

**Online Supplement**  
**Global Attitudes of Health Care Providers About Aerosolized Airway Clearance Therapy in  
Bronchiectasis Patients During the Coronavirus Disease [2019](#) Pandemic**

Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19  
Pandemic

The purpose of this survey is to collect the opinions (at the time of survey completion – June 2020) of physicians treating bronchiectasis and/or NTM lung disease patients during the COVID-19 pandemic. We recognize that these opinions may change over time as new research is conducted, new data is made available, testing guidelines are updated, testing availability increases, and test result turnaround times accelerate.

1. Please specify the location in which you practice medicine:

- Australia
- Austria
- Belgium
- Czech Republic
- Denmark
- France
- Germany
- Greece
- Ireland
- India
- Israel
- Italy
- Japan
- Lithuania
- Macedonia
- Malta
- Netherlands
- Portugal
- Romania
- Russia
- Serbia
- Slovakia
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom
- United States
- Other (please specify):
-

2. Please specify your credentials (select all that apply).

- Medical Doctor (MD)
- Doctor of Osteopathic Medicine (DO)
- Nurse Practitioner (NP)
- Physician Assistant (PA)
- Respiratory Therapist (RT)
- Registered Nurse (RN)
- Doctor of Philosophy (PhD)
- Other (please specify):

3. Please specify which patients you have treated that have tested positive for COVID-19 (select all that apply).

- Patient(s) diagnosed with bronchiectasis only
- Patient(s) diagnosed with NTM lung disease only
- Patient(s) diagnosed with bronchiectasis and NTM lung disease
- I have not yet treated any patient(s) with bronchiectasis and/NTM lung disease who have tested positive for COVID-19

Please provide any relevant comments:

Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

Aerosol Generating Procedures in an Inpatient Setting

4. Do you have any concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing aerosol-generating procedures such as airway clearance techniques or diagnostic testing in an inpatient setting (e.g. hospital)?

- Yes, concerns about airway clearance techniques
- Yes, concerns about diagnostic tests
- Yes, concerns about airway clearance techniques and diagnostic tests
- No concerns

Please provide any relevant comments:

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Airway Clearance Techniques in an Inpatient Setting

5. In the previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing airway clearance techniques (ACTs) in an inpatient setting. Please indicate which ACTs are of concern (select all that apply).

- Chest percussion/postural drainage
- Directed cough/active cycle of breathing
- Positive expiratory pressure (PEP)
- Flutter
- Acapella
- High frequency chest wall oscillations
- Other (please specify):

6. In a previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing airway clearance techniques (ACTs) in an inpatient setting. Has your institution implemented any policies or procedures that enable these patients to perform ACTs in an inpatient setting without putting others at risk of COVID-19 infection? If so, please specify these policies or procedures in the comment box.

- Yes (please specify in comment box below)
- No

Please specify the policies or procedures implemented at your institution:

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Diagnostic Tests in an Inpatient Setting

7. In a previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing aerosol generating diagnostic tests in an inpatient setting. Please indicate which aerosol generating diagnostic tests are of concern (select all that apply).

- Sputum induction
- Bronchoscopy
- Insertion of a gastric tube (e.g. NG, OG) which could generate a strong cough
- Nebulizer treatment which could generate a strong cough
- High flow oxygen delivered via OptiFlow, VapoTherm
- Positive airway pressure therapy (e.g. BPAP, CPAP) when a viral filter is in place
- Dysphagia evaluation
- Esophageal procedures (e.g. Upper GI endoscopy/TEE) in an intubated patient
- Other (please specify):

8. In a previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing aerosol generating diagnostic tests in an inpatient setting. Has your institution implemented any policies or procedures that enable these patients to perform aerosol generating diagnostic tests in an inpatient setting without putting others at risk of COVID-19 infection? If so, please specify these policies or procedures in the comment box.

- Yes
- No

Please specify the policies or procedures implemented at your institution:

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Aerosol Generating Procedures in an Outpatient Setting

9. Do you have any concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing aerosol generating procedures such as airway clearance techniques or diagnostic testing in an outpatient setting (e.g. outpatient clinic, nursing home, assisted living facility, etc.)?

- Yes, concerns about airway clearance techniques
- Yes, concerns about diagnostic tests
- Yes, concerns about airway clearance techniques and diagnostic tests
- No concerns

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Airway Clearance Techniques in an Outpatient Setting

10. In the previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing airway clearance techniques (ACTs) in an outpatient setting. Please indicate which ACTs are of concern (select all that apply).

