

SAMBA COVID-19 Webinar Series #5 :

Non-Operating Room Anesthesia (NORA) in the COVID-19 Era

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Society for Ambulatory Anesthesia (SAMBA) Statement on Resuming Ambulatory Anesthesia Care as Our Nation Recovers from COVID-19
4/18/2020



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**Society for Ambulatory Anesthesia (SAMBA) Statement on COVID-19
Testing Before Ambulatory Anesthesia
4/30/2020**



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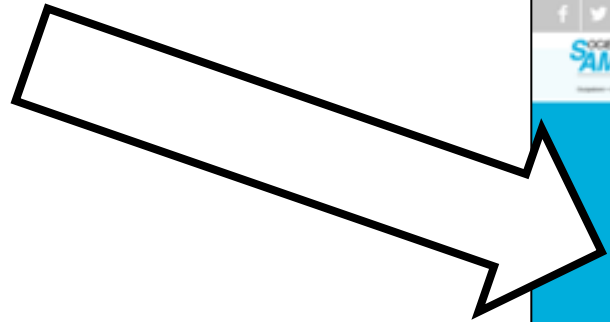
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Monday, 5/11/2020 from 7-8pm CST

Please send us your questions right away so as we would have adequate opportunity to invite the appropriate experts to address those questions
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COVID-19 and Anesthesia for GI



Mark C. Phillips, MD, FASA

Associate Professor of Anesthesiology & Medical

Director for GI Endoscopy Anesthesia

University of Alabama at Birmingham



COVID-19 and Ambulatory Pediatric Anesthesia



Niraja Rajan, M.D., F.A.A.P.

Associate Professor of Anesthesiology at Penn State
Milton S. Hershey Medical Center and

Medical Director at Hershey Outpatient Surgery Center



COVID-19 and Anesthesia for IR



Hinda Abramoff, DO

Section Head of Anesthesia for Interventional Radiology

Department of General Anesthesia

Cleveland Clinic

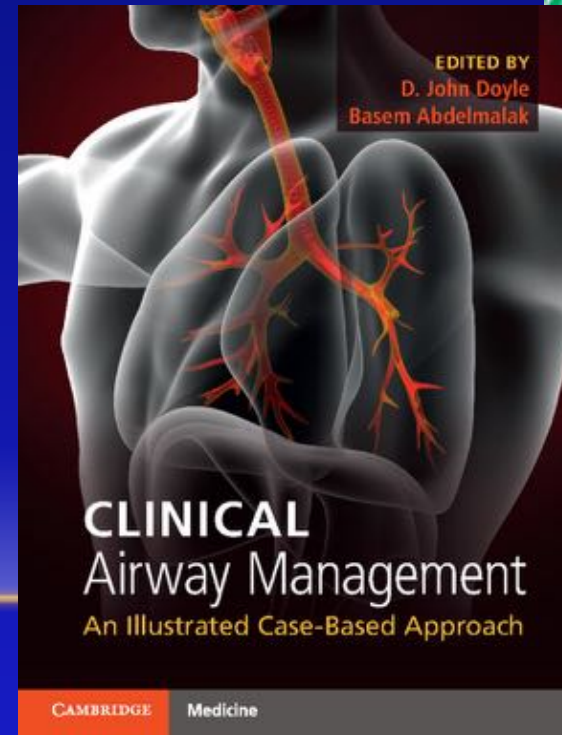
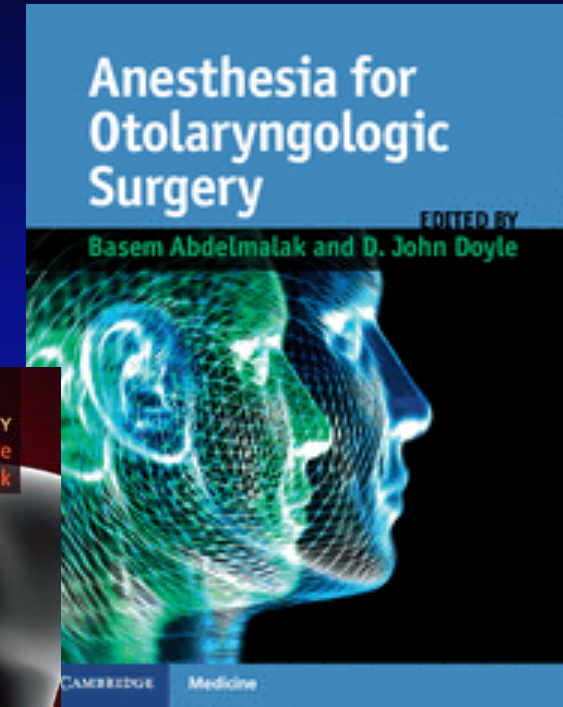
COVID-19 and Anesthesia for Bronchoscopy



