

Endoscopic Eradication Therapy – State of the Art in 2025

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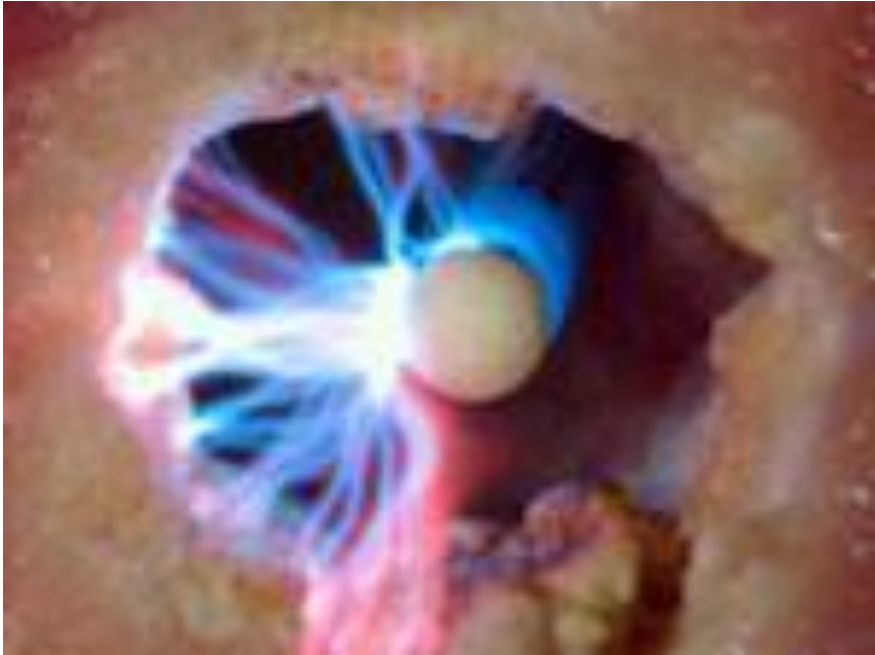


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Endoscopic Eradication Therapy – State of the Art in 2025

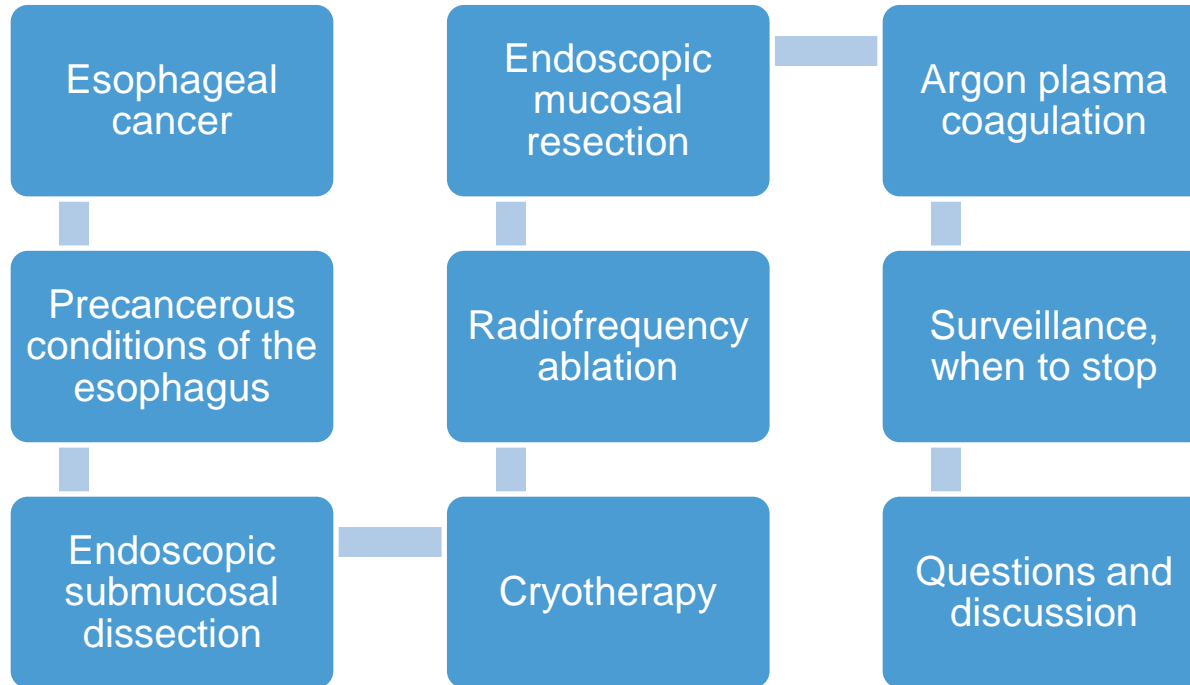
Introduction

What is endoscopic eradication therapy?



- Treat precancerous (or early cancerous) conditions of the esophagus.
- Burning, freeze, or cut off these changes to reduce the future risk of esophageal cancer.