- Chest percussion/postural drainage
- Directed cough/active cycle of breathing
- Positive expiratory pressure (PEP)
- Flutter
- Acapella
- High frequency chest wall oscillations
- Other (please specify):

11. In a previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing airway clearance techniques (ACTs) in an outpatient setting. What recommendations would suggest for such patients? Please select all that apply and provide comments as necessary.

- Recommend patients continue ACTs as usual
- Recommend patients stop performing ACTs until they recover from COVID-19
- Recommend patients modify their environment for performing ACTs (e.g. designate an area/room)
- Other recommendation(s) (please specify):

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Diagnostic Tests in an Outpatient Setting

12. In a previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing aerosol generating diagnostic tests in an outpatient setting. Please indicate which aerosol generating diagnostic tests are of concern (select all that apply).

- Sputum induction
- Bronchoscopy
- Insertion of a gastric tube (e.g. NG, OG) which could generate a strong cough
- Nebulizer treatment which could generate a strong cough
- High flow oxygen delivered via OptiFlow, VapoTherm
- Positive airway pressure therapy (e.g. BPAP, CPAP) when a viral filter is in place
- Dysphagia evaluation
- Esophageal procedures (e.g. Upper GI endoscopy/TEE) in an intubated patient
- Other (please specify):

13. In a previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing aerosol generating diagnostic tests in an outpatient setting. Has your institution implemented any policies or procedures that enable these patients to perform aerosol generating diagnostic tests in an outpatient setting without putting others at risk of COVID-19 infection? If so, please specify these policies or procedures in the comment box.

- Yes
- No

Please specify the policies or procedures implemented at your institution:

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Airway Clearance Techniques in the Home Setting

14. Do you have any concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing airway clearance techniques in the home setting?

- Yes
- No



## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Airway Clearance Techniques in the Home Setting pt. 2

15. In the previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing airway clearance techniques (ACTs) in the home setting. Please indicate which ACTs are of concern (select all that apply).

- Chest percussion/postural drainage
- Directed cough/active cycle of breathing
- Positive expiratory pressure (PEP)
- Flutter
- Acapella
- High frequency chest wall oscillations
- Other (please specify)

16. In a previous question you indicated that you have concerns about bronchiectasis and/or NTM lung disease patients with known or suspected COVID-19 performing airway clearance techniques (ACTs) in the home setting. What recommendations would suggest for such patients? Please select all that apply and provide comments as necessary.

- Recommend patients continue ACTs as usual
- Recommend patients stop performing ACTs until they recover from COVID-19
- Recommend patients modify their environment for performing ACTs (e.g. designate an area/room or perform outside with no one around)
- Other (please specify)

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Percentage of Patients Using Airway Clearance Techniques

17. Please estimate the percentage of your bronchiectasis and/or NTM lung disease patients (regardless of COVID-19 presence) actively using airway clearance techniques.

- ≥ 80%
- 50-79%
- 30-49%
- 1-30%
- 0% - none of my patients use airway clearance techniques

Please provide any relevant comments:

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Types of Airway Clearance Techniques Used by Patients

18. Please specify the airway clearance techniques used by your bronchiectasis and/or NTM lung disease patients (select all that apply).

- Chest percussion/postural drainage
- Directed cough/active cycle of breathing
- Positive expiratory pressure (PEP)
- Flutter
- Acapella
- High frequency chest wall oscillations
- Other (please specify):

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Telehealth Implementation

19. Has your institution begun using telehealth (phone or video) as a form of conducting patient visits in response to the need for COVID-19 preparedness/care for patients with bronchiectasis and/or active NTM lung disease?

Yes

No

Please provide any relevant comments:

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Experiences with Telehealth During Pandemic

20. Have you personally conducted a patient visit via telehealth during this COVID-19 pandemic?

Yes

No

Please provide any relevant comments:

## Aerosol Generating Procedures Among Bronchiectasis and NTM Patients During COVID-19 Pandemic

### Experiences with Telehealth During Pandemic pt. 2

21. Do you find telehealth valuable in treating bronchiectasis and/or active NTM lung disease patients during this COVID-19 pandemic? Please provide background to your answer in the comment box.

Yes

No

Please provide any relevant comments: