

Bronchoscopy Bleeding Essential Tool Kit

Prevention:

- Careful preoperative assessment
 - Laboratory and radiographic studies
 - Medical history and medications
- Procedure location and expertise optimized
- Equipment check to be prepared for bleeding complications

Must have rapid access to:

- 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
- Emergency blood products

Essential teammates:

- Anesthesia
- Respiratory Therapy
- Critical Care
- Interventional Radiology
- Thoracic Surgery

Bronchoscopic Techniques



Anesthesia Techniques



Grading for Bleeding

Grade	Findings at Bronchoscopy	Rationale
1	Suctioning of blood required for less than 1 minute	Minimal bleeding of no clinical consequence to the patient or the provider.
2	Suctioning more than 1 minute required or repeat wedging of the bronchoscope for persistent bleeding or instillation of cold saline, diluted vasoactive substances or thrombin	Requirement of one or more tools to control or prevent further bleeding.
3	Selective intubation with ETT or balloon/bronchial blocker for less than 20 minutes. Or premature interruption of the procedure.	Meaningful but short-term change in the clinical status of the patient involving more invasive procedures and causing interruption of the planned procedure.
4	Persistent selective intubation > 20 minutes or new admission to the ICU or PRBC transfusion or need for bronchial artery embolization or resuscitation.	Change in level of care and requiring advanced ventilatory support and/or transfusion of PRBC.

Folch EE, et al., CHEST, 2020.

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