Endoluminal Treatment for GERD

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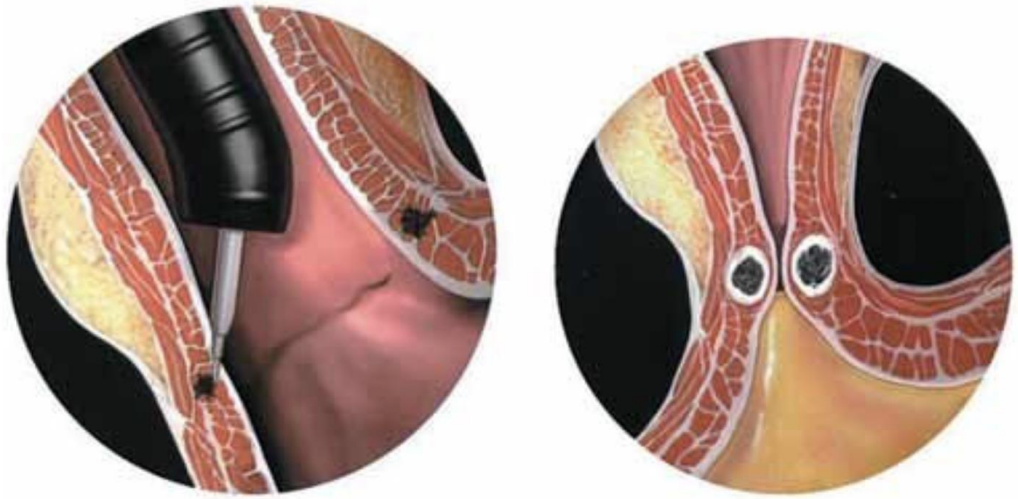
PGY5

Endoluminal Interventions

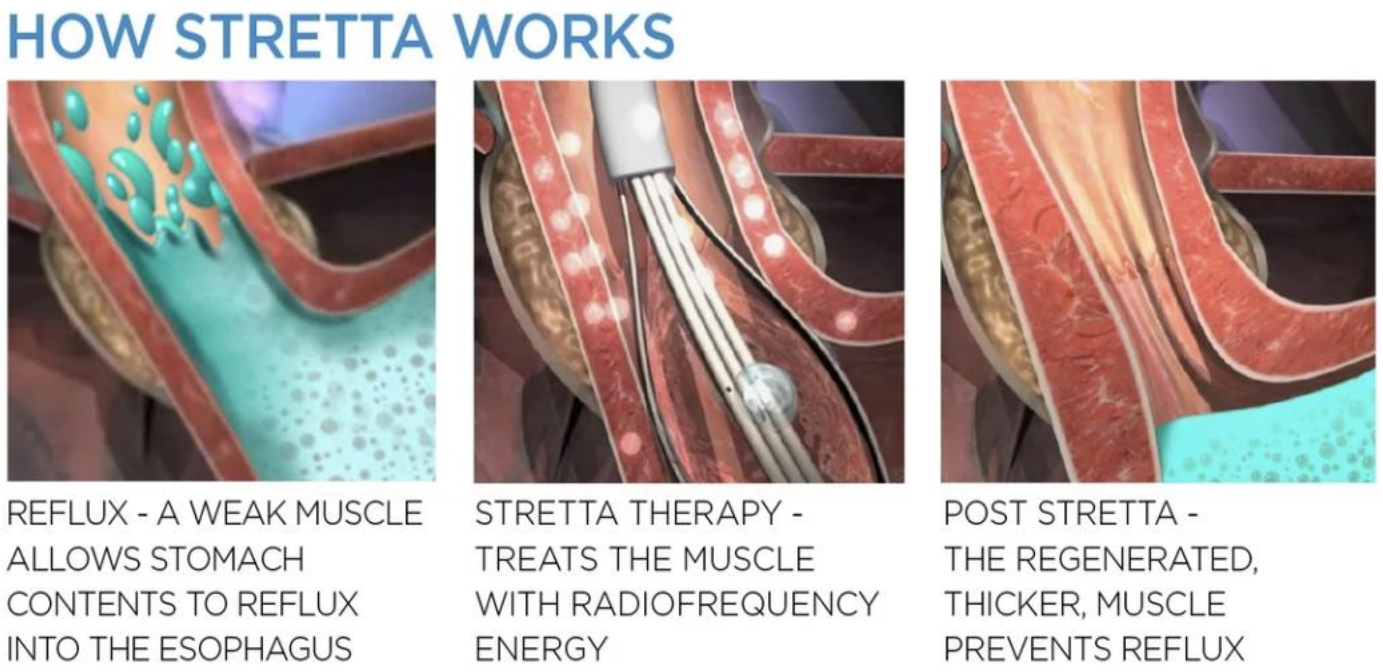
- 1) Intramural injection of bulking agents at the GEJ
- 2) Delivery of thermal energy used to constrict the LES
- 3) Endoscopic fundoplication