A road map



Endoscopic Eradication Therapy – State of the Art in 2025

Esophageal Cancer

The basics – esophageal cancer



Symptoms: Solid food dysphagia and weight loss



Diagnosis: Made by biopsies during endoscopy

Barium esophagram
CT chest

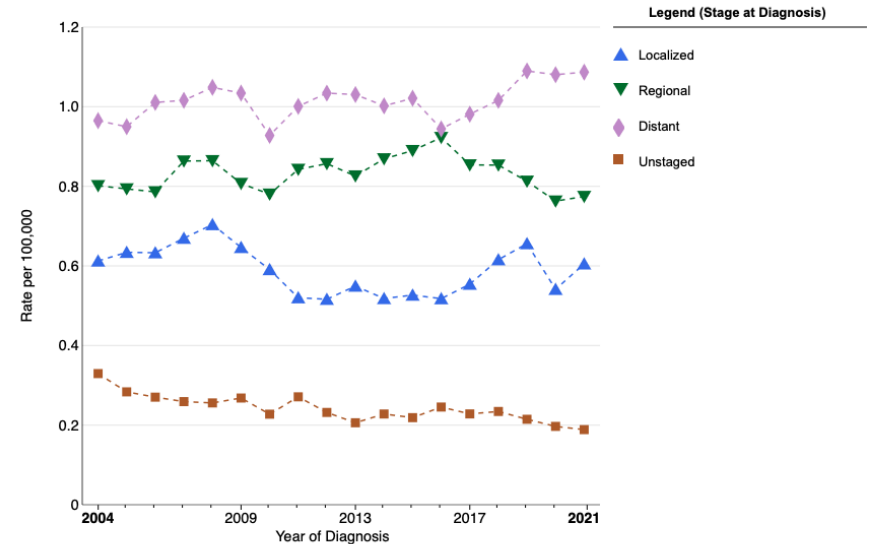


Histology: Adenocarcinoma and squamous cell carcinoma

Esophageal adenocarcinoma

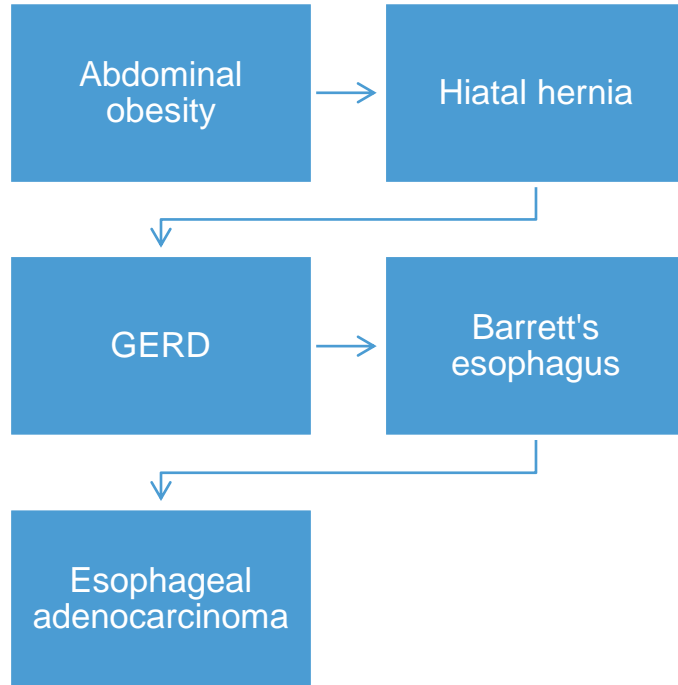
- More common subtype in the United States (2:1)
- Distal esophagus and GEJ
 - even the high cardia
- Prognosis depends on stage at presentation
- No screening program
- Men > women 6:1

Adenocarcinoma of the Esophagus
Recent Trends in SEER Age-Adjusted Incidence Rates, 2004-2021
Observed SEER Incidence Rate By Stage at Diagnosis, Both Sexes, All Races / Ethnicities, All Ages



Created by <https://seer.cancer.gov/statistics-network/explorer> on Fri Apr 11 2025.

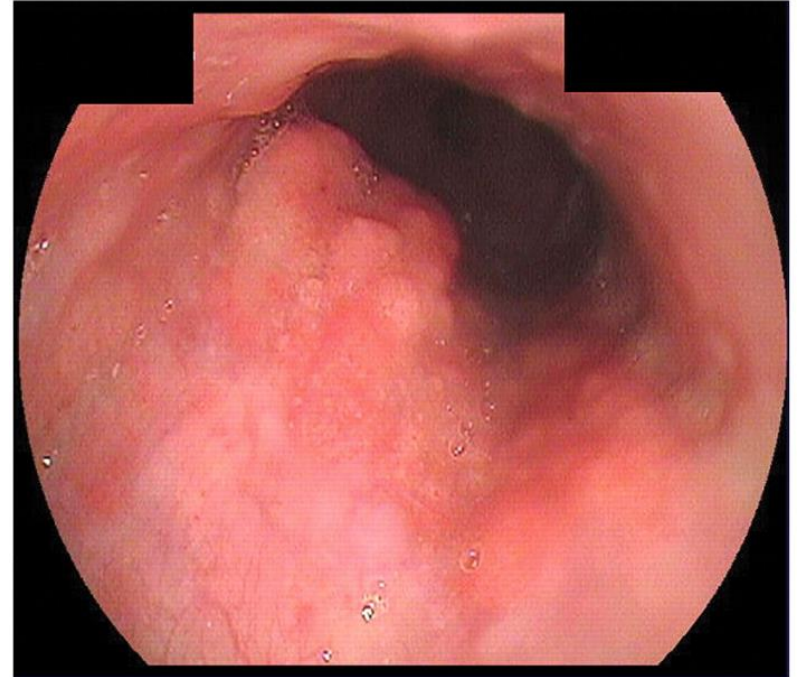
Esophageal adenocarcinoma – risk factors



