

CADTH Reference List

Community Mask- Wearing for Children and Youth in Schools

March 2021

Authors: Shannon Hill, Hannah Loshak

Cite As: *Community Mask-Wearing for Children and Youth in Schools*. Ottawa: CADTH; 2021 Mar. (CADTH reference list).

Disclaimer: The information in this document is intended to help Canadian health care decision-makers, health care professionals, health systems leaders, and policy-makers make well-informed decisions and thereby improve the quality of health care services. While patients and others may access this document, the document is made available for informational purposes only and no representations or warranties are made with respect to its fitness for any particular purpose. The information in this document should not be used as a substitute for professional medical advice or as a substitute for the application of clinical judgment in respect of the care of a particular patient or other professional judgment in any decision-making process. The Canadian Agency for Drugs and Technologies in Health (CADTH) does not endorse any information, drugs, therapies, treatments, products, processes, or services.

While care has been taken to ensure that the information prepared by CADTH in this document is accurate, complete, and up to date as at the applicable date the material was first published by CADTH, CADTH does not make any guarantees to that effect. CADTH does not guarantee and is not responsible for the quality, currency, propriety, accuracy, or reasonableness of any statements, information, or conclusions contained in any third-party materials used in preparing this document. The views and opinions of third parties published in this document do not necessarily state or reflect those of CADTH.

CADTH is not responsible for any errors, omissions, injury, loss, or damage arising from or relating to the use (or misuse) of any information, statements, or conclusions contained in or implied by the contents of this document or any of the source materials.

This document may contain links to third-party websites. CADTH does not have control over the content of such sites. Use of third-party sites is governed by the third-party website owners' own terms and conditions set out for such sites. CADTH does not make any guarantee with respect to any information contained on such third-party sites and CADTH is not responsible for any injury, loss, or damage suffered as a result of using such third-party sites. CADTH has no responsibility for the collection, use, and disclosure of personal information by third-party sites.

Subject to the aforementioned limitations, the views expressed herein do not necessarily reflect the views of Health Canada, Canada's provincial or territorial governments, other CADTH funders, or any third-party supplier of information.

This document is prepared and intended for use in the context of the Canadian health care system. The use of this document outside of Canada is done so at the user's own risk.

This disclaimer and any questions or matters of any nature arising from or relating to the content or use (or misuse) of this document will be governed by and interpreted in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein, and all proceedings shall be subject to the exclusive jurisdiction of the courts of the Province of Ontario, Canada.

The copyright and other intellectual property rights in this document are owned by CADTH and its licensors. These rights are protected by the Canadian *Copyright Act* and other national and international laws and agreements. Users are permitted to make copies of this document for non-commercial purposes only, provided it is not modified when reproduced and appropriate credit is given to CADTH and its licensors.

About CADTH: CADTH is an independent, not-for-profit organization responsible for providing Canada's health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.

Funding: CADTH receives funding from Canada's federal, provincial, and territorial governments, with the exception of Quebec.

Questions or requests for information about this report can be directed to requests@cadth.ca

Key Messages

- Two non-randomized studies were identified regarding the clinical effectiveness of mask-wearing in school settings to limit the spread of respiratory infection or illness in children and youth.
- One evidence-based guideline was identified regarding mask-wearing by children and youth in school settings to limit the spread of coronavirus disease infection.

Research Questions

1. What is the clinical effectiveness of mask-wearing in school settings to limit the spread of respiratory infection or illness in children and youth?
2. What are the evidence-based guidelines regarding mask-wearing by children and youth in school settings to limit the spread of coronavirus disease 2019 (COVID-19) infection?

Methods

Literature Search Methods

A limited literature search was conducted by an information specialist on key resources including MEDLINE via OVID, the Cochrane Database of Systematic Reviews, the international HTA database, the websites of Canadian and major international health technology agencies, as well as a focused internet search. The search strategy comprised both controlled vocabulary, such as the National Library of Medicine's MeSH (Medical Subject Headings), and keywords. The main search concepts were masks for infection prevention and for schools. 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, 2016 and March 15, 2021. Internet links were provided, where available.

Selection Criteria

One reviewer screened literature search results (titles and abstracts) and selected publications according to the inclusion criteria presented in Table 1. Full texts of study publications were not reviewed. Open-access, full-text versions of evidence-based guidelines were reviewed when abstracts were not available.

Results

Two non-randomized studies^{1,2} were identified regarding the clinical effectiveness of mask-wearing in school settings to limit the spread of respiratory infection or illness in children and youth. One evidence-based guideline³ was identified regarding mask-wearing by children and youth in school settings to limit the spread of COVID-19 infection. No health technology assessments, systematic reviews, or randomized controlled trials were identified.

Table 1: Selection Criteria

Criteria	Description
Population	School-aged children and youth (aged 18 or younger)
Intervention	Face mask-wearing in school settings
Comparator	Q1: No face mask-wearing, limited face mask-wearing, any alternate duration of face mask-wearing Q2: Not applicable
Outcomes	Q1: Clinical effectiveness (e.g., rates and severity of respiratory infection and illness [e.g., COVID-19, SARS, influenza], safety, rates of adverse events related to prolonged mask-wearing [e.g., skin breakdown, dental caries, sore throats, psychological distress, impaired learning and development]) Q2: Recommendations regarding the best practice (e.g., guidance around face mask-wearing in school settings to limit the spread of COVID-19)
Study Designs	HTAs, SRs, RCTs, non-randomized studies, evidence-based guidelines

COVID-19 = coronavirus disease 2019; HTA = health technology review; RCT = randomized controlled trial; SARS = severe acute respiratory syndrome; SR = systematic review.