Basem Abdelmalak, MD, FASA
SAMBA President

Conflict Of Interest Disclosure

- SAMBA President
- No active industry grants
- Co-editor:
 1. Anesthesia for Otolaryngologic surgery
 2. Clinical Airway Management: an Illustrated Case Based Approach”



COVID-19 and Anesthesia for Bronchoscopy

Basem Abdelmalak, MD, FASA

Professor of Anesthesiology
Director, Anesthesia for Bronchoscopic Surgery
Director, Center for Procedural Sedation
Anesthesiology Institute, Cleveland Clinic

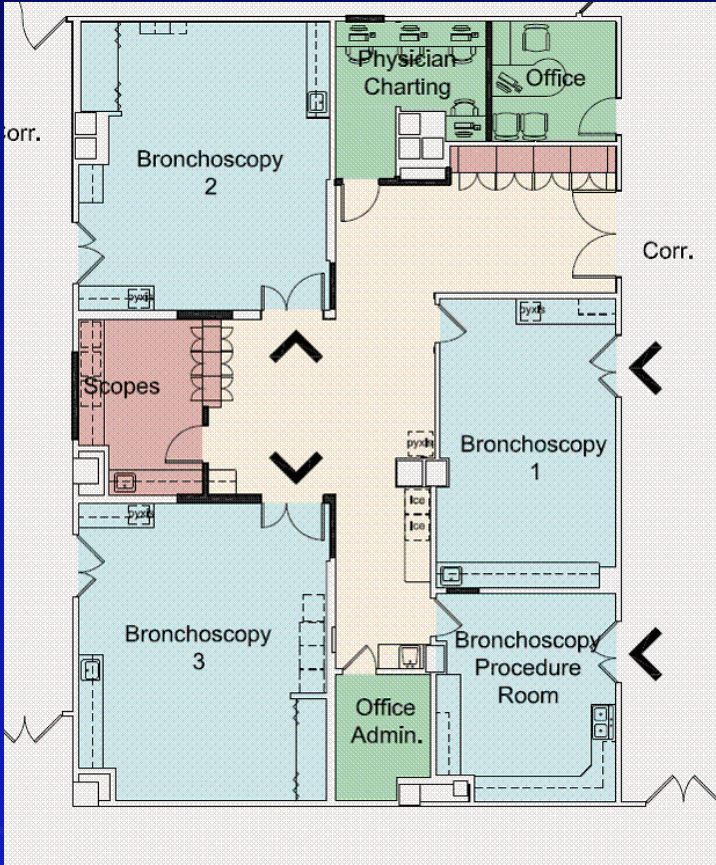
President, Society For Ambulatory Anesthesia
Past-president, Society For Head and Neck Anesthesia

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@basemcc

Modern Fully Equipped Bronchoscopy Suite



Anesthetic Considerations And Techniques For Advanced Diagnostic And Therapeutic Bronchoscopy

Advances in Anesthesia 32 (2014) 71-87

ADVANCES IN ANESTHESIA

Anesthesia and Upper and Lower Airway Management for Advanced Diagnostic and Therapeutic Bronchoscopy

Basem Abdelmalak, MD^{a,b,c,*}, Sonali Sethi, MD^d, Thomas R. Gildea, MD, MS^e

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Anesthesia for Bronchoscopy

Basem B. Abdelmalak^{*}, Thomas R. Gildea[‡] and D. John Doyle[†]

Current Pharmaceutical Design, 2012, 18, 6314-6324

Anesthesia Technique for Endobronchial Ultrasound-Guided Fine Needle Aspiration of Mediastinal Lymph Node

Mona Sarkiss, MD, PhD,^{*} Marcus Kennedy, MD,[†] Bernhard Riedel, MD, PhD,^{*} Peter Norman, MD,^{*} Rodolfo Morice, MD,[†] Carlos Jimenez, MD,[†] and George Eapen, MD[†]

SARS-CoV-2

- A single stranded RNA virus.
- Droplet transmission, a distance of up to \approx 6 feet
- Claimed to stay viable for hours and on some surfaces up to days
- Aerosols emitted by coughing, sneezing, breathing vigorously, and even speaking loudly, travel a distance of up to \approx 300 feet

van Doremalen N, Bushmaker T, Morris DH, et al. Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. N Engl J Med. 2020 Mar 17

Wang J, Du G. COVID-19 may transmit through aerosol. Ir J Med Sci. 2020 Mar 24

SARS-CoV-2

- SARS-CoV-2 may be transmitted from asymptomatic carriers.
- For symptomatic patients, they can be contagious even before they start having symptoms
- Up to 30% false negative rate on testing

Aerosol Generating Procedures (AGP)

- Intubation, extubation, bronchoscopy, endoscopy, otolaryngologic surgeries such as transnasal surgeries and tracheostomies
- Non-invasive ventilation:
 - Continuous Positive Airway Pressure (CPAP)
 - High Flow Nasal Oxygen (HFNO)
- Maximum exhaled air dispersion distance reached \approx 3 feet at 5L/min standard NC

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SAMBA Recommendations

- Maintain safe distancing between patients and visitors
- Continue screening patients for symptoms and measuring temperature
- Limit visitors to either none or only one individual per patient
- Avoid crowding in waiting areas by separating chairs 6 feet apart
- Strongly encourage the use of appropriate masks in all public areas within the facility
- Strongly encourage the use of surgical grade masks in clinical areas
- PPE, including N95 masks, should continue to be worn for aerosolizing procedures
- Schedule procedures to allow time for droplets to settle during aerosolizing procedures and for proper cleaning

March 19th, 2020 Update to the American Association for Bronchology and Interventional Pulmonology (AABIP) Statement on the Use of Bronchoscopy and Respiratory Specimen Collection in Patients with Suspected or Confirmed COVID-19 Infection

- Routine bronchoscopy for patients with known or suspected COVID-19 for the mere indication of diagnosing or confirming COVID-19 diagnosis is relatively contraindicated
- Accepted indications: inconclusive non-invasive COVID-19 test, suspicion for an alternative diagnosis which would change clinical management.

| Emergent Bronchoscopy | Urgent Bronchoscopy | Non Urgent Bronchoscopy |
|---|---|---|
| Severe or moderate symptomatic Tracheal or Bronchial Stenosis | Lung mass suspicious for cancer | Mild tracheal or bronchial stenosis |
| Symptomatic central airway obstruction (airway mass or mucus plug) | Mediastinal or hilar adenopathy suspicious for cancer | Clearance of mucus |
| Massive hemoptysis | Whole lung lavage | High suspicion of sarcoidosis with no immediate need to start therapy |
| Migrated stent | Foreign object aspiration | Chronic interstitial lung disease |
| | Mild to moderate hemoptysis | Detection of chronic infection (MAI) |
| | Suspected pulmonary infection in immunocompromised patients | Chronic cough |
| | | Tracheobronchomalacia evaluation |
| | | Bronchial thermoplasty |

When Bronchoscopy is Necessary for a Patient Who is a COVID-19 Positive

- Use negative pressure procedure room for the procedure
- Limit personnel
- Use full PPE
- Disposable bronchoscopes should be considered if available
- Avoid atomizing patients' airway
- Avoid jet ventilation

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Why Testing?

- Benefit to patient
 - Guides operative time
 - Decreases perioperative risk
 - Creates safety perspective for patients
- Benefit to caregiver
 - Allows team to manage appropriately
 - Drive PPE utilization
- Benefit to organization
 - Cohorting
 - Risk management

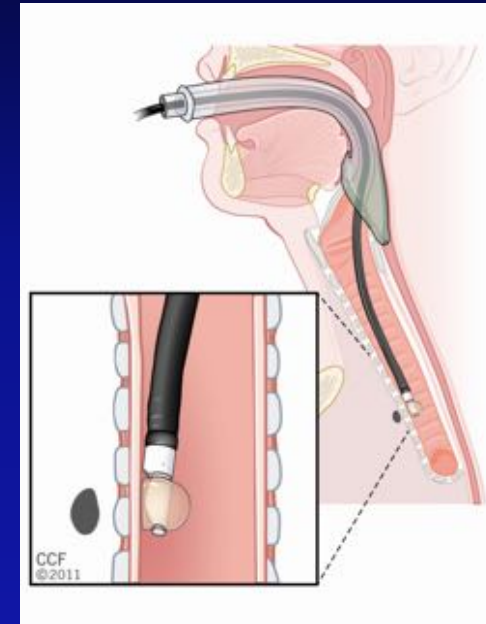
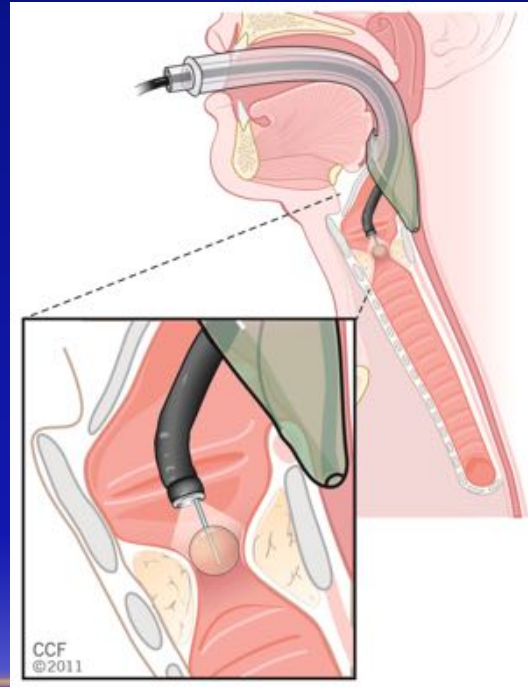
Courtesy of:
Mark Taylor, MD, FASE
Cleveland Clinic

SAMBA Testing Statement

- Testing 24-48 hrs before planned procedures and no greater than 72 hrs as feasible
- Symptomatic and SARS-CoV-2 virus positive patients should be referred to appropriate resources and have elective procedures postponed
- Once patients are tested they should be encouraged to self-isolate leading up to their procedures.
- Patients who have negative tests and continue to screen negative for COVID-19 like symptoms until the time of surgery can proceed.
- **Antibody test is not a triaging tool!**