Endoscopic Injection

- Bovine collagen, Teflon, polytetrafluoroethylene
  - Injected circumferentially at or just above the squamocolumnar junction under fluoroscopy
  - If injected too superficially, can cause sloughing of the mucosa
  - Fallen out of favor due to risks for perforation / lack of clinical efficacy

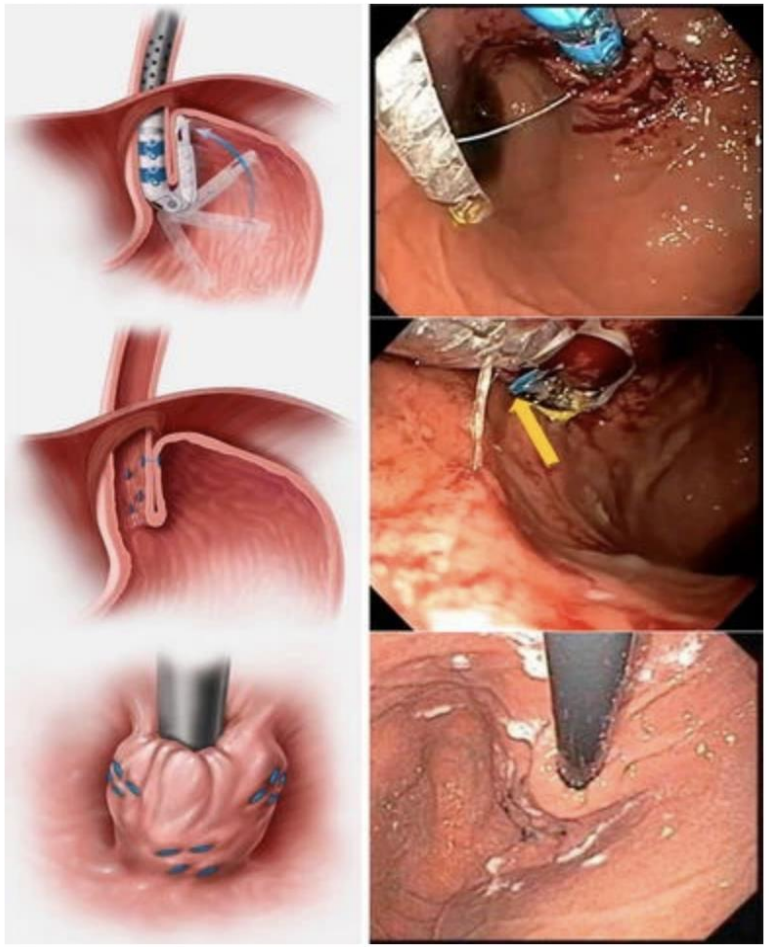


Radiofrequency Ablation (RFA)



