

ENDOLUMINAL VACUUM THERAPY FOR THE MANAGEMENT OF ESOPHAGEAL LEAKS AND PERFORATIONS



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Health

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BACKGROUND

- ❖ Esophageal leaks and perforations can be life-threatening and were traditionally managed surgically with either primary repair, esophageal diversion, or complex delayed conduit reconstruction and are associated with high morbidity and mortality.
- ❖ Endoluminal vacuum therapy (eVAC) is a minimally invasive endoscopic approach that has revolutionized the management of leaks throughout the gastrointestinal tract.

METHODS

- Single institution retrospective review of patients with esophageal injuries undergoing eVAC therapy by a surgical endoscopist
- Clinical success defined as *endoscopic findings revealing a closure of the esophageal defect or a healing abscess cavity with granulation tissue.*

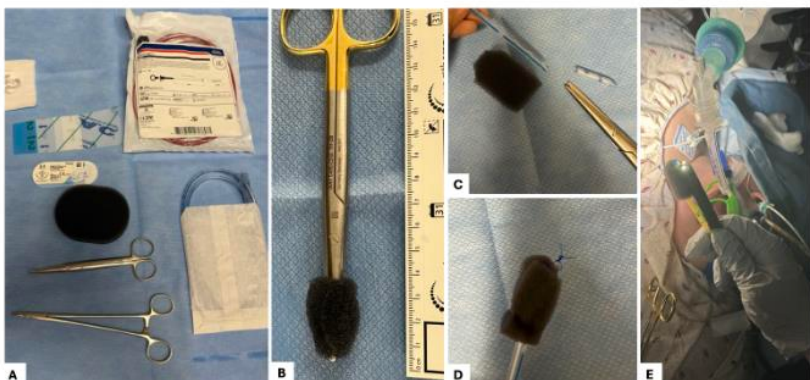
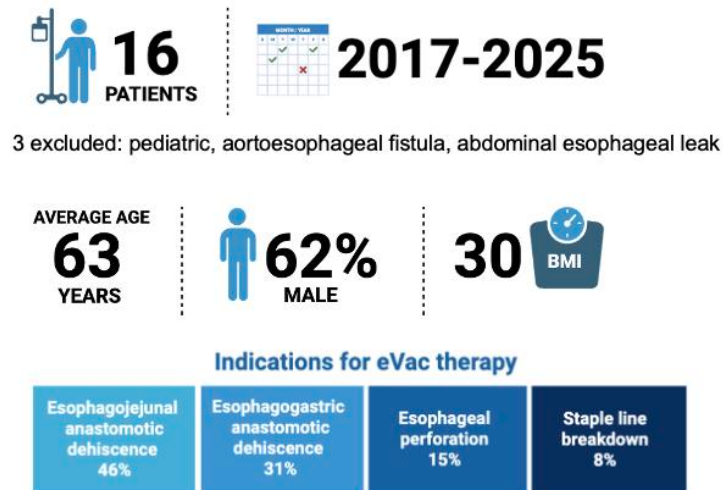


Figure 1. Endoluminal vacuum (eVAC) therapy setup and assembly.

(A) Supplies required: vacuum sponge, adhesive draping, suture, scissors, needle driver, 18Fr NGT, and endoscopic grasper. (B) A small cylindrical sponge is tailored to match the size of the leak cavity. (C) Distal portion of the NGT is modified so that the suction holes remain only within the sponge. (D) Sponge is secured to the NGT using 2-0 Prolene suture. (E) eVAC is grasped through the endoscope for placement at the defect site.

RESULTS



Adjunct Interventions

- Additional endoscopic therapy: 38%**
- Esophageal stent
 - Double pigtail stent
 - Over-the-scope clip



Complications

- Post-therapy fistula requiring intervention: 2
- Stricture requiring dilation/stent: 1
- Hemorrhage after lytic therapy: 1
- Mortality: 15%

CONCLUSIONS

- ❖ eVAC therapy is technically feasible and achieves defect closure in most patients with esophageal leaks or perforations.
- ❖ Despite the need for frequent adjunctive therapies and prolonged hospitalizations, eVACs are an effective therapeutic approach for esophageal transmural defects and avoids the morbidity of revisional or damage control surgery.

REFERENCES

- Vohra *et al.* Efficacy of endoscopic vacuum therapy in esophageal luminal defects: a systematic review and meta-analysis. Clin Endosc 2025;58:53-62.
- Wikel *et al.* Endoluminal wound vacuum therapy for gastrointestinal leaks: current state and future directions. Ann Laparosc Endosc Surg 2023;8:19.
- Certain graphics were created with the assistance of AI.