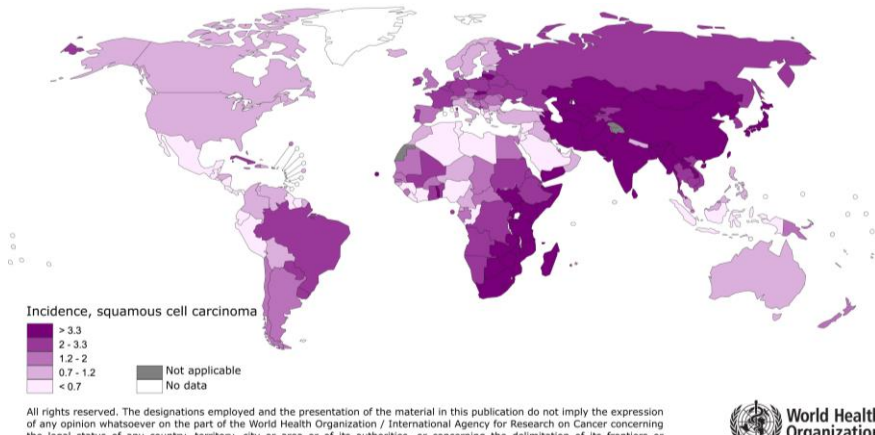
- Advanced age
- Obesity
- GERD
- Tobacco smoking
- Sex
- Family history
 - Barrett's esophagus
 - Esophageal adenoca.

Squamous cell carcinoma

- Tends to be more proximal in the esophagus
- Multifocality and field cancerization
- More common globally
- Less mass-like
 - sometimes endoscopically subtle



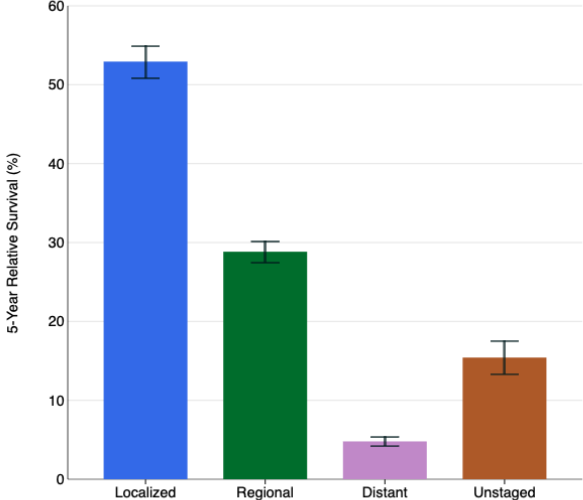
Squamous cell carcinoma – risk factors



- Alcohol
- Tobacco
- Very hot liquids
- Malnutrition
 - Achalasia
 - Tylosis
 - Epidermoid metaplasia
 - Strong base ingestion

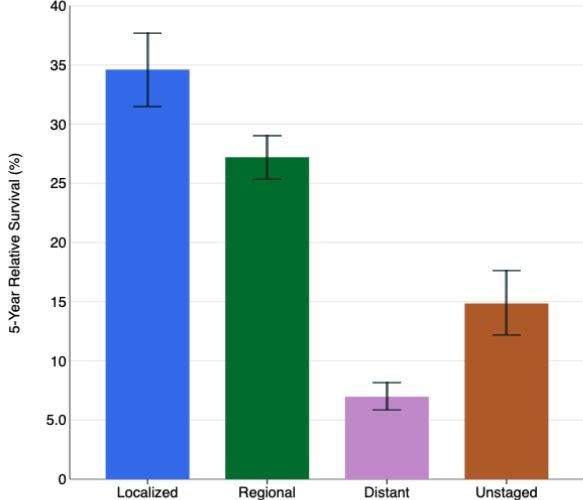
Both have poor long-term survival

Adenocarcinoma of the Esophagus
SEER 5-Year Relative Survival Rates, 2014-2020
By Stage at Diagnosis, Both Sexes, All Races / Ethnicities, All Ages



Created by <https://seer.cancer.gov/statistics-network/explorer> on Sat Apr 12 2025.

Squamous Cell Carcinoma of the Esophagus
SEER 5-Year Relative Survival Rates, 2014-2020
By Stage at Diagnosis, Both Sexes, All Races / Ethnicities, All Ages



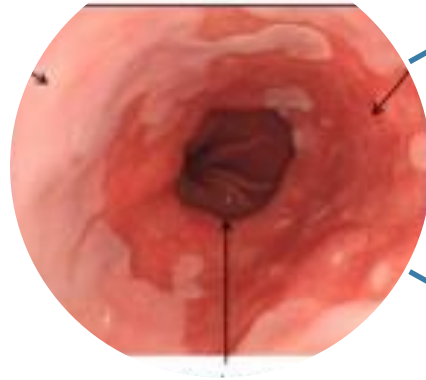
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Precancerous conditions of the esophagus

Barrett's esophagus

- Precancerous tissue change in response to GERD
- Distal esophagus
- Irregular z-line



Endoscopy

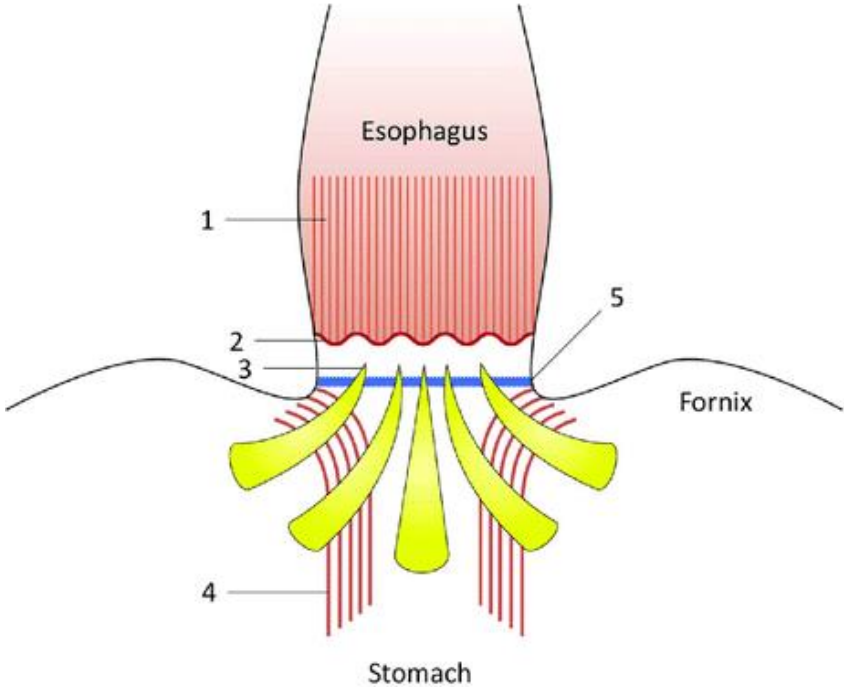
- At least one centimeter of salmon-colored mucosa

