



NEW PROCEDURE IN PEDIATRIC ENDOSCOPY

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- ❑ Gastroesophageal reflux disease (GERD) is one of the most common gastrointestinal diseases, with a prevalence of approximately 10%–30%.
 - ❑ The three procedures not only share the common mechanism of creating artificial ulcers and fibrosis at the GEJ by mucosal intervention but also use preexisting techniques and devices. They thus represent a specific type of antireflux endoscopic treatment, and we introduce a novel collective term – antireflux mucosal intervention (ARMI) – for these procedures.

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- ❑ ARMI procedures are effective and safe for both PPI-refractory and PPI-dependent patients. The clinical success rate exceeded 70% at 6 months, and more than half of patients could discontinue PPIs. Several studies have suggested that symptomatic improvement may last up to 12–36 months.

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- ❑ ARMI procedures can restore LES pressure and significantly improve hiatal hernia. Compared with endoscopic fundoplication, the devices of ARMI procedures are generally simpler, thus potentially reducing cost and increasing accessibility, making ARMI a promising antireflux endoscopic treatment.

Antireflux mucosal intervention (ARMI)

Endoscopic treatments are increasingly being offered for refractory gastroesophageal reflux disease (GERD). Three procedures have similar concepts and techniques:

1. antireflux mucosectomy (ARMS)
2. antireflux mucosal ablation (ARMA)
3. antireflux band ligation (ARBL)

ARMS:

- ❑ ARMS is performed using current standard devices for subcircumferential resection of the cardiac mucosa, and the ulcer healing process results in a tightened gastroesophageal junction (GEJ), which improves reflux symptoms.
- ❑ ARMS involves the resection of a substantial portion (typically 240° – 270°) of the mucosa at the GEJ by either endoscopic mucosal resection (EMR) or endoscopic submucosal dissection (ESD).

ARMA :

- ❑ ARMA refers to endoscopic thermal ablation of the mucosa at the GEJ.
- ❑ ARMA was performed using hybrid argon plasma coagulation or an electrosurgical knife.

ARBL :

- ❑ ARBL, rubber bands are employed at the GEJ without resection to achieve tissue ischemia and subsequent mucosal sloughing.
- ❑ In ARBL used bands in forward view, such as endoscopic variceal ligation with or without clip fixation, or in retrospective position with up to 10 bands.

Anti-reflux mucosal ablation (ARMA)

before ARMA



ARMA



After ARMA (3 month)



30 yo male

	before	after
GERD-HRDs	21	3
F scale	25	0
AET	15	0
DeMeester	41.8	0.8



Anti-Reflux Mucosal Intervention (ARMI)

Anti-Reflux Mucosectomy

ARMS



Anti-reflux Mucosal Ablation

ARMA



Anti-Reflux Band Ligation

ARBL



Figure Courtesy of:

Takabe et al. *GIE* 2011, Vol. 91, No. 4, 3333

Sano et al. *DDG* 2011 Mar; 33(3):347-354

Li et al. *Surgeon/Endoscopy* (2012) 16: 403-404

ADVERSE EVENTS OF ARMI

- ❑ The adverse events were mainly bleeding (immediate or delayed), perforation, or dysphagia .
- ❑ However, all cases, except one with perforation, could be managed endoscopically.
- ❑ Dysphagia was a relatively common complication in ARMS.

A stack of five light-colored wooden blocks is arranged to spell out the phrase "THANK YOU FOR YOUR ATTENTION". The blocks are stacked in a slightly offset manner, with the top block being the shortest and the bottom block being the longest. The background is a blurred indoor space with warm lighting and some out-of-focus lights.

THANK

YOU

FOR

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