

COVID-19 CADTH REFERENCE LIST

# Masks During Aerosol-Generating ENT Procedures: Clinical Effectiveness and Guidelines

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To produce this report, CADTH used a modified approach to the selection, appraisal, and synthesis of the evidence to meet decision-making needs during the COVID-19 pandemic. Care has been taken to ensure the information is accurate and complete, but it should be noted that international scientific evidence about COVID-19 is changing and growing rapidly.

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## Research Questions

1. What is the clinical effectiveness of masks for clinicians and health care workers exposed to bioaerosols or infectious agents during ears, nose and throat (ENT) procedures?
2. What are the evidence-based guidelines regarding the selection of respiratory protection during ENT procedures for clinicians and health care workers?

## Key Findings

No relevant studies were identified regarding the clinical effectiveness of masks for clinicians and healthcare workers exposed to bioaerosols or infectious agents during ENT procedures. In addition, no relevant evidence-based guidelines were identified regarding the selection of respiratory protection during ENT procedures for clinicians and health care workers.

## Methods

A limited literature search was conducted by an information specialist on key resources including Medline, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine’s MeSH (Medical Subject Headings), and keywords. The main search concepts were COVID-19, face masks, and otorhinolaryngological procedures. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2000 and March 25, 2020. Internet links were provided, where available.

## Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

**Table 1: Selection Criteria**

<b>Population</b>	Any individual performing or requiring aerosol generating ears, nose and throat (ENT) procedures
<b>Intervention</b>	Q1: N95 masks Q2: Masks (surgical or N95 masks)
<b>Comparator</b>	Q1: Surgical Masks (Level 1, 2, 3) Q2: Not applicable
<b>Outcomes</b>	Q1: Clinical effectiveness (transmission of infection [to clinician from patient], adverse events) Q2: Recommendations regarding the selection of masks during ENT procedures for clinicians and healthcare workers.
<b>Study Designs</b>	Health technology assessments, systematic reviews, randomized controlled trials, non-randomized studies, evidence-based guidelines

## Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, and systematic reviews are presented first, and are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

No relevant health technology assessments, systematic reviews, randomized controlled trials, and non-randomized studies were identified regarding the clinical effectiveness of masks for clinicians and healthcare workers exposed to bioaerosols or infectious agents during ENT procedures. In addition, no relevant evidence-based guidelines were identified regarding the selection of respiratory protection during ENT procedures for clinicians and health care workers.

References of potential interest are provided in the appendix.

### Health Technology Assessments

No literature identified.

### Systematic Reviews and Meta-analyses

No literature identified.

### Randomized Controlled Trials

No literature identified.

### Non-Randomized Studies

No literature identified.

### Guidelines and Recommendations

No literature identified.

## Appendix — Further Information

### Previous CADTH Reports

1. Respiratory precautions for protection from bioaerosols or infectious agents: a review of the clinical effectiveness and guidelines. (*CADTH Rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2014: <https://www.cadth.ca/respiratory-precautions-protection-bioaerosols-or-infectious-agents-review-clinical-effectiveness>. Accessed 2020 Mar 26.
2. Wear compliance and donning/doffing of respiratory protection for bioaerosols or infectious agents: a review of the effectiveness, safety, and guidelines. (*CADTH Rapid response report: summary with critical appraisal*). Ottawa (ON): CADTH; 2014. <https://www.cadth.ca/wear-compliance-and-donningdoffing-respiratory-protection-bioaerosols-or-infectious-agents-review>. Accessed 2020 Mar 26.
3. Aerosol-generating procedures and risk of transmission of acute respiratory infections: a systematic review. (*CADTH Health technology assessment*). Ottawa (ON): CADTH; 2013: <https://www.cadth.ca/sites/default/files/aerosol-generating-procedures-and-risk-of-transmission-of-acute-respiratory-infections-a-systematic-review.pdf>. Accessed 2020 Mar 26.
4. Aerosol-generating procedures and risk of transmission of acute respiratory infections: a systematic review. (*CADTH Rapid response report: systematic review*). Ottawa (ON): CADTH; 2011: [https://www.cadth.ca/sites/default/files/pdf/M0023\\_Aerosol\\_Generating\\_Procedures\\_e.pdf](https://www.cadth.ca/sites/default/files/pdf/M0023_Aerosol_Generating_Procedures_e.pdf). Accessed 2020 Mar 26.
5. Physical interventions to interrupt or reduce the spread of respiratory viruses — resource use implications: a systematic review. (*CADTH Health technology assessment*). Ottawa (ON): CADTH; 2011: [https://www.cadth.ca/sites/default/files/pdf/M0024\\_respiratory\\_viruses\\_tr\\_e.pdf](https://www.cadth.ca/sites/default/files/pdf/M0024_respiratory_viruses_tr_e.pdf). Accessed 2020 Mar 26.
6. Use of N99 respirator masks during a pandemic: clinical effectiveness. (*CADTH Health technology inquiry service: health technology assessment*). Ottawa (ON): CADTH; 2009: [https://www.cadth.ca/sites/default/files/pdf/K0096\\_N99\\_Respirator\\_Masks\\_final.pdf](https://www.cadth.ca/sites/default/files/pdf/K0096_N99_Respirator_Masks_final.pdf). Accessed 2020 Mar 26.

