

The use of face shields by asymptomatic people to reduce transmission of COVID-19

An Evidence Snapshot rapid review brokered by the Sax Institute for the Australian Commission on Safety and Quality in Health Care.
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Disclaimer:

This Evidence Snapshot Review was produced using the Evidence Snapshot methodology in response to specific questions from the commissioning agency.

It is not necessarily a comprehensive review of all literature relating to the topic area. It was current at the time of production (but not necessarily at the time of publication). It is reproduced for general information and third parties rely upon it at their own risk.

Introduction

This rapid evidence scan was commissioned by the Australian Commission on Safety and Quality in Health Care and prepared by the Sax Institute. Note that it was completed within 3 days, so while a rigorous process for searching was followed it is possible that some peer reviewed or grey literature may have been missed.

Review question:

What is the evidence that wearing face shields by asymptomatic people reduces the transmission of COVID-19?

Method:

We searched PubMed; collections of COVID-19 related research (Oxford University Centre for Evidence Based Medicine, CDC, Cochrane, ScienceDirect, Lancet, BMJ) as well as a grey literature search including jurisdictions and major international organisations from Australia, New Zealand, UK, US and Canada. We reviewed the title and abstracts of 253 peer reviewed papers. The searches were undertaken on 25, 26 and 29 June 2020, and peer-reviewed and grey literature was sourced by 29 June 2020. The search strategy and results are reported in Appendices 1 and 2.

Summary of findings:

- **We found no peer reviewed or grey literature about the effectiveness of face shields worn by asymptomatic people to reduce transmission of COVID-19**
- We found no position statements on the use of face shields in the community.
- We found some studies on the design and production of face shields.
- All other literature on face shields addressed their use in healthcare settings.

Appendix 1: Search strategy

Review question

What is the evidence that wearing face shields by the public (asymptomatic people) reduces the transmission of COVID-19?

Searches were run including multiple terms for face shield, including face/facial protection, goggles, visor, eyewear, eye protection, protective screen, surgical helmet, respirator, PAPR. Studies that related to healthcare settings or health care workers were excluded during the title and abstract search.

Face masks were excluded, however all studies captured in the search were reviewed.

Key concepts

Concept 1	Concept 2	Concept 3	Concept 4
Face shield	Coronavirus	Prevention	Public/people
Face protector	COVID-19	Transmission	Community
	CoV	Infection	Universal

Inclusion and exclusion criteria

Include

- Shield, face shield, coronavirus, COVID, transmission, infection, universal, community.
- Systematic reviews, narrative reviews, and primary research, peer reviewed commentaries
- Jurisdictions in Australia, New Zealand, Canada, US and UK and major international organisations.

Exclude

- Hospitals, outpatients, primary care and dental setting; by healthcare workers, symptomatic people or people diagnosed with COVID-19
- Design or production of face shields, masks, face covering (not further specified).

Databases

Peer-reviewed

PubMed; collections of COVID-19 related research (Oxford University Centre for Evidence Based Medicine (CEBM), CDC, Cochrane, ScienceDirect, Lancet, BMJ, Elsevier

Grey literature

Jurisdictions, major international organisations from Australia, New Zealand, UK, US and Canada. Additional key reports from other countries identified by the content expert.

Sources and approach

1. PubMed
 - Search: (((coronavirus[Title/Abstract] OR COVID[Title/Abstract] OR COVID*[Title/Abstract]) AND shield[Title/Abstract] OR face shield[Title/Abstract])
 - Limited to articles published from 1 June 2019 to 24 June 2020.
2. Cochrane Collaboration
 - Keywords: Face shield and COVID,
 - Limited to articles published from 1 June 2019 to 24 June 2020.
3. Lancet COVID Collection
 - Keywords: Face shield and COVID,
 - Limited to articles published from 1 June 2019 to 24 June 2020.
4. BMJ COVID Collection
 - Keywords: Face shield and COVID,
 - Limited to articles published from 1 June 2019 to 24 June 2020.
5. ScienceDirect COVID Collection:
 - Keywords: Face shield and COVID,
 - Limited to articles published from 1 June 2019 to 24 June 2020.

