

# PR46: Esophageal/Gastric Tamponade

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## Applicable To

- CCP only

## Introduction

Portal hypertension and vascular congestion result in esophageal and gastric varices which are prone to rupture. Emergency therapy to control bleeding includes endoscopic ligation and/or sclerotherapy. If these specialized therapies are not available, balloon tamponade, in addition to other therapies, is indicated to temporarily control bleeding. This guideline is specific to the Blakemore tube as it is the most common. There is a variety of tubing available and as such the volume of air and pressures changes with each tube.

## Indications

- Ongoing severe variceal or upper gastrointestinal bleeding not managed by medical therapy

## Contraindications

- Esophageal stricture
- Recent esophageal or gastric surgery
- Inability to intubate (The airway must be protected in all patients receiving such treatment due to impaired ability to clear oral secretions and high risk for aspiration.)

### Cautions:

- The tubes should be used cautiously in patients with respiratory failure, cardiac arrhythmias, or a hiatal hernia

## Procedure

The procedure below is specific to the Blakemore tube. Other tubes may have different volumes of air. The procedure is the same, but it is recommended to double check the type of tube used and the required volumes.

1. Before placing a balloon tamponade device, the patient should be intubated.
2. The patient should be supine at 45°.
3. Before tube placement, all equipment should be readily at hand.
  - Blakemore
  - Salem Sump
  - A manometer (not needed for Linton tubes)
  - A tamponade tube kit (with the tube and 2 padded clamps)
  - 60 ml Luer-lock Syringe
  - 60 ml Slip-tip Syringe
  - 2 x-mas tree to male Luer-lock converters
  - 3 three-way stopcocks
  - 3 medlock caps
  - Surgilube
  - Optional: 2 Hollister ETAD ET tube securing devices
  - Possibly: Laryngoscope, Magill Forceps
4. The balloon(s) should be inflated with air and held underwater to assess for leakage and then deflated.
5. Measure the tube depth.
6. With the patient in the supine or left-lateral position, the tube is lubricated and carefully inserted through the

- mouth (preferred) or nostril until at least 50 cm of the tube has been introduced.
7. Once the tube is placed, insufflate the epigastrium with air while auscultating to confirm, then the ports are suctioned to remove all air.
  8. The gastric balloon is then inflated with 50 mL of air and clamped with a Kelly clamp.
  9. An x-ray should then be obtained to confirm placement.
    - The gastric balloon needs to be below the diaphragm. (Accidental inflation of the balloon in the esophagus or a hiatal hernia could lead to rupture.)
  10. Once confirmed, the balloon is filled with an additional 200 mL of air. (A total of 250 mL of air.)
  11. Once inflated, the air inlet for the gastric balloon should be clamped.
  12. After the gastric balloon is inflated, the tube is pulled until resistance is felt, at which point the balloon is tamponading the gastroesophageal junction.
  13. When applying traction, the tube is expected to migrate a couple centimetres due to heating and stretching. More than this may indicate a hiatal hernia and a chest x-ray needs to be performed.
  14. The tube is then securely fastened or taped to a football helmet, or stable object such as the tray to maintain tension on the tube. If using the tray, do not forget to secure the patient's head as well. (Thus, continued tamponade at the gastroesophageal junction.)
  15. The Salem sump is now placed in the esophagus.
  16. If bleeding continues despite inflation of the gastric balloon, the esophageal balloon (if present) should be inflated to 30 to 45 mmHg. (Note this is inflated to a pressure.)
  17. While the esophageal balloon is inflated, the pressure should be checked periodically.
  18. Do not to overinflate the esophageal balloon as it puts the patient at risk for esophageal necrosis or rupture.
  19. Once the bleeding is controlled, the pressure in the esophageal balloon should be reduced in increments of 5 mmHg to a goal pressure of 25 mmHg.
  20. If bleeding resumes, increase the pressure by 5 mmHg.

Please review [this video](#) prior to placing a Blakemore tube.

## Notes

- Since this is a temporizing measure, arrangements for definitive treatment (endoscopic therapy, transjugular intrahepatic portosystemic shunt [TIPS] placement, or surgery) should be made.
- Do not secure the Blakemore to the ET securing device. Use a second securing device if necessary, as accidental extubation could be catastrophic.

## References

1. Bajaj JS, Sanval AJ. Methods to achieve hemostasis in patients with acute variceal hemorrhage. UpToDate. (2020). [\[Link\]](#)
2. Powell M, Journey JD. Sengstaken-Blakemore Tube. (2020). [\[Link\]](#)
3. Taddei TH. How to Insert a Blakemore Tube to Control Variceal Bleeding. (2019). [\[Link\]](#)

