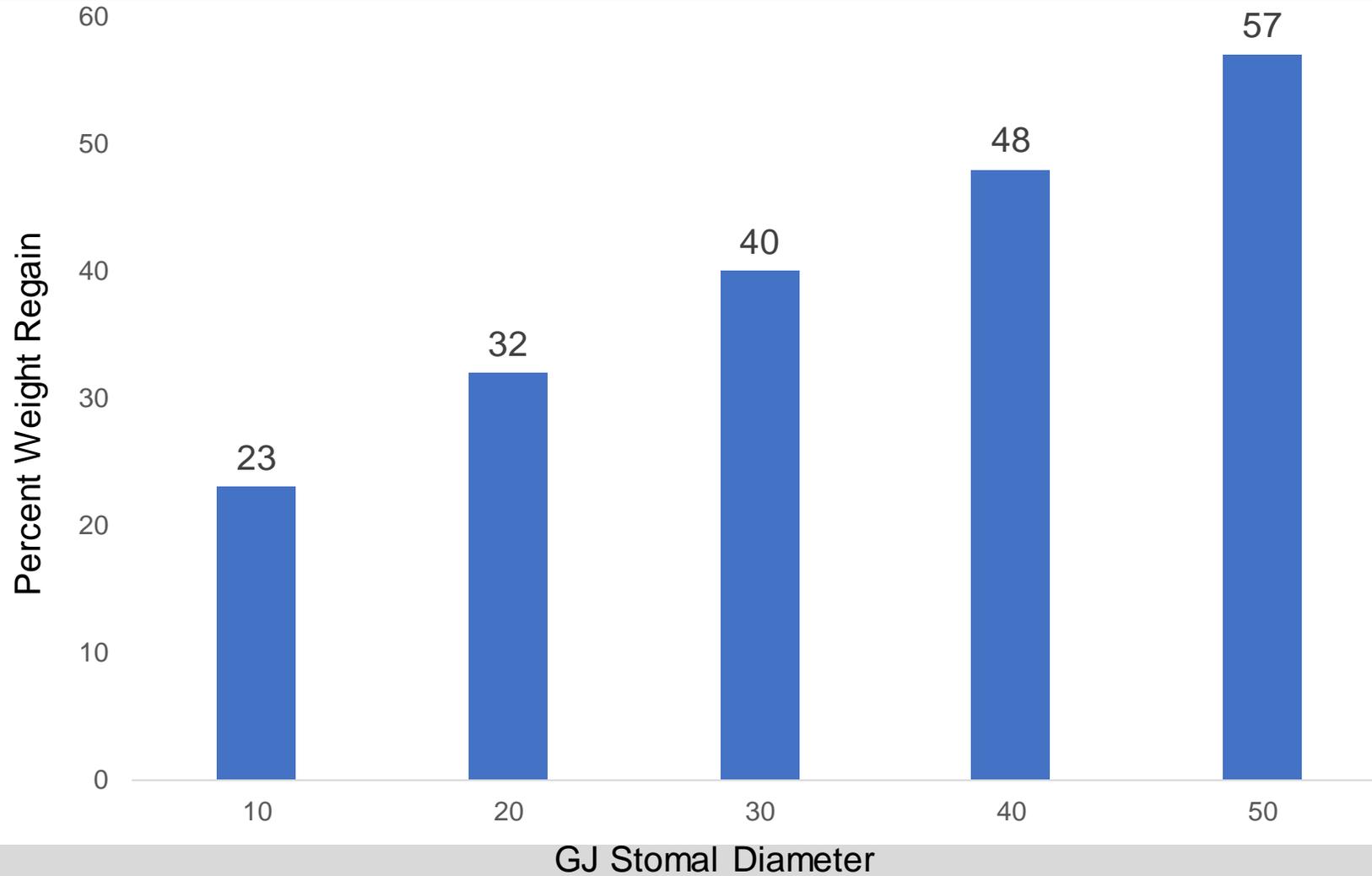
# ■ Transoral Gastric Outlet Reduction (TORE)

- **What is it:**
  - Transoral outlet reduction (TORe) uses APC and the OverStich Device to reduce the size of the GJ anastomosis.
- **Who Qualifies?**
  - Weight regain after Roux-en-Y gastric bypass with BMI of at least 27 kg/m<sup>2</sup>
  - Dumping syndrome and/or reactive hypoglycemia after Roux-en-Y gastric bypass
  - Dilated gastrojejunal anastomosis

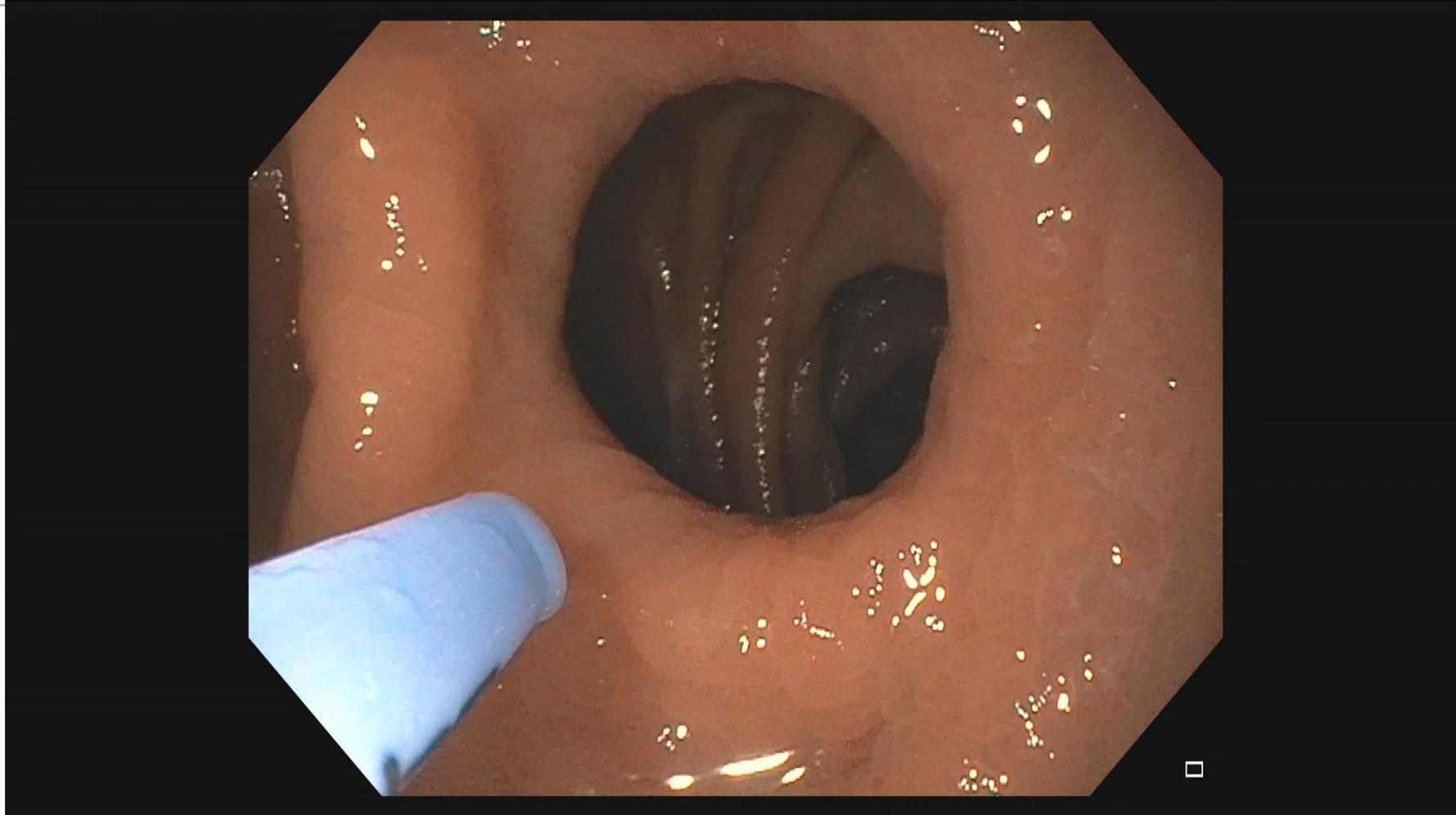
Roux-en-Y gastric bypass



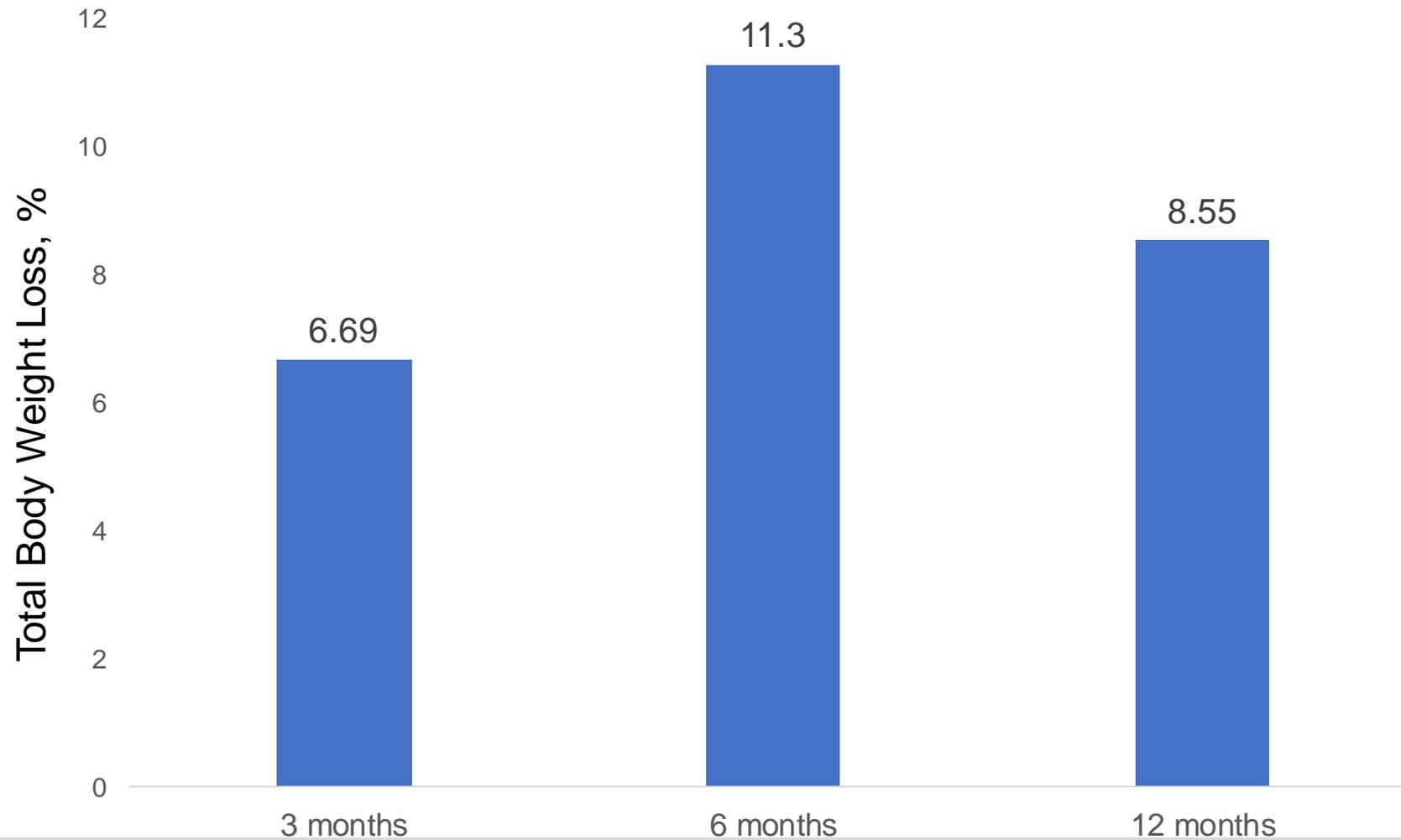
# Transoral Gastric Outlet Reduction (TORE): Weight Loss Outcomes



