Supplementary Material*

Chou R, Dana T, Jungbauer R, et al. Update alert 3: masks for prevention of respiratory virus infections, including SARS-CoV-2, in health care and community settings. Ann Intern Med. 27 October 2020. [Epub ahead of print]. doi:10.7326/L20-1292

*This supplementary material was provided by the authors to give readers further details on their article. The material was reviewed but not copyedited.

Supplement Table 1. Study characteristics of observational studies of mask use – Update Alert #3

Author, year Country Study design	Inclusion criteria	Sample size	Age	Female (%)	Definition of infection
Community setting					
Doung-Ngern et al, 2020 (2) Thailand Case-control	Asymptomatic subjects who had contact with a COVID-19 infected person	211 cases and 839 controls	Median 38 years	45%	SARS-CoV-2 infection (PCR)
Healthcare setting					
Khalil et al, 2020 (3) Bangladesh Case-control	Hospital physicians	98 COVID-19 positive cases and 92 COVID-19 negative controls	Mean 33 years (cases)	22% (cases)	COVID-19 (positive PCR)
Piapan et al, 2020 (4) Italy Retrospective cohort	HCWs with known COVID-19 exposure	903 HCWs	Mean 45 years	71%	SARS-CoV-2 infection (PCR)

Supplement Table 2. Mask use and risk for SARS-CoV-2 infection – Update Alert #3

Author, Year (Reference)	Mask Use Versus Nonuse	Comparison of Mask Types	Consistency of Mask Use	Multiple Mask Layers Versus Single Layer
Community setting				
Doung-Ngern et al, 2020 (2)	Surgical (medical) mask vs. no mask: adjusted OR 0.25 (95% CI 0.12 to 0.53) Cloth (nonmedical) mask vs. no mask: adjusted OR 0.78 (95% CI 0.32 to 1.90) Any mask vs. no mask: adjusted OR 0.46 (95% CI 0.13 to 1.64)	Surgical (medical) mask vs. cloth (nonmedical) mask: OR 1.06 (95% CI 0.63 to 1.79)* Mask type and risk of SARS-CoV-2 infection: p=0.54	Always wearing a mask vs. not wearing a mask: ***adjusted OR 0.23 (95% CI 0.09 to 0.60)*** Sometimes wearing a mask vs. not wearing a mask: adjusted OR 0.87 (95% CI 0.41 to 1.84)	--
Healthcare setting				
Khalil et al, 2020 (3)	Medical/surgical mask vs. no mask: adjusted OR 1.40 (0.30-6.42) N95 mask vs. no mask during aerosol generating procedure: ***adjusted OR 0.37 (95% CI 0.16 to 0.87)***	--	--	--
Piapan et al, 2020 (4)	FFP2-3 or surgical mask vs. no mask: adjusted OR 1.6 (0.9-2.9)	FFP2 (N95 equivalent) mask vs. surgical mask: ***adjusted OR 7.1 (3.0-16.7)***	--	--

*Unadjusted OR calculated based on available data

Supplement Table 3. Quality assessment of new observational studies of mask use – Update Alert #3

Author, year Country	Did the study attempt to enroll all (or a random sample of) patients meeting inclusion criteria (inception cohort)?	Did the study use accurate methods for ascertaining exposures and potential confounders?	Were outcome assessors and/or data analysts blinded to exposure being studied?	Did the article report attrition or missing data?	Is there high attrition or missing data?	Were outcomes pre-specified and defined, and ascertained using accurate methods?	Other sources of potential bias	Quality rating
Community setting								
Doung-Ngern et al, 2020 (2)	Yes	No (potential recall bias)	Unclear	No	Yes	Yes	Potential recall bias	Poor
Healthcare setting								
Khalil et al, 2020 (3)	Unclear	No (potential recall bias)	Unclear	No	Unclear	Yes	Unclear control for confounders	Poor
Piapan et al, 2020 (4)	Unclear	Unclear	Unclear	No	Unclear	Yes	Only controlled for age	Poor

Supplement Table 4. Masks for prevention of respiratory virus infections evidence map – Update Alert #3

Comparison (intervention A vs. intervention B)	SARS-CoV-2 infection*	SARS-CoV-1 or MERS-CoV infection*	Influenza, influenzalike illness, and other viral respiratory illness (excluding pandemic coronaviruses) †
Community setting			
Mask (type not specified) vs. no mask (k=5 observational studies) (2, 5, 7-9)	■	◆	-
N95‡ vs. surgical mask in household contacts (k=1 RCT) (10)	-	-	◆
N95‡ vs. no mask in household contacts (k=1 RCT) (10)	-	-	◆
Surgical mask vs. no mask in households with an index case and other community settings (k=13 RCTs) (2, 10-21)	■	-	●
Cloth mask vs. no mask in community contacts (2)	■		
Healthcare setting – moderate or higher risk (inpatient)			
Any mask vs. no mask (k=13 observational studies) (6, 22-33)	■	●	-
N95 vs. no mask (k=5 observational studies) (22, 28-30, 34)	■	◆	-
Surgical mask vs. no mask (k=7 observational studies) (3, 22, 23, 25, 28, 29, 32)	■	■	-
N95 or surgical mask vs. no mask (k=1 observational study) (33)	-	■	-
Mask (type not specified) vs. no mask (k=5 observational studies) (24, 26, 29, 31, 32)	-	◆	-
Cloth mask vs. no mask (k=3 observational studies) (22, 27, 32)	-	■	-
Consistent/always mask use vs. inconsistent mask use (k=5 observational studies) (23, 26, 35, 36)	■	◆	-

N95 vs. surgical mask (k=3 RCTs and 6 observational studies) (4, 22, 23, 28, 33, 37-40)	■	◆	●
N95 or surgical mask vs. cloth mask (k=3 observational studies) (22, 24, 32)	-	■	-
Surgical mask vs. cloth mask (k=1 RCT) (41)	-	-	◆
Healthcare setting – lower risk (outpatient)			
N95 vs. surgical mask (k=1 RCT) (42)	-	-	●

* Only observational evidence was included for these infections
† Only RCT evidence was included for these infections
‡ N95 or equivalent (e.g. P2 mask)

Strength of evidence

- ● Moderate
- ◆ Low
- ■ Insufficient
- \- No evidence

Direction of effect

- Favors intervention A
- Effects similar or no difference
- No or too little evidence to determine

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