

# Esophageal High Resolution Impedance Manometry: The GI Nurse Role.

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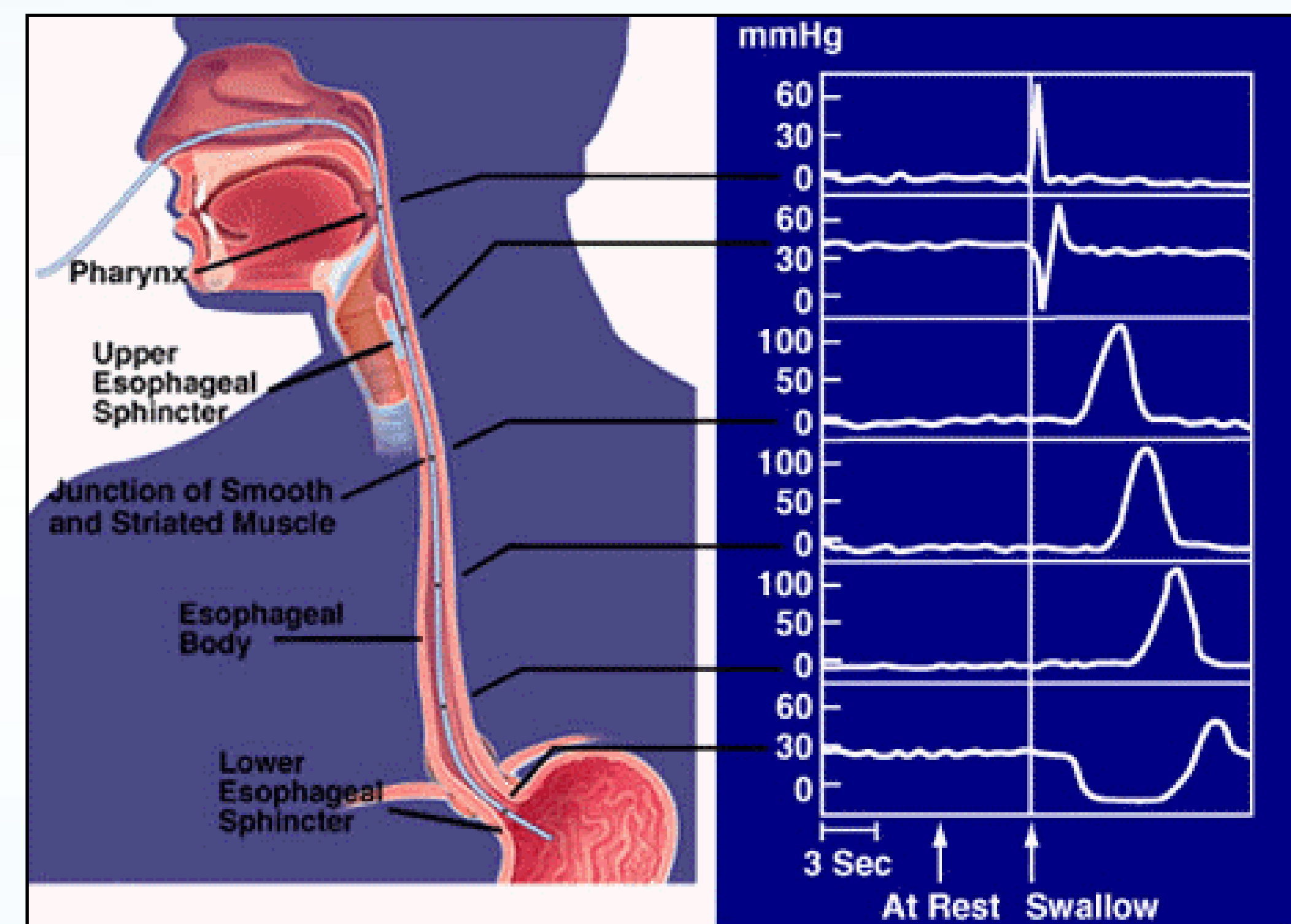
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# Esophageal High Resolution Impedance Manometry: The GI Nurse Role

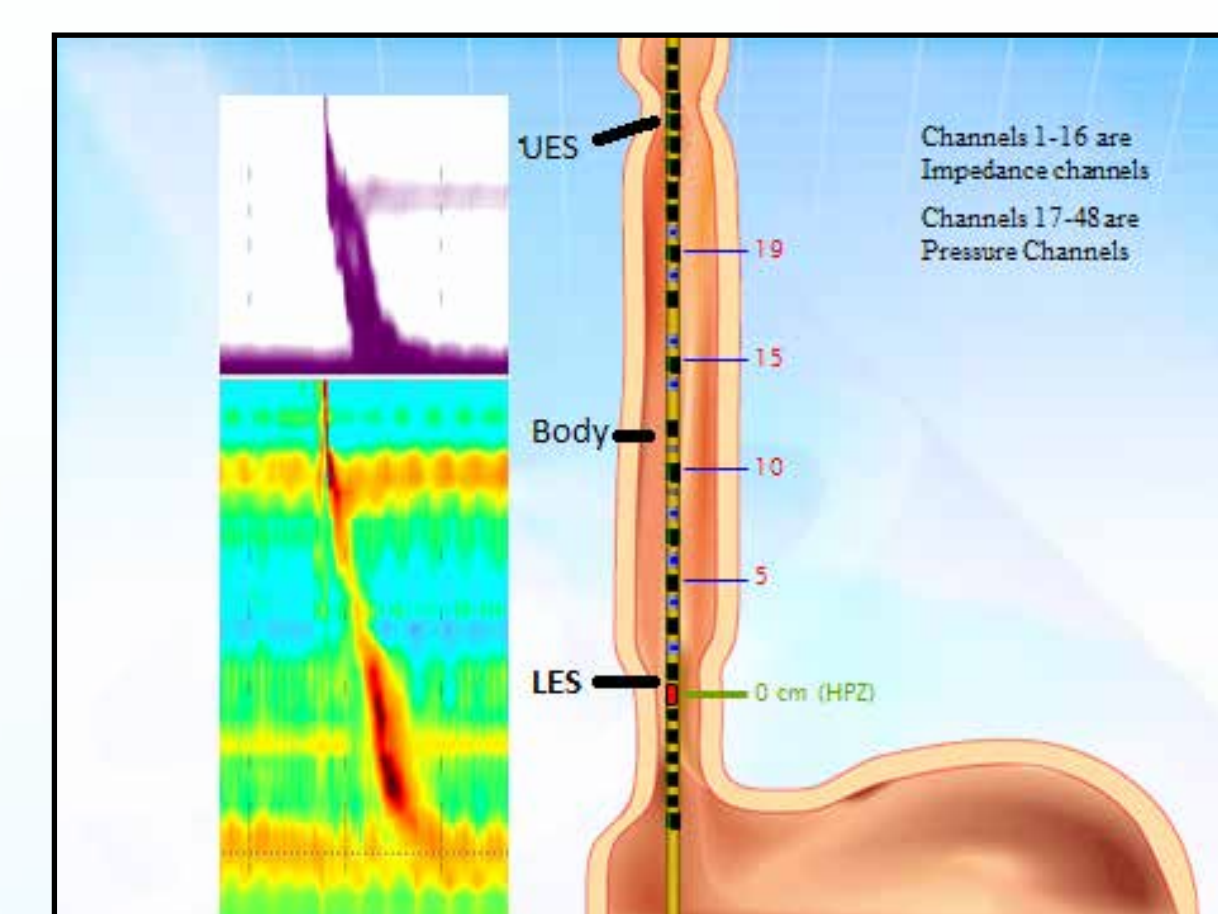
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## OVERVIEW

Esophageal High Resolution Impedance Manometry (HRIM) is a diagnostic test that uses small transducers that are integrated into a thin catheter to measure lower esophageal sphincter (LES) length, resting pressure, and the ability to relax with swallowing. The contractile strength and coordination of the esophageal body is also measured. A high resolution probe is used to monitor how effective the esophagus can clear swallowed liquids.



Esophagus with Probe



Normal Tracing

## STUDY INDICATIONS

The common indications for this study are dysphagia, GERD, and non-cardiac chest pain.

## PROCEDURE

- Explain procedure process to the patient. Make sure the patient has been NPO for 8 hours and aware no sedation will be given. Assure no clothing is restricting the abdomen.
- While the patient is in the sitting position gently insert the probe into patient's nares, down back of throat into esophagus until probe tip reaches the stomach. A topical anesthetic may be instilled into the nose to make passage of the probe more comfortable. The patient may take sips of water to assist with probe placement.
- Study is performed with the patient recumbent on left side.
- Various measurements are taken while the patient is given 5ml of NSS for ten swallows, followed by 5ml of a viscous challenge medium for ten swallows.
- When the swallows are completed the probe is removed.
- The nurse performs, edits the study and creates a report. The Gastroenterologist interprets the study and provides results to the patient.
- The Nurse plays an integral role in obtaining a complete and accurate study by helping the patient through the test and placement of the probe which causes anxiety.