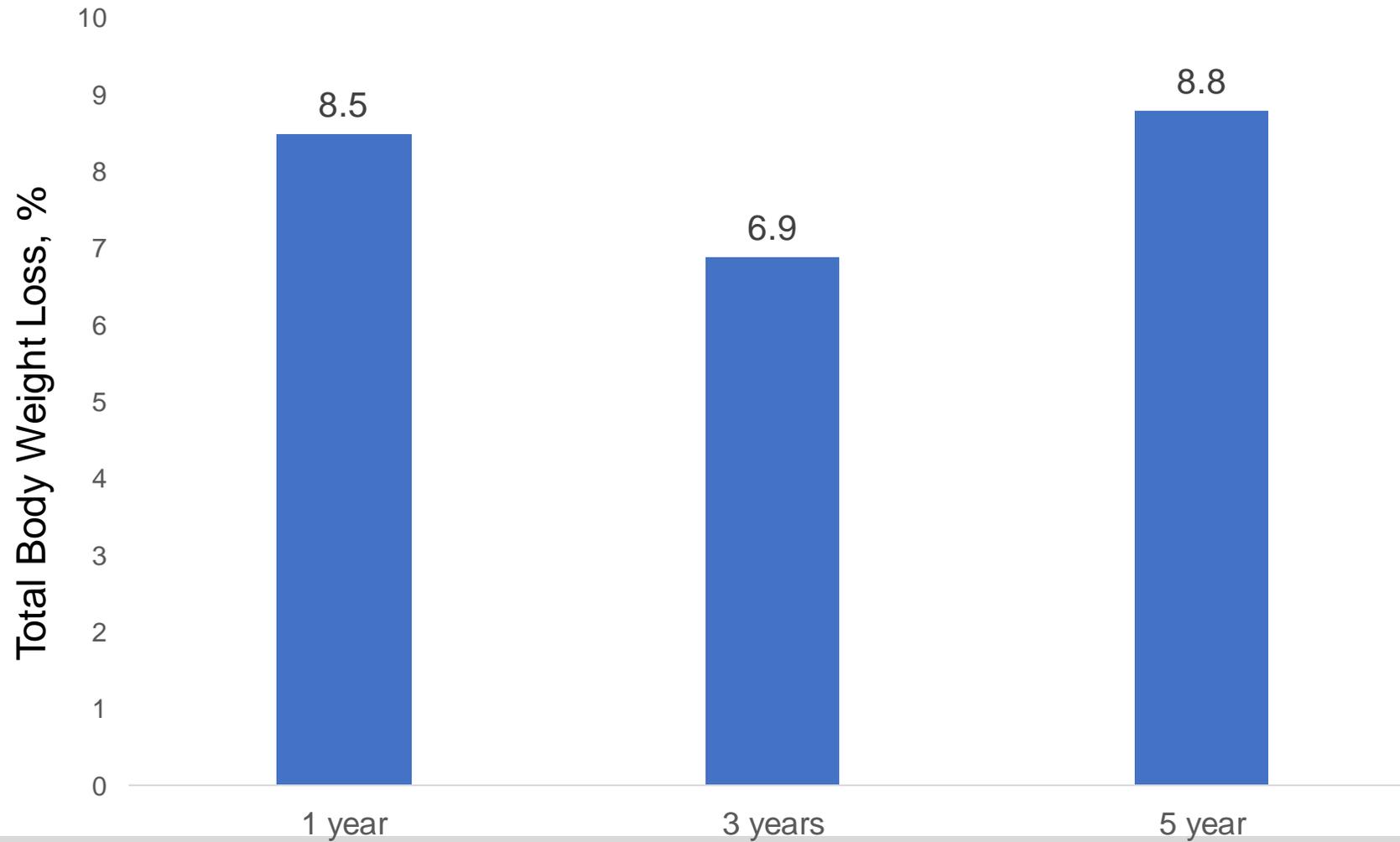
# ■ Transoral Gastric Outlet Reduction (TORE): Video



# Transoral Gastric Outlet Reduction (TORE): Weight Loss Outcomes



# Transoral Gastric Outlet Reduction (TORE): Weight Loss Outcomes



# Transoral Gastric Outlet Reduction (TORE): Dumping Syndrome



# ■ **TORÉ: Adverse Events**

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- Adverse events are uncommon
- Abdominal pain and nausea occur the most frequently
- Other less common: Bleeding and gastrojejunal stenosis

## ■ **TORE: Next Steps**

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- Unclear whether medications help to augment weight loss
- Data on redo TORE procedures: does it help?

## Does Your Patient Qualify For Endoscopic Weight Loss Options?

- ESG, like surgery, is for the motivated patient with the ability to pay out of pocket for the procedure
  - Requires a visit with endocrinologist, registered dietician and behavioral psychologist
  - Does not require educational sessions
- r-ESG and TORE are options for patients who are unhappy with their weight loss after sleeve gastrectomy and Roux-en-Y gastric bypass, respectively
- Happy to evaluate patients who may be eligible for either procedure
  - Email or send an Epic message

# ■ Conclusion

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- There are many endoscopic bariatric procedures available for patients who either do not qualify or do not want bariatric surgery
- Careful discussion of risks, benefits, and expectations is important prior to performing any of these procedures
- Having support with endocrinologists, dietitians, behavioral psychologists, and surgery is vitally important
- There are options to help patients continue to lose weight after a prior bariatric procedure

# ■ Acknowledgements

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- Collaborators
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