Histology

- Intestinal metaplasia
- Dysplasia or cancer

Kyoto Consensus

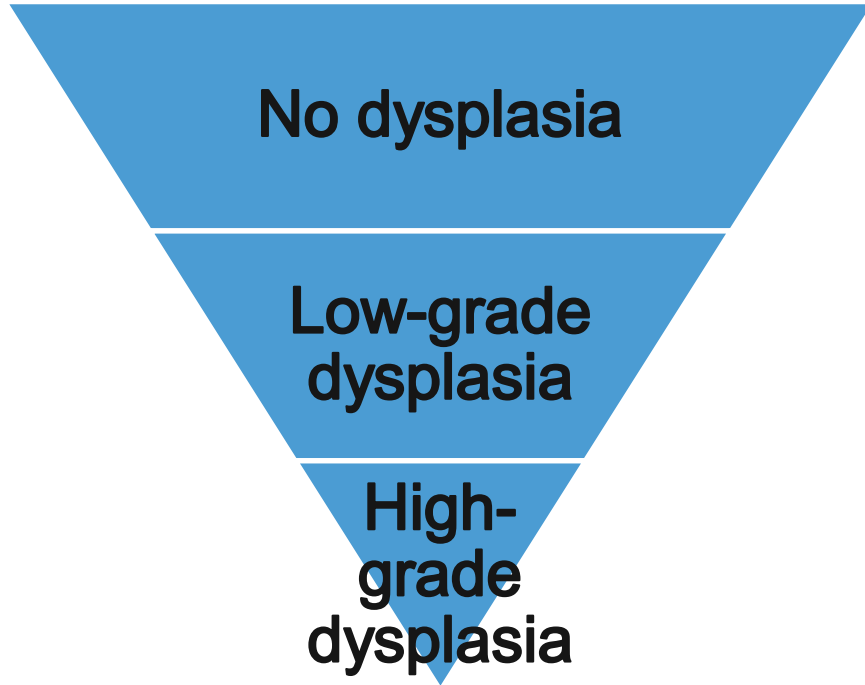
A



B



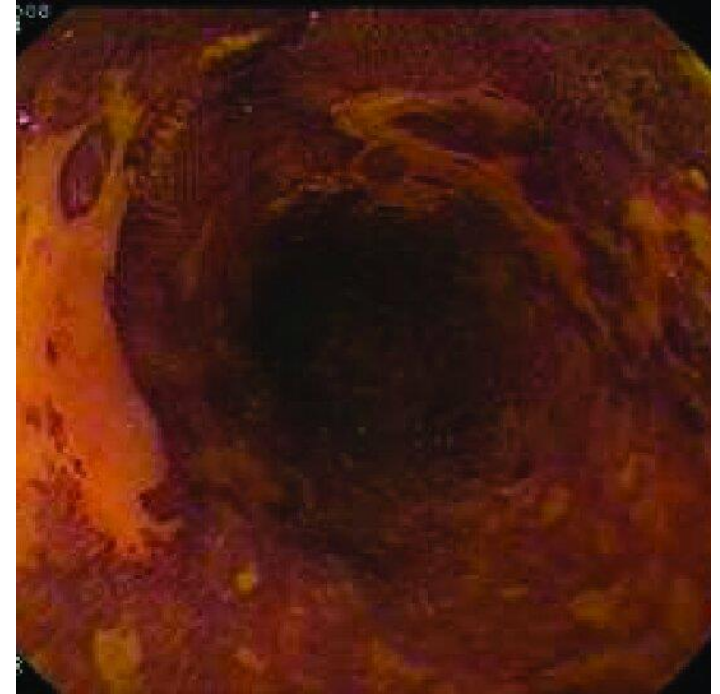
Barrett's has a spectrum of risk



- Surveillance every 3-5 years
- PPI
- Annual surveillance or endoscopic eradication therapy
- PPI
- Endoscopic eradication therapy
- PPI

Epidendroid metaplasia and squamous dysplasia

- Epidendroid metaplasia is profoundly rare
 - Visible, treatable
- Squamous dysplasia without cancer is uncommon to find
 - Nearly invisible
 - Same risk factors as the cancer
- Lugol's chromoendoscopy:



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Endoscopic submucosal dissection

Endoscopic submucosal dissection



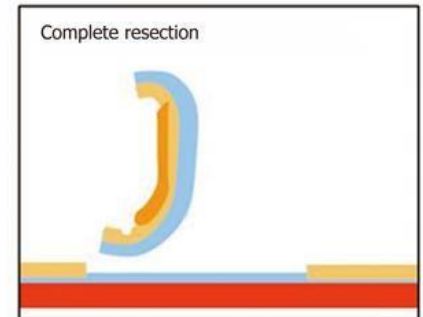
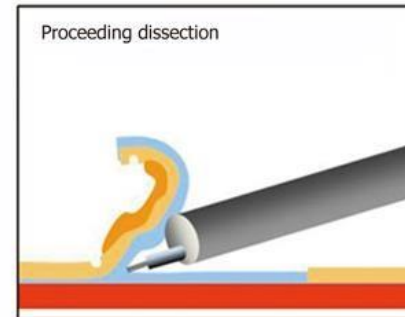
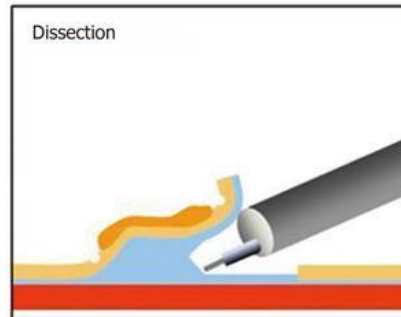
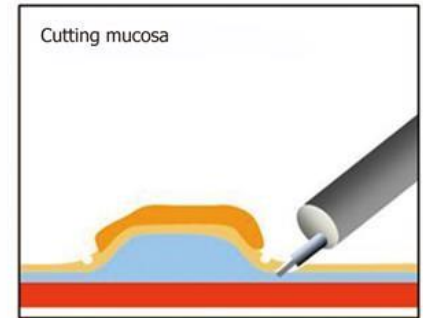
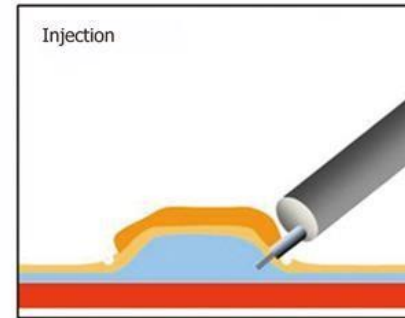
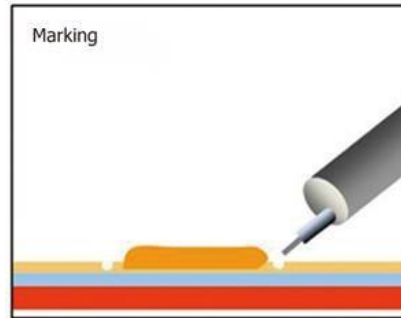
Ian Grimm, MD



