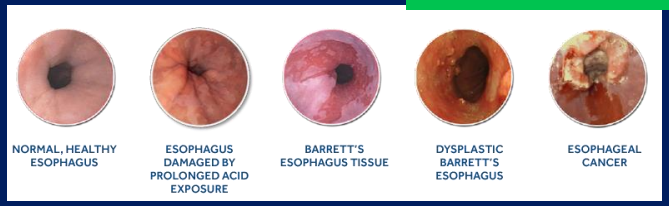
Emory Faculty Retroflexions:
The BOSS Trial in Barrett's Esophagus Surveillance

Mary Catherine Camacho, MD in discussion with Emad Qayed, MD, MPH

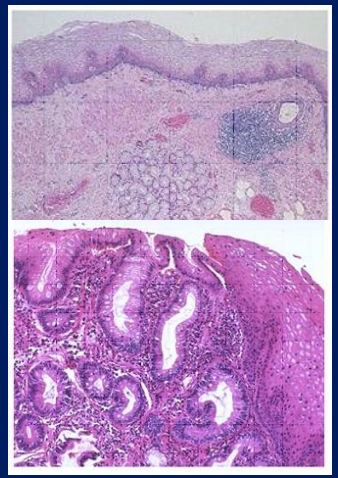
Background

- The incidence of esophageal cancers is rising.
- The 5-year survival rate for esophageal adenocarcinoma (EAC) is 17%, but early detection of cancer improves outcomes.
- Barrett's esophagus (BE) is the only identifiable precursor lesion to EAC.

BE prevalence = 1-2% of Western population



Barrett's esophagus is a metaplastic change of the distal esophagus from normal squamous epithelium (top) to columnar epithelium (bottom).



The BOSS Trial:
only RCT considered in 2025 AGA guidelines

Methods:
- RCT at 109 centers in the UK. Patients with BE were randomized to surveillance endoscopy every 2 years or "at-need" endoscopy, offered for symptoms only.

Results:
- 3453 patients recruited; 1733 to surveillance and 1719 to at-need endoscopy.
- 99% of patients had non-dysplastic BE.
- **No difference was observed in overall survival** between the surveillance arm and at-need arm (p=0.503).
- **No difference was observed in cancer-specific survival** between the two groups (p=0.926).
- **No difference was observed in time to EAC diagnosis or stage at time of diagnosis** (p=0.254).

Conclusions:
- Surveillance did not improve overall survival or cancer-specific survival. At-need endoscopy may be a safer alternative for low-risk patients.

Dr. Qayed: concerns remain regarding the quality of endoscopic surveillance in the BOSS trial and the lack of standardization across participating centers.

2025 AGA Guidelines

In patients with non-dysplastic BE, surveillance is recommended every 3 years (conditional recommendation, low certainty of evidence)

Low risk of progression: short segment BE (<3 cm) → May increase interval to every 5 years

Based on age and comorbidities → May consider discontinuing screening

Dutch guidelines no longer recommend routine surveillance for low-risk BE: maximum extent <5cm AND no prior dysplasia

Current AGA guidelines are supported by numerous meta-analyses of observational studies showing mortality benefit but are likely influenced by lead-time and length-time bias.

Dr. Qayed: the US community will probably continue to recommend surveillance endoscopy, but in countries with limited resources, it may be reasonable to reallocate resources to more preventable conditions.

Dr. Qayed informs patients that the data do not suggest long term survival benefit and conducts a risk vs benefit discussion based on patient risk tolerance.

Old O, Jankowski J, Attwood S, Stokes C, Kendall C, Rasdell C, Zimmermann A, Massa MS, Love S, Sanders S, Deidda M, Briggs A, Hapeshi J, Foy C, Moayyedi P, Barr H; BOSS Trial Team. Barrett's Oesophagus Surveillance Versus Endoscopy at Need Study (BOSS): A Randomized Controlled Trial. Gastroenterology. 2025 Nov;169(6):1233-1243.e8. doi: 10.1053/j.gastro.2025.03.021. Epub 2025 Apr 1. PMID: 40180292.