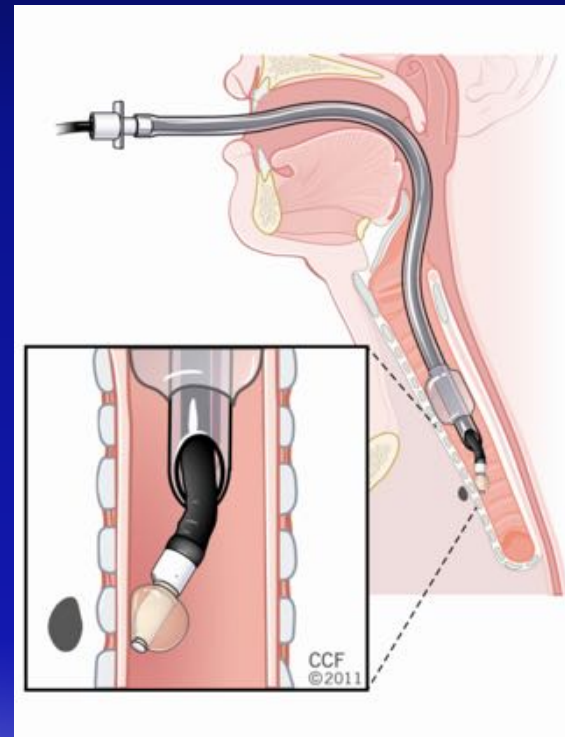
Choice Of The Airway

- Sub-glottic and upper tracheal lesions: SGA



Choice Of The Airway

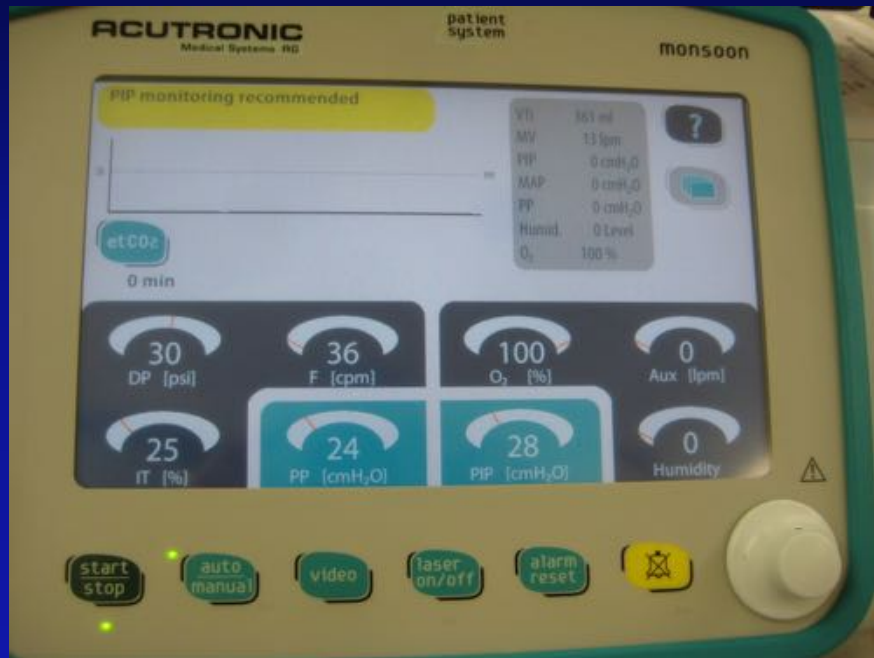
- Lower tracheal and bronchial lesions and /or defects:
 - Use as large of a tube as possible to allow room for the bronchoscope and ventilation