Daniel Kroch, MD

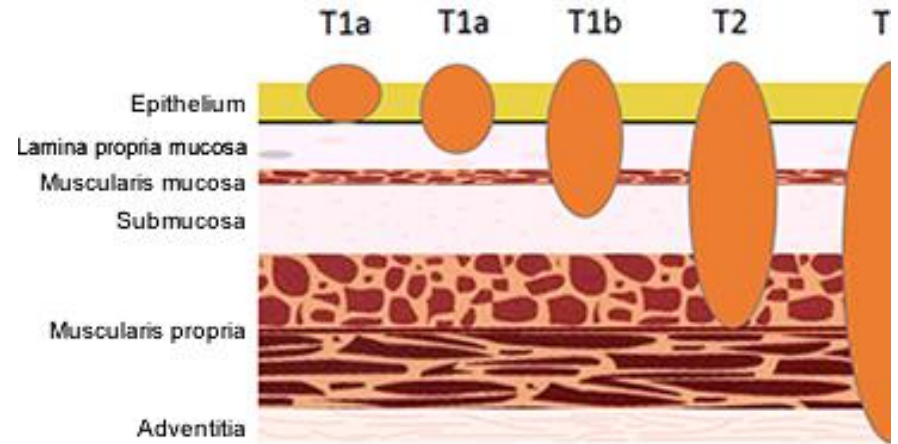


Sydney B. Greenberg,
MD



Endoscopic submucosal dissection – key details

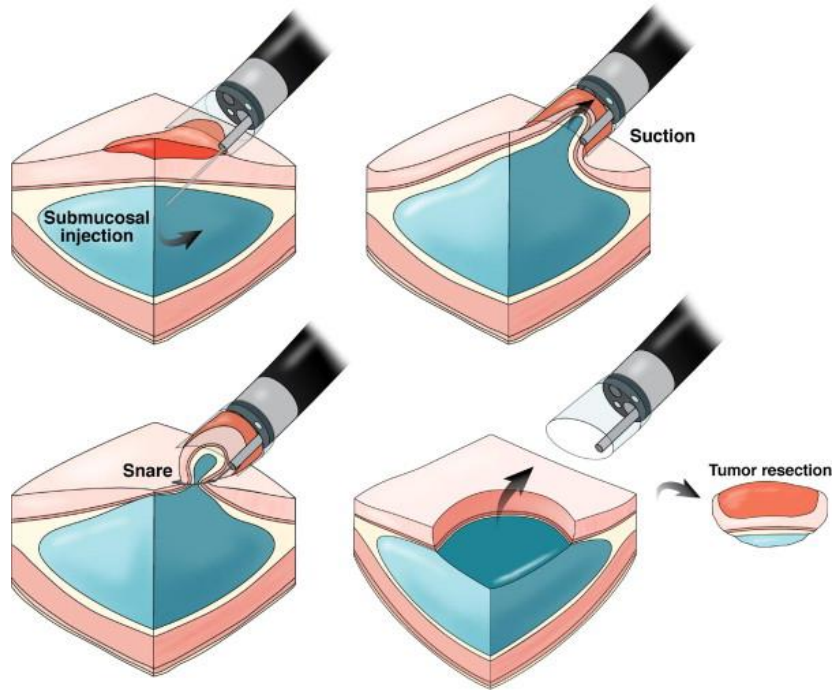
- T1a and **T1b** adenocarcinoma (N0M0)
- Chest pain, diet limitations
 - May require barium esophagram before diet
- Perforation and bleeding are uncommon
- Strictures → stricture



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Endoscopic submucosal dissection

Endoscopic mucosal resection

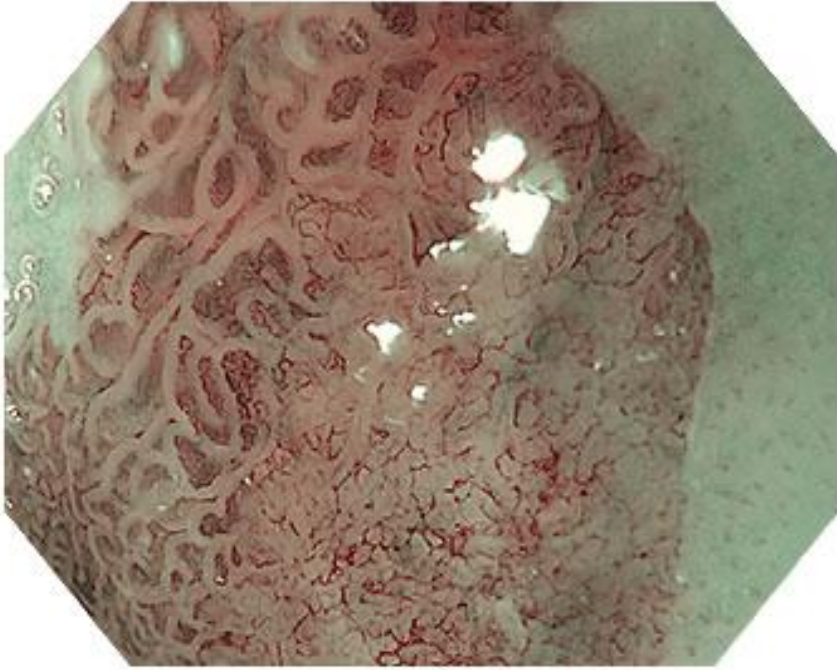


- High-grade dysplasia and T1a adenocarcinoma
- Chest pain, diet limitations
- Strictures -> dilate
- Safety profile near diagnostic endoscopy
- We can take multiple contiguous bites