EMS Cart



EMS Probe

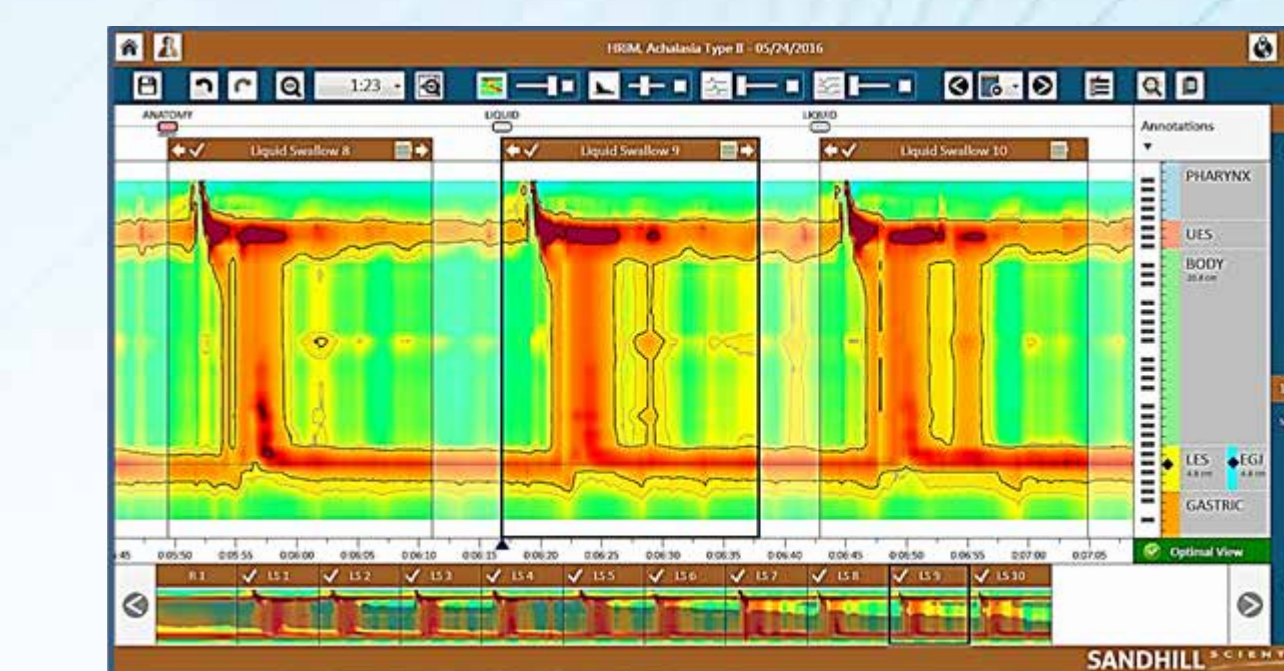
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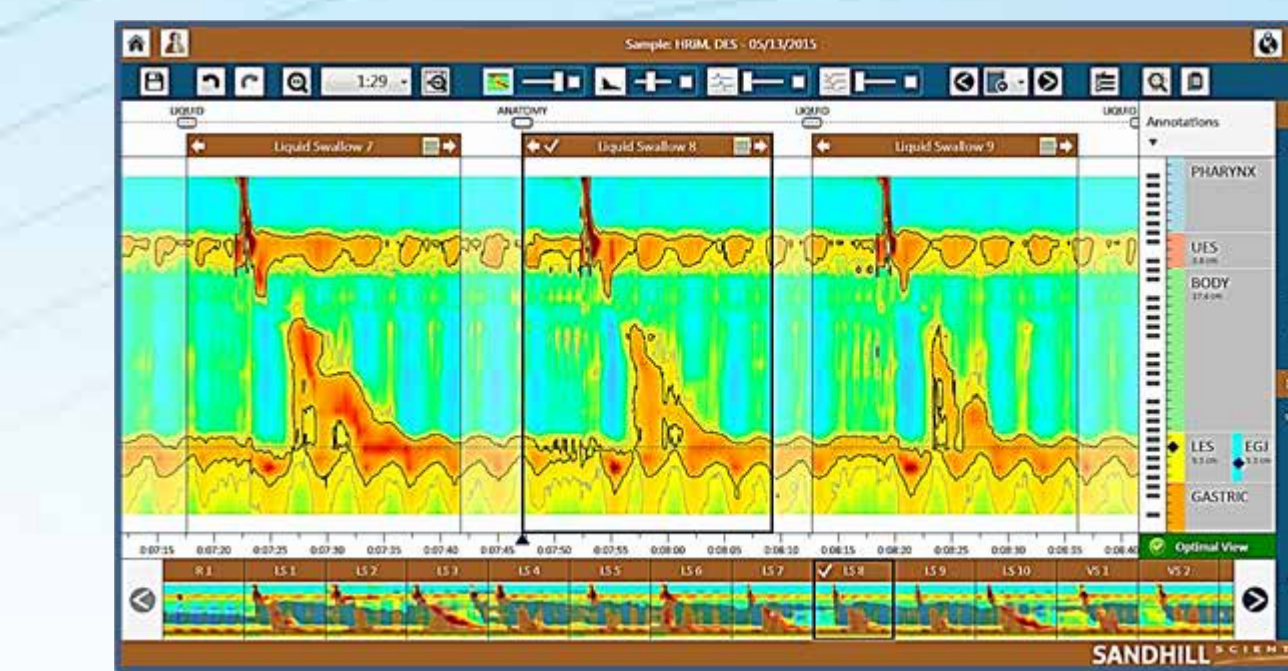
## ABNORMAL ESOPHAGEAL MOTILITY DIAGNOSED BY HRIM

**Achalasia** is an abnormality in which the esophagus has absent peristalsis and the muscular valve (LES) does not fully relax, which makes it difficult for food and liquid to pass into the stomach.