Other Practice Changes

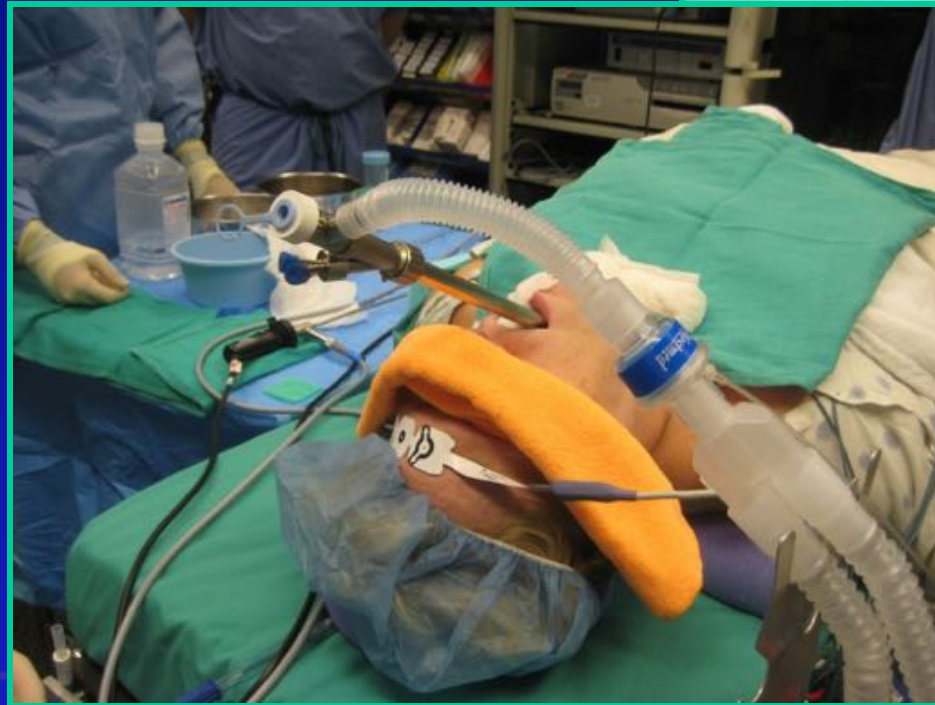
- Rapid induction
- Use of Video Laryngoscopes
- Deep extubation
 - Not a good idea
- Avoid awake intubation when possible
- When needed:
 - Do not atomize or nebulize local anesthetic
 - Lidocaine lollipop or nerve blocks for topicalization
 - Disposable scope
 - Proper sedation

Jet Ventilation



Jet Ventilation Equipment

Ventilating Rigid Bronchoscope



Abdelmalak B, Sarkiss M: Anesthesia for Therapeutic Bronchoscopic Procedures. In: *Anesthesia for Otolaryngologic Surgery* edn. Edited by Abdelmalak B , Doyle DJ eds.. London, UK: Cambridge University Press,; 2013.

High Flow Apneic Oxygenation and Ventilation

- It provides oxygenation and ventilation for spontaneously breathing and paralyzed patients
- No VC, or airway protection



Renda T, Corrado A, Iskandar G, et al *Br J Anaesth*. 2018 Jan;120(1):18-27
Douglas N, Ng I, Nazeem F, et al *Anaesthesia* 2018 Feb;73(2):169-176.

Minimize Coughing and Retching During and After the Procedure

- During:
 - Deep anesthesia,
 - Complete muscle relaxation regardless of the airway choice
- After:
 - Fentanyl during the procedure
 - Proper PONV prophylaxis

Intubation (AKA Aerosol) Box

- Makes the intubation process cumbersome, more difficult at times, and at least takes longer
- What if difficulty is encountered?
- Relaxing PPE protocol depending on the presumed protection from using the box!
- It adds a huge surface over which the virus can reside for up to days,
- disinfecting such box may pose some risks



<https://www.deccanchronicle.com/technology/in-other-news/280420/iit-students-develop-intubation-boxes-to-protect-doctors-treating-covi.html>

Bronchoscopy Under Procedural Sedation

- Many patients are home oxygen dependent
- Even if not, they typically require many liters of oxygen supplementation
- Frequent coughing would increase the aerosolization of the virus during and after this already AGP,
- Use of the nasal route for bronchoscopy is common, known for high virus load
- Thus, Consider General Anesthesia

Summary

- Bronchoscopy is AGP
- JV, HFNO, NC with ≥ 5 L/min are AGP
- Preoperative COVID testing for all
- Use ETT when feasible
- Avoid coughing
- PPE use
- Consider GA Vs. moderate sedation, or deep sedation for bronchoscopy



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Every life deserves world class care.

Thank you for your attention
Basem Abdelmalak, MD, FASA
abdelmb@ccf.org

 @basemcc