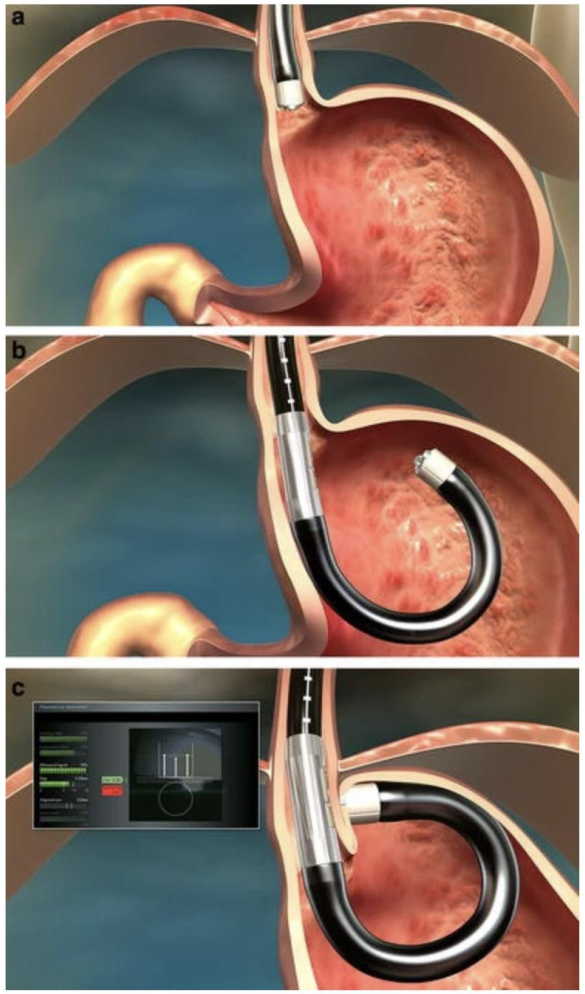
- MOA:
  - 1) Scar tissue formation
  - 2) Neurolysis at the GEJ
- No definitive evidence to say that RFA is superior than medical therapy

Transoral Incisionless Fundoplication (TIF)



- Restores competence of the GEJ
- Multiple full-thickness fasteners are circumferentially deployed at the GEJ
- Outpatient procedure
- Lasts <1 hr

Endoluminal Anterior Fundoplication



- Staples the gastric fundus to the GEJ
- Complications:
  - Perforations
  - Mucosal tears
  - Dysphasia

Table 1

Characteristics of various endoscopic treatments for GERD

Device	Symptomatic relief/PPI usage	Benefits	Shortcomings
TIF	Up to 86 % elimination of reflux symptoms at 5 years	No association with dysphagia or gas-bloat syndrome	Not indicated for hiatal hernias >2 cm
	Eliminates use of PPIs in greater than two-thirds of patients	Economic advantage in the short-run	Higher rates of reflux recurrence compared to LNF
MUSE	70% reduction in GERD-HRQL scores	Unclear benefits due to paucity of data	ESGE guidelines recommend against use outside of clinical trials
	Eliminates use of PPIs in 54% of patients		
Stretta	Lack of statistically significant difference in cessation of PPIs between Stretta and sham group	Unclear given lack of data	Limited studies
			ESGE recommends very limited use in highly selective patient populations
EndoCinch	Majority of patients considered treatment failures	No benefit	Poor durability secondary to suture loss
			Fallen out of favor
Enteryx	Recalled in 2005. No reliable clinical assessment of GERD symptoms	No clear benefit	High rates of esophageal perforation
Gatekeeper Reflux Repair System	Statistically insignificant differences in GERD-HRQL scores between Gatekeeper and sham group	No clear benefit	Cases of esophageal perforation
			No longer offered by manufacturer
Overstitch	Subjective improvement in reflux symptoms	Potential utility in those with post-	Few studies with limited outcomes
ARMS	63% of patients discontinued PPI usage at 6-month follow-up	Potential utility in those with high-grade dysplasia and GERD	Symptomatic stricture formation
POEM + F	No assessment in reflux symptoms	Potential utility in those with achalasia and GERD	Extremely limited data lacking assessment of reflux symptoms

Conclusions

- Additional options beyond medical therapy and surgery for GERD are available; however, more long-term studies are needed to allow these therapies to be integrated into daily clinical practice.