Center for Esophageal Diseases and Swallowing



Resect nodular Barrett's esophagus and irregularities in the pit pattern

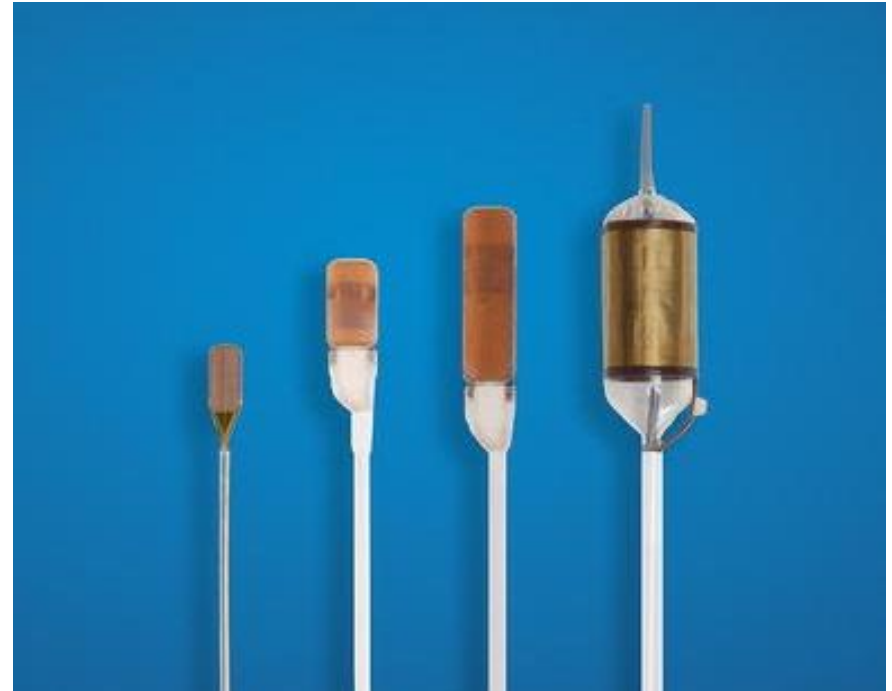


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Radiofrequency ablation

Radiofrequency ablation

- Treat flat Barrett's without an irregular pit pattern
 - Superficial contact burn
- Proven to prevent cancer in two randomized trials
 - The SURVENT trial
- Every 2-3 months, > 50% resolution each early rx



Radiofrequency ablation



- Chest pain, *odynophagia*
- Stricture?
- Soft diet for 5 days
- Ten 5 mg oxycodone tabs
- Almost as safe as diagnostic
- Fails if GERD uncontrolled
 - Twice daily high dose PPI

Barrett's Esophagus has a Heterogeneous Risk of Progression to Esophageal Adenocarcinoma.

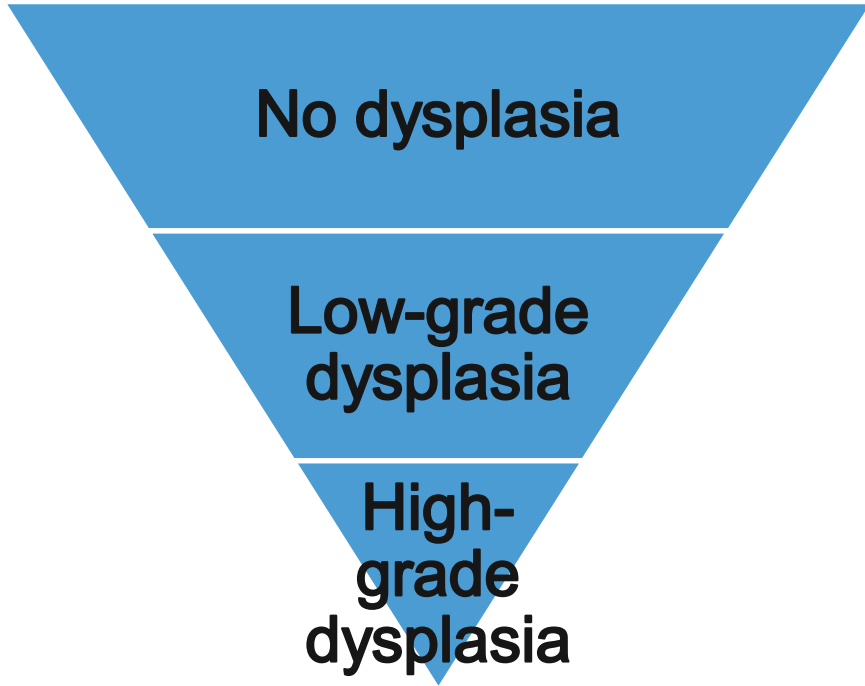


Table: Annual risk of progression to esophageal adenocarcinoma.