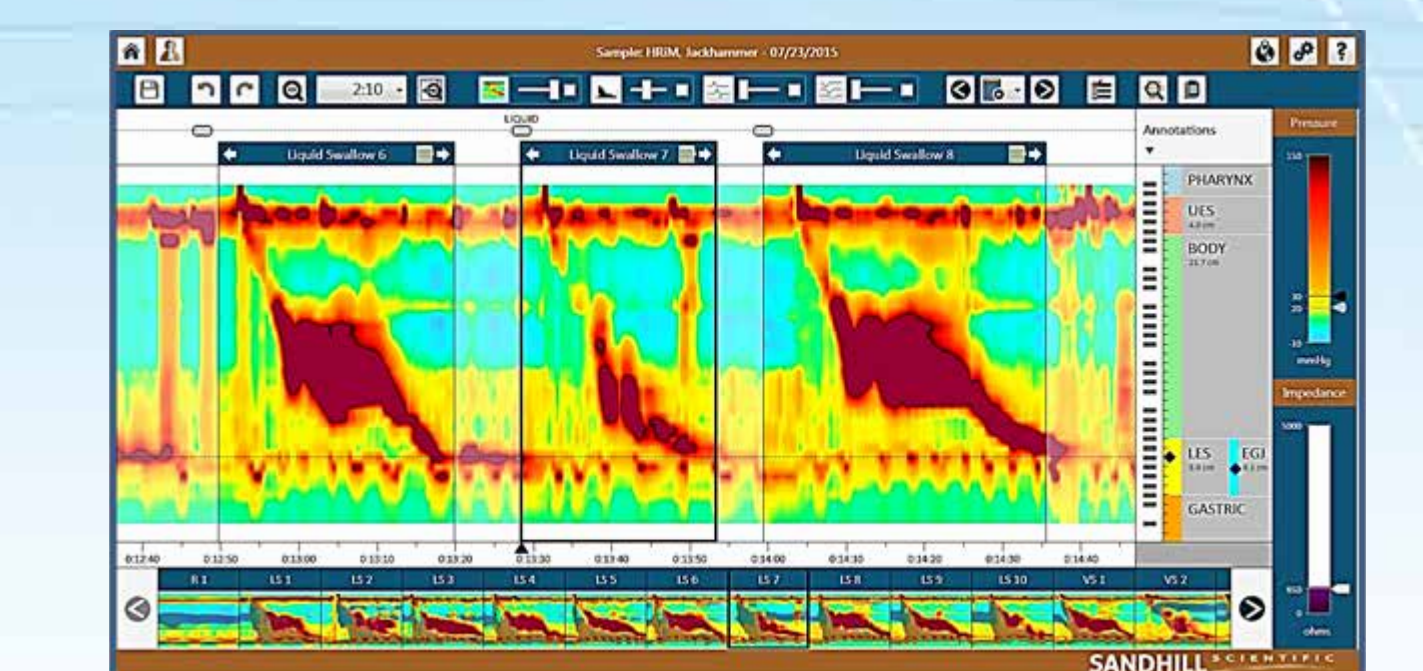
**Distal Esophageal Spasm** (DES) is marked by simultaneous contractions of the esophagus during swallowing which is associated with dysphagia and/or non-cardiac chest pain. When the contractions become excessive in amplitude or duration, it is known as Nutcracker Esophagus.



Achalasia



DES



Nutcracker Esophagus

## TREATMENT OPTIONS

### Achalasia

- Medical management is used to relax smooth muscle i.e. calcium channel blockers and nitroglycerin.
- Endoscopic treatments include injection of Botox into LES, this relaxes the muscle. Endoscopic balloon dilation with a specially designed balloon that is used to rupture the LES.
- Surgical treatment -Laparoscopic Heller Myotomy involves precise cutting of the LES to allow it to permanently open, accompanied by a Fundoplication.

### Distal Esophageal Spasm

- Avoiding trigger foods often relieves symptoms.
- Medical management is used to control underlying conditions i.e. heartburn, GERD, anxiety, or depression.
- Endoscopic injection of Botox is used to relax the swallowing muscles.

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