Additional references of potential interest that did not meet the inclusion criteria are provided in Appendix 1.

References

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

1. Qin Z, Shi L, Xue Y, et al. Prevalence and risk factors associated with self-reported psychological distress among children and adolescents during the COVID-19 pandemic in China. *JAMA Netw Open*. 2021;4(1):e2035487. [Medline](#)
2. Uchida M, Kaneko M, Hidaka Y, et al. Effectiveness of vaccination and wearing masks on seasonal influenza in Matsumoto City, Japan, in the 2014/2015 season: an observational study among all elementary schoolchildren. *Prev Med Rep*. 2017;5:86-91. [Medline](#)

Guidelines and Recommendations

3. Public Health Agency of Canada. COVID-19 guidance for schools Kindergarten to Grade 12. 2021; <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/guidance-schools-childcare-programs.html>. Accessed 2021 Mar 17.
See: Use of non-medical cloth masks or face coverings.

Appendix 1: References of Potential Interest

Previous CADTH Reports

- Public health interventions for the prevention of COVID-19 in schools: guidelines. (*CADTH Rapid response report: reference list*). Ottawa (ON): CADTH; 2020: <https://cadth.ca/sites/default/files/covid-19/RA1154%20COVID%20in%20Schools%20Final.pdf>. Accessed 2021 Mar 17.

Systematic Reviews

Population Not Specified

- Wang MX, Gwee SXW, Chua PEY, Pang J. Effectiveness of surgical face masks in reducing acute respiratory infections in non-healthcare settings: a systematic review and meta-analysis. *Front Med (Lausanne)*. 2020;7:564280. [Medline](#)

Guidelines and Recommendations

Consensus Statement

- Lopes H, Middleton J, De Guchteneere A, Hadjipanayis A. COVID-19 and the use of masks by children. Statement from the Association of Schools of Public Health in the European region and the European Academy of Paediatrics. *Front Pediatr*. 2021;9:580150. [Medline](#)

Evidence-Based Methodology Not Specified

- Centers for Disease Control and Prevention. Guidance for wearing masks; 2021: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcommunity%2Fschools-childcare%2Fcloth-face-cover.html. Accessed 2021 Mar 17.
See: Who should and should not wear a mask.
- Government of Prince Edward Island. Wearing masks and PPE in schools. 2021: <https://www.princeedwardisland.ca/en/information/education-and-lifelong-learning/wearing-masks-and-ppe-in-schools>. Accessed 2021 Mar 17.
- Government of Yukon. Guidance on non-medical mask use in schools. 2021: <https://yukon.ca/en/guidance-non-medical-mask-use-schools>. Accessed 2021 Mar 17.
- Halton District School Board. Non-medical masks, cloth masks and face coverings. 2021: <https://www.hdsb.ca/students/Pages/Health%20and%20Well-Being/COVID-19/Mask-Wearing-Tips.aspx>. Accessed 2021 Mar 17.
- Board of Education – Burnaby School District 41. Masks in Burnaby schools. 2020: <https://burnabyschools.ca/masks/>. Accessed 2021 Mar 17.
- COVID-10 Scientific Advisory Group. What role might children play in community SARS-Cov-2 transmission? What measures might mitigate potential additional risk of transmission of COVID-19 related to school & daycare reopening? Edmonton (AB): Alberta Health Services; 2020: <https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-sag-role-of-children-in-community-transmission-rapid-review.pdf>. Accessed 2021 Mar 17.
See: Resource: Summary of recommended strategies to reduce COVID-19 risk in schools and daycares – Mask (Face Coverings), page 8 and 9.
- Government of Alberta. Implementing school re-entry guidance: additional considerations. 2020: <https://www.alberta.ca/assets/documents/covid-19-implementing-school-re-entry-guidance.pdf>. Accessed 2021 Mar 17.
See: Non-medical face masks, page 8-10.
- COVID-19 prevention measures in K-12 schools: optimizing screening and masking. Toronto (ON): Public Health Ontario; 2020: <https://www.publichealthontario.ca/-/media/documents/ncov/sch/2020/12/covid-19-focus-on-optimizing-screening-and-masking.pdf?la=en>. Accessed 2021 Mar 17.
See: Table 1. Considerations for Enhancing Mask Measures and School Screening in Schools in Ontario, page 5-6.
- Considerations for school-related public health measures in the context of COVID-19. Geneva (CH): World Health Organization; 2020: <https://www.who.int/publications/i/item/considerations-for-school-related-public-health-measures-in-the-context-of-covid-19>. Accessed 2021 Mar 17.
See: COVID-19 prevention and control measures: Use of masks in school settings, page 5.
- Toronto District School Board. Mask and face covering requirements for TDSB students and staff. [no date][no date]. Accessed 2021 Mar 17.
See: Mask Use, Supply, and Care, page 3-6.

Additional References

17. Esposito S, Principi N. To mask or not to mask children to overcome COVID-19. *Eur J Pediatr.* 2020;179(8):1267-1270. [Medline](#)
18. Living rapid review update 10: What is the specific role of daycares and schools in COVID-19 transmission? Hamilton (ON): National Collaborating Centre for Methods and Tools; 2020: <https://www.nccmt.ca/uploads/media/media/0001/02/2f13bcee5c59ac63961a88915866efc53822936f.pdf>. Accessed 2021 Mar 17.
19. Spitzer M. Masked education? The benefits and burdens of wearing face masks in schools during the current Corona pandemic. *Trends Neurosci Educ.* 2020;20:100138. [Medline](#)