Histologic grade	Adenocarcinoma rate per year
Non-dysplastic BE	0.12% ²
Short segment	0.06% ³
Long segment	0.31% ³
Low-grade dysplasia	0.54% ⁴ – 2.9% ⁵
High-grade dysplasia	6.58% ⁶

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Cryotherapy

Cryotherapy

- Similarly safe and effective
- Less commercially available in the US
 - Hard to treat a wide area
- Less chest pain
- Smaller evidence base



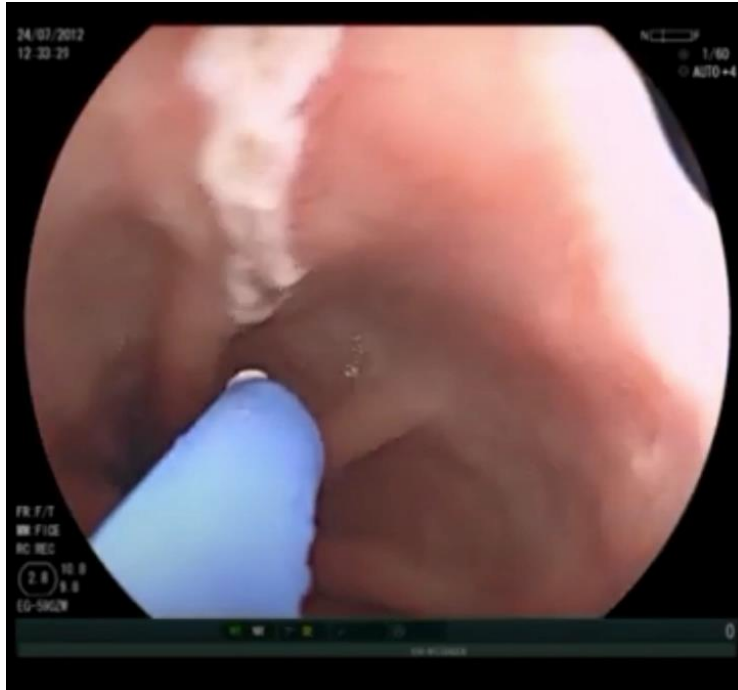
**Nicholas J. Shaheen,
MD, MPH**



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Argon plasma coagulation

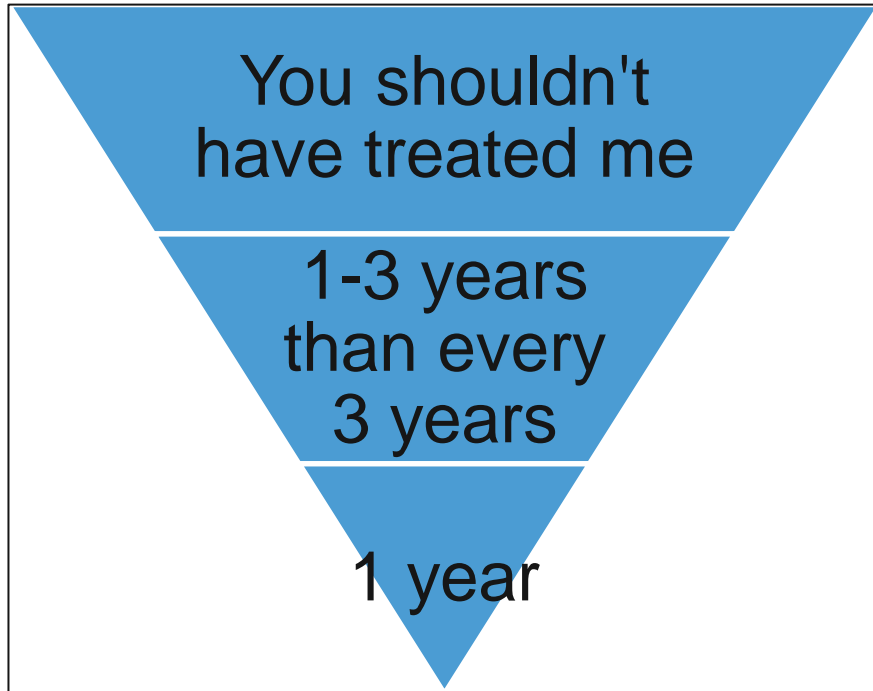
Argon plasma coagulation



- Argon gas is ionized by electricity (pad needed)
- Relatively inexpensive
- Focal area of effect
- Soft diet 3 days
- Finishing touches
- Safe in expert hands
- Hybrid APC

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Surveillance



- Careful examination
 - Retroflex, NBI
- Recurrence and progression are rare
- Data are not completely clear when surveillance should stop

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Discussion