Final PubMed search

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((("face shield"[Title/Abstract] OR "facial shield"[Title/Abstract] OR "face protect*"[Title/Abstract] OR "facial protect*"[Title/Abstract] OR "goggles"[Title/Abstract] OR (facepiece[Title/Abstract] OR visor[Title/Abstract] OR eyewear[Title/Abstract] OR "eye protect*"[Title/Abstract] OR "protective screen"[Title/Abstract] OR "surgical helmet"[Title/Abstract] OR respirator[Title/Abstract] OR PAPR[Title/Abstract])) AND (coronavirus[Title/Abstract] OR COVID[Title/Abstract] OR COVID*[Title/Abstract])) AND (("2019/06/01"[Date - Publication] : "3000"[Date - Publication])))
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Appendix 2 Search results

2.1 Peer reviewed literature

A	B	D	C	E	F	G
Database	Results	Remove duplicates	Excluded after title & abstract screening	Full text review	Excluded after full text review	FINAL INCLUDED
	n=	n=	n=	n=	n=	n=
1 PubMed	144	0	133	11	11	0
2 Cochrane COVID	26	23	3	0	0	0
3 <i>Lancet COVID</i>	3	0	2	1	1	0
4 <i>BMJ COVID</i>	31	0	31	0	0	0
5 <i>Science direct COVID</i>	41	20	19	2	2	0
6 CEBM	8	0	7	1	1	0
TOTAL	253	43	195	15	15	Total n=0

2.2 Jurisdictional reports and websites

Organisation	Recommends face shield for asymptomatic people (Y/N)	Recommends face shield for frontline health worker (Y/N)	Key points
National Governments			
United States Centre for Disease Control and Prevention	N	Y	<ul style="list-style-type: none"> • No mention of face shields or other eye protection for use in the community. • Recommends eye protection for health care workers in areas with moderate to substantial community transmission. For areas with minimal to no community transmission, eye protection is considered optional, unless otherwise indicated as part of standard precautions.
United Kingdom Government	N	Y	<ul style="list-style-type: none"> • Recommended for health carer workers when aerosol generating procedure carried out. • States evidence is weak for use of any kind of PPE for other workers.
New Zealand Ministry of Health (the Ministry)	N	Y	<ul style="list-style-type: none"> • States that most non-health workers will not need PPE for protection from COVID-19. • Face shield required when caring for or contact with probable or confirmed COVID-19 cases, or someone who meets the New Zealand Clinical and Higher Index of Suspicion (HIS) Criteria. • When a health care worker comes into contact with people whose COVID-19 status is unknown a risk assessment available on the Ministry's website is completed to determine PPE use.
Government of Canada	N	Y	<ul style="list-style-type: none"> • No mention of face shield use for non- health care workers. • Use of any PPE to be determined by health care facilities policy and a point-of-care risk assessment (PCRA).

			<ul style="list-style-type: none"> • States there are potential benefits as well as risks of wearing a face shield for the entirety of a health care workers shift in the context of patients entering health care settings who may be pre-symptomatic or asymptomatic. • Consideration of PPE shortage in discussion.
Australian Government	N	Y	<ul style="list-style-type: none"> • Use a face shield when caring for someone who is a confirmed or suspected Covid case • No advice on use of face shield for asymptomatic people or in the community.
Other jurisdictions and organisations			
World Health Organization	N	Y	<ul style="list-style-type: none"> • Recommends against the use of face shields or other PPE for use in the community. • Describes appropriate use of face shields and other PPE in health care settings and when caring for someone with Covid 19 in the home. • Global shortage of PPE is a key consideration of the WHO's advice.
European Centre for Disease Prevention and Control	N	Y	<ul style="list-style-type: none"> • Health care workers in contact with a confirmed or suspected case should wear a face shield or other eye protection. • In other health care settings, the availability of PPE is taken into consideration. • No mention of use in the community or outside health care settings.

Jurisdictional sources

National Governments	
United States Centre for Disease Control and Prevention	<ul style="list-style-type: none"> • https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control.html
United Kingdom Government	<ul style="list-style-type: none"> • https://www.gov.uk/government/collections/coronavirus-covid-19-personal-protective-equipment-ppe • https://www.gov.uk/government/publications/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19/guidance-on-shielding-and-protecting-extremely-vulnerable-persons-from-covid-19 • https://www.gov.uk/guidance/working-safely-during-coronavirus-covid-19/construction-and-other-outdoor-work
New Zealand Ministry of Health (the Ministry)	<ul style="list-style-type: none"> • https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-information-specific-audiences/covid-19-personal-protective-equipment-workers
Government of Canada	<ul style="list-style-type: none"> • https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/technical-brief-masking-face-shields-full-duration-shifts-acute-healthcare-settings.html
Australian Government	<ul style="list-style-type: none"> • https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-advice-for-the-health-and-aged-care-sector/personal-protective-equipment-ppe-for-the-health-workforce-during-covid-19
Other jurisdictions and organisations	
World Health Organization	<ul style="list-style-type: none"> • https://www.who.int/publications/i/item/rational-use-of-personal-protective-equipment-(ppe)-for-coronavirus-disease-(covid-19)
European Centre for Disease Prevention and Control	<ul style="list-style-type: none"> • https://www.ecdc.europa.eu/sites/default/files/documents/Infection-prevention-control-for-the-care-of-patients-with-2019-nCoV-healthcare-settings_third-update.pdf
Norwegian Institute for Public Health	<ul style="list-style-type: none"> • https://www.fhi.no/en/