

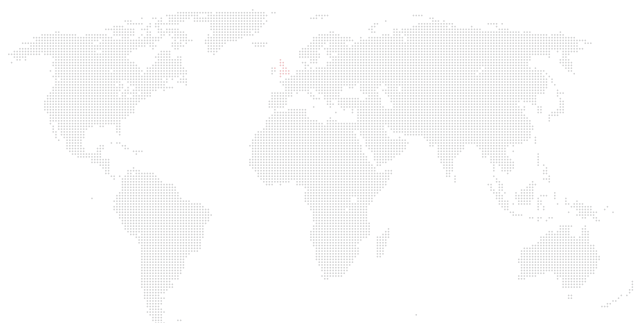


Bronchoscopy during the COVID-19 pandemic

Compendium of national and international clinical guidelines and publications

Recommendations for the use of single-use bronchoscopes and safe bronchoscopic sampling during the COVID-19 pandemic

The COVID-19 pandemic has profoundly altered bronchoscopy practices worldwide. With COVID-19 affecting both the volume of patients and their management, there is a greater focus on infection prevention and control and the benefits of single-use devices have been reflected in national and international guidelines. Read about the latest evidence here.



UK Guidelines & Publications

Guidelines: Infection prevention and control 2020 (Association of Anaesthetists, 2020)

"Single-use flexible fiberoptic bronchoscopes (FOBs) could potentially eliminate the risk of cross infection. The cable attached to the FOB is also single use. The monitor can be disinfected and reused."

"The use of single-use FOBs may be cost effective as expenses related to processing, maintenance, repairs and any potential litigation are avoided."

Consensus guidelines for managing the airway in patients with COVID-19 (Cook *et al.*, 2020)

"Where practical, single-use equipment should be used."

Multidisciplinary guidance for safe tracheostomy care during the COVID-19 pandemic: the NHS National Patient Safety Improvement Programme (NatPatSIP) (B A McGrath *et al.*, 2020)

"The choice of using bronchoscopy during percutaneous tracheostomy in a patient with COVID-19 should reside with the operative team. If used, single-use bronchoscopes with a sealed ventilator circuit are recommended."

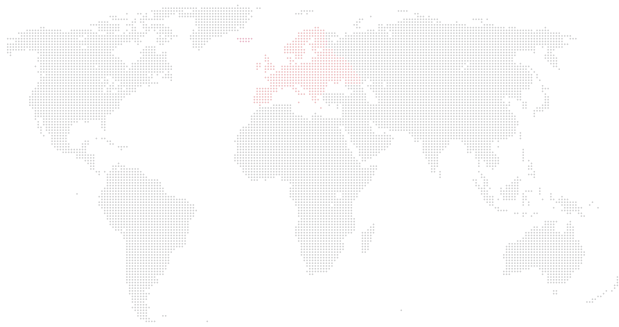
Multidisciplinary COVID-19 tracheostomy guidance (National Tracheostomy Safety Project, 2020)

"If used, single-use endoscopes with a sealed ventilator circuit are recommended."

Should we be switching from reusable bronchoscopes to disposable due to the risks of cross-contamination? A reply (Bailey, 2020)

"...single-use flexible fibreoptic bronchoscopes could potentially eliminate the risk of cross-infection and may be cost effective, as expenses related to processing, maintenance, repairs and any potential litigation are avoided. However, costs and benefits need to be weighed carefully by individual hospitals and intensive care units."





European Guidelines & Publications

Bronchoscopy during SARS CoV-2 pandemic. Recommendation of the Swiss Society for Pneumology (Franzen, Plojoux and Widmer, 2020)

"If possible, if the SARS infection is proven or suspected, the use of disposable bronchoscopes (e.g. from AMBU) should be considered. This means avoiding operations with SARS contaminated instruments with CoV-2, although proper preparation would kill the virus."

