



## Prevention & Planning

Careful preoperative assessment

- Review available laboratory and radiographic studies
- Review medical history and medications

Procedure location and expertise optimization

Equipment check to be prepared for bleeding complications

## Recommended Tools

Advanced airway expertise and equipment

Adequate Suction

Ice-cold Saline

Therapeutic scope with a large working channel

- 2.8 mm or greater

Topical vasoconstricting or pro-coagulant medication

- Diluted epinephrine: 1mg in 10 mL saline (100 mcg/mL); administer in 1 mL aliquots
  - Do not exceed 200 mcg per administration

- Tranexamic acid (TXA): 100 mg in 2 mL

Bronchial blockers (9 Fr requires ETT 7.5 or greater)

Emergency blood products

## Core Teammates

Anesthesia

Respiratory Therapy

Critical Care

Interventional Radiology

Thoracic Surgery

## Bronchoscopic Techniques



## Anesthesia Techniques



## Grading for Bleeding<sup>1</sup>

Grade	Bronchoscopic Findings	Rationale
1	Suctioning of blood < 1 min	Minimal bleeding, no clinical consequence to patient or provider
2	Suctioning > 1 min, repeat wedging for persistent bleeding, or instillation of cold saline, vasoactive substances, or thrombin	Requires 1+ tools to control or prevent further bleeding
3	Selective intubation or endobronchial balloon or blocker < 20 min or premature interruption of procedure	Meaningful but short-term change in the patient's clinical status, involves more invasive procedures, and causes interruption of the planned procedure
4	Persistent selective intubation > 20 min, new ICU admission or PRBC transfusion, or need for bronchial artery embolization or resuscitation	Change in level of care and requiring advanced ventilatory support or blood products

1. Folch EE, et al., CHEST, 2020. <https://doi.org/10.1016/j.chest.2020.01.036>