### Clinical Practice Guidelines — Methodology Not Specified

7. Advice on the use of masks in the community, during home care and in healthcare settings in the context of the novel coronavirus (COVID-19) outbreak. Geneva (CH): WHO; 2020: [https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak). Accessed 2020 Mar 26.  
*See: Healthcare workers should, page 2*

8. Canadian Society of Otolaryngology - Head and Neck Surgery. COVID-19 resources. 2020; <https://www.entcanada.org/news-events/covid-19-alerts/>. Accessed 2020 Mar 26.  
*See: Head & Neck Oncologic Surgery*
9. European Rhinologic Society. Information for Rhinologists on COVID-19. 2020; [https://www.europeanrhinologicsociety.org/?page\\_id=2143](https://www.europeanrhinologicsociety.org/?page_id=2143). Accessed 2020 Mar 26.  
*See: Personal Protective Equipment (PPE) at surgery*
10. Permanente Medicine Head and Neck Surgical Oncology Cancer Care guidelines during COVID-19 epidemic. Oakland (CA): Kaiser Permanente Northern California; 2020: [https://www.entcanada.org/wp-content/uploads/NCAL-HN-Oncologic-Surgery-in-COVID-Era\\_v3.pdf](https://www.entcanada.org/wp-content/uploads/NCAL-HN-Oncologic-Surgery-in-COVID-Era_v3.pdf). Accessed 2020 Mar 26.  
*See: Intubation strategy, page 4*
11. ENTUK guidelines for changes in ENT during COVID-19 pandemic. London (UK): ENT UK at The Royal College of Surgeons of England; 2020: <https://www.entuk.org/entuk-guidelines-changes-ent-during-covid-19-pandemic>. Accessed 2020 Mar 26.  
*See: 7. Recommended PPE in different settings for ALL patients (not just suspected or confirmed COVID19 patients).*
12. Harrison L, Ramsden J, Winter S, Rocke J, Heward E. Guidance for ENT surgeons during the COVID-19 pandemic. London (UK): ENT UK at The Royal College of Surgeons of England; 2020: [http://www.asohns.org.au/CMS/Uploads/COVID\\_19\\_Tracheostomy\\_guidance\\_18\\_March\\_2020.pdf](http://www.asohns.org.au/CMS/Uploads/COVID_19_Tracheostomy_guidance_18_March_2020.pdf). Accessed 2020 Mar 26.  
*See: Standard operative procedure for tracheostomy in COVID 19 positive patient/Unknown status, page 2*
13. Prince Edward Island guidelines for the management and control of COVID-19. Charlottetown (PE): Prince Edward Island Health and Wellness; 2020: [https://www.princeedwardisland.ca/sites/default/files/publications/20200305\\_pei\\_guide\\_line\\_covid-19.pdf](https://www.princeedwardisland.ca/sites/default/files/publications/20200305_pei_guide_line_covid-19.pdf). Accessed 2020 Mar 26.  
*See: COVID-19*
14. Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19). Geneva (CH): World Health Organization; 2020: [https://apps.who.int/iris/bitstream/handle/10665/331498/WHO-2019-nCoV-IPCPPE\\_use-2020.2-eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/331498/WHO-2019-nCoV-IPCPPE_use-2020.2-eng.pdf). Accessed 2020 Mar 26.  
*See: Ensure PPE use is rational and appropriate, page 2 and Table 1, page 3*
15. Summary of PPE recommendations for patients suspected or confirmed to have COVID-19 in acute care. Saskatoon (SK): Saskatchewan Health Authority (SHA); 2020: <https://www.saskatchewan.ca/-/media/files/coronavirus/info-for-health-care-providers/ppe/summary-of-ppe-recommendations-acute-care-version-6-mar23.pdf>. Accessed 2020 Mar 26.