Irish Thoracic Society Statement on Bronchoscopy and SARS COVID-19 (Irish Thoracic Society, 2020)

"Single use bronchoscopes have a number of clear advantages: 1) Staff shortages: Where staff are absent there is no requirement to clean scopes; 2) Out of hours bronchoscopy: No requirement to prepare or clean scope; 3) Portability: Small portable screen and scope - reduced requirement for staff; 4) Cross Contamination: No risk of Cross Contamination; 5) Cost: Single use bronchoscopes are not expensive..."

Single Use Bronchoscopes: Applications in COVID-19 Pandemic (Barron and Kennedy, 2020)

"We...endorse the statement that "disposable bronchoscopes should be used first line when available" in patients with suspected or confirmed COVID-19 infection."

"Prior to COVID-19, single-use bronchoscopes had a number of potential advantages including cost, risk of nosocomial infection spread and portability."

"In the current COVID-19 era...single-use bronchoscopes are associated with less staff handling of bronchoscopes prior to bronchoscopy which should reduce the risk of contamination also."

"Single-use bronchoscopes have also advantage in "out-of-hour" bronchoscopy and bronchoscopy outside of the endoscopy or bronchoscopy unit."

The Italian coronavirus disease 2019 outbreak: recommendations from clinical practice (Sorbello et al., 2020)

"Single-use flexible bronchoscopes should be used as they are associated with a reduced risk of cross-contamination, and a separate screen is strongly advised."

“The availability for emergency settings in critical care and acute care environments has been a key factor”

Dr Suveer Singh
Chelsea & Westminster Hospital and Royal Brompton Hospital

The Italian National Association of Critical Area Nurses (Associazione Nazionale Infermieri di Area Critica) recommends single-use fiberscopes in COVID-19 patients (Associazione Nazionale Infermieri di Area Critica, 2020)

The guideline states: "Particular attention should be paid to refreshing the internal safety rules aimed at limiting the dispersion of contaminants containing SARS-Cov2 viruses, particularly for procedures at risk" and recommends "Prefer the use of single-use fiberscopes."

Hospital surge capacity in a tertiary emergency referral centre during the COVID-19 outbreak in Italy (Review) (Carenzo et al., 2020)

"These items were left in the unit at all times. These included: disposable bronchoscopes..."

Special precautions for performing a bronchial endoscopy during the COVID-19 epidemic phase. Recommendations of the French-speaking Pneumology Society (SPLF) (French-speaking Pneumology Society, 2020)

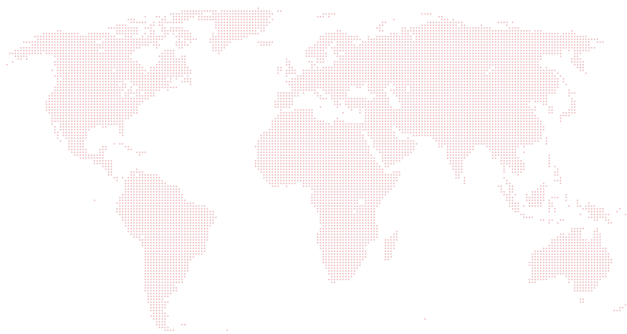
"The use of a disposable endoscope must be considered and proposed to reduce the risk of aerial and manual exposure when cleaning the soiled endoscope."

Spanish Society of Pulmonology and Thoracic Surgery (SEPAR) and the Spanish Society of Respiratory Endoscopy (AEER) consensus recommendations on the Use of Bronchoscopy and Airway Sampling in Patients with Suspected or Confirmed COVID-19 Infection (Cordovilla et al., 2020)

"Equipment: Of choice: disposable bronchoscopes for single use with electronic screen for visualisation of the bronchoscopy. The bronchoscope is discarded in the container arranged for it and the screen is cleaned like the rest of the surfaces in the room."

The cutting edge of thoracic anesthesia during the 2019 coronavirus disease (COVID-19) outbreak (Fiorelli et al., 2020)

"If bronchoscopy is required, a disposable tool should be preferred."



International Consensus Recommendations

Thoracic Anesthesia of Patients with Suspected or Confirmed 2019 Novel Coronavirus Infection: Preliminary Recommendations for Airway Management by the EACTA Thoracic Subspecialty Committee

(Şentürk *et al.*, 2020)

"Trolley: It is recommended to prepare a dedicated trolley for tracheal intubation of this special group of patients... Disposable devices (e.g. single-use blades, laryngoscopes, video laryngoscopes with remote screens, and flexible bronchoscopes) should be preferred."

"In cases intubated with ETT and BB, the position of the BB (and the tube) should be confirmed with a disposable flexible bronchoscope or an ETT with an embedded camera."

"The position of the DLT should be confirmed with a disposable flexible bronchoscope."

"Ideally, disposable bronchoscopes are the best option to avoid the need for decontamination after the procedure."

International pulmonologist's consensus on COVID-19 (International pulmonologist's consensus group, 2020)

"It can be performed to suction out mucous plugs in ventilated patients; Consideration for use of a disposable bronchoscope if available."

Performing Bronchoscopy in Times of the COVID-19 Pandemic: Practice Statement from an International Expert Panel

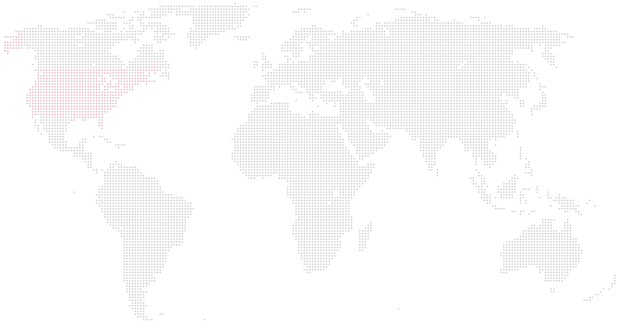
(Luo *et al.*, 2020)

"Where possible utilize disposable single-use bronchoscopes if timely and validated reprocessing of the bronchoscopes is not ensured."

Tracheostomy in the COVID-19 era: global and multidisciplinary guidance

(Brendan. A. McGrath *et al.*, 2020)

"Single-use bronchoscopes with a sealed ventilator circuit are preferable when doing percutaneous tracheostomies."



American Guidelines & Publications

Society for Advanced Bronchoscopy Consensus Statement and Guidelines for bronchoscopy and airway management amid the COVID-19 pandemic
(Pritchett *et al.*, 2020)

"...it could be hypothesized that the use of a single-use, disposable bronchoscope might offer specific advantages. In addition to avoidance of reprocessing equipment, there may be other advantages to using a single-use bronchoscope. As most of these bronchoscopes are attached by a single cord to a monitor, less equipment is involved in set-up, post-procedure disinfection and transport. Additionally, most single-use bronchoscopes would only need a single user to operate, which may decrease the number of personnel required to assist with the procedure."

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
(Wahidi *et al.*, 2020)

"Disposable bronchoscopes should be used first line when available" in patients with suspected or confirmed COVID-19 infection."

Performing tracheostomy during the Covid-19 pandemic: guidance and recommendations from the Critical Care and Acute Care Surgery Committees of the American Association for the Surgery of Trauma
(Michetti *et al.*, 2020)

"If available, use of disposable, single-use bronchoscopes is recommended."

Tracheotomy in ventilated patients with COVID-19 - Guidelines from the COVID-19 Tracheotomy Task Force, a Working Group of the Airway Safety Committee of the University of Pennsylvania Health System
(Chao *et al.*, 2020)

Percutaneous dilatational tracheostomy: "A disposable percutaneous dilatational tracheostomy kit should be used, as well as a disposable flexible bronchoscope with monitor (if using)."

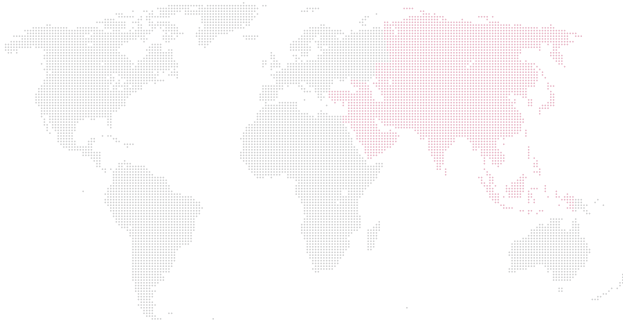
Latin America & Brazil Overview: what has the covid-19 pandemic taught us about adopting preventive measures?
(Cristina De Oliveira, 2020)

"...it immediately implemented control measures... and investment in single-use equipment such as disposable bronchoscopes for bronchoscopy and percutaneous tracheostomy."

Argentina: Tracheostomy in the intensive care unit: Guidelines during COVID-19 worldwide pandemic
(Smith *et al.*, 2020)

Materials: "Disposable flexible video bronchoscope with remote display."





Asia

Perioperative Management of Patients Infected with the Novel Coronavirus: Recommendation from the Joint Task Force of the Chinese Society of Anesthesiology and the Chinese Association of Anesthesiologists

(Chen *et al.*, 2020)

"One disposable fiberscope should be dedicated to a single patient."

Pre-intubation preparation: "...(5) if available, preparation of a disposable flexible video bronchoscope; ..."

Surgical Considerations for Tracheostomy During the COVID-19 Pandemic: Lessons Learned from the Severe Acute Respiratory Syndrome Outbreak (Review)

(Tay, Khoo and Loh, 2020)

"...percutaneous tracheostomy involves more extensive airway manipulation, such as bronchoscopy and/or serial dilations during trachea entry... Whenever possible, disposable equipment should be used."

Clinical Guidelines Relevant to the Safe Bronchoscopic Sample Collection

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

(Wahidi *et al.*, 2020)

"If bronchoscopy is being performed for COVID 19 sample collection, a minimum of 2-3ml of specimen into a sterile, leak proof container for specimen collection is recommended" in suspected COVID-19 patients."

Performing Bronchoscopy in Times of the COVID-19 Pandemic: Practice Statement from an International Expert Panel

(Luo *et al.*, 2020)

"Bronchoscopy in intubated COVID+ patients: Connect the bronchosampler to the scope; connect the scope to aView monitor."

Intubation of the patient with a suspected or confirmed COVID-19 infection

(Wong, Ong and Ang, 2020)

"For rescue ventilation, a disposable, second-generation supraglottic airway device that allows direct fibreoptic intubation using a disposable bronchoscope is recommended."

Expert Recommendations for Tracheal Intubation in Critically Ill Patients with Noval Coronavirus Disease 2019

(Zuo *et al.*, 2020)

"If available, prepare disposable flexible video bronchoscope."

SEPAR and AEER consensus recommendations on the Use of Bronchoscopy and Airway Sampling in Patients with Suspected or Confirmed COVID-19 Infection

(Cordovilla *et al.*, 2020)

"Perform a miniBAL better than a regulated BAL, since it minimises the risk of contagion of the personnel who perform the endoscopy. It is recommended to collect 2-3ml in a sterile, sealed and dry container."

Bronchoscopy, laryngoscopy, and esophagoscopy during the COVID-19 pandemic (Review)

(Reddy, Nguyen and Deschler, 2020)

"To obtain bronchoscopy sample for testing: 2-3ml of specimen should be collected into a sterile, leak proof container."

“With regard to intubation/airway inspections/BAL performance, I have found the new aScope 4 comparable in performance to our existing FOB”

Dr Suveer Singh
Chelsea & Westminster Hospital and Royal Brompton Hospital

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- Vacuum bypass eliminates the need for suction tube switch



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- Live image within seconds and over 3 hours battery time
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