

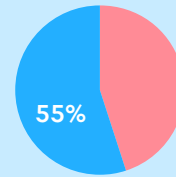


Contamination, infections,  
and COVID-19

# SCIENTIFIC EVIDENCE RELATED TO SINGLE-USE FLEXIBLE BRONCHOSCOPES

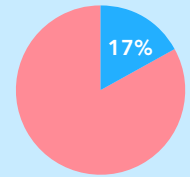
## [Seidelman et al. \(2021\)](#)

Bronchoscopy-related pseudo-outbreaks occur despite standardized procedures for high-level disinfection. Of a total of 35 patients who had a bronchoscopy with a reusable flexible bronchoscope, 10 (28.6%) tested positive for Adenovirus infection. New technology that is high-quality disposable or able to undergo sterilization is needed.



Bronchoscope

**A**

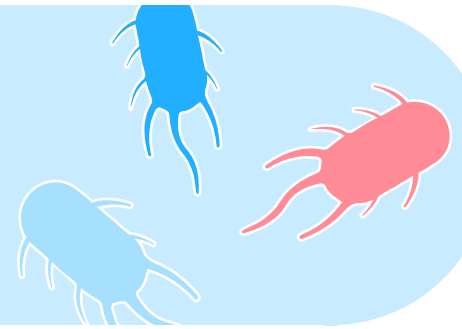


Bronchoscope

**B**

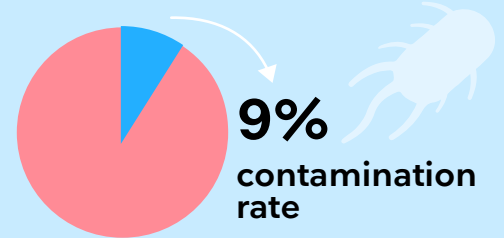
## [Mehta & Muscarella \(2019\)](#)

Reusable flexible bronchoscopes may pose an underrecognized potential risk for transmission of Carbapenem-resistant Enterobacteriaceae (CRE) and related multidrug resistant organisms. Cases suggest that high-level disinfection of bronchoscopes performed in accordance with guidelines may not be effective in eliminating the risk of CRE transmission from one patient to another. Damaged reusable flexible bronchoscopes increase the risk.



## [Gavaldà et al. \(2015\)](#)

A total of 620 samples were obtained from reusable flexible bronchoscopes; 56 samples (9%) tested positive for at least one specimen. Of the 56 positive samples, 37 (6.0%) corresponded to alert level 1; 10 (1.6%) corresponded to alert level 2; and 9 (1.4%) corresponded to alert level 3.



**9%**  
contamination  
rate

## [Barron & Kennedy \(2020\)](#)

Bronchoscopy is associated with an increased risk of spread of COVID-19, not only due to being an aerosol-generating procedure but also because of the requirement of cleaning the reusable flexible bronchoscopes. Although no case of patient-to-patient spread of COVID-19 due to bronchoscopy has been reported, reusable flexible bronchoscopes are associated with contamination by human protein, DNA, and harbour infection even after standard cleaning.

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