

# BROAD PUBLIC USE OF MASKS – Supplement E -

August 25, 2020

To: Information for Leaders and colleagues in state/local health policy

From: Online summaries by Colorado Ideas 2.0, LLC <sup>1</sup>

## Two meters or one: what is the evidence for physical distancing in covid-19?

publication source: BMJ (former British Medical Journal) : <https://www.bmj.com/content/370/bmj.m3223>

This article reviews previous studies and helpfully integrates 72 common human situations into a single, easy to view graphic: **GRAPHIC: What is the evidence for physical distancing**

Type and level of group activity	Low occupancy			High occupancy		
	Outdoors and well ventilated	Indoors and well ventilated	Poorly ventilated	Outdoors and well ventilated	Indoors and well ventilated	Poorly ventilated
<b>Wearing face coverings, contact for short time</b>						
Silent	Low	Low	Low	Low	Low	Medium
Speaking	Low	Low	Low	Low	Low	Medium
Shouting, singing	Low	Low	Medium	Medium	Medium	High
<b>Wearing face coverings, contact for prolonged time</b>						
Silent	Low	Low	Medium	Low	Medium	High
Speaking	Low	Low*	Medium	Medium*	Medium	High
Shouting, singing	Low	Medium	High	Medium	High	High
<b>No face coverings, contact for short time</b>						
Silent	Low	Low	Medium	Medium	Medium	High
Speaking	Low	Medium	Medium	Medium	High	High
Shouting, singing	Medium	Medium	High	High	High	High
<b>No face coverings, contact for prolonged time</b>						
Silent	Low	Medium	High	Medium	High	High
Speaking	Medium	Medium	High	High	High	High
Shouting, singing	Medium	High	High	High	High	High

**Risk of transmission**  
 Low ■ Medium ■ High ■

\* Borderline case that is highly dependent on quantitative definitions of distancing, number of individuals, and time of exposure

### News analyses:

- **Six feet of distance? It's more complicated than that**

News Source: New York Times, August 27, 2020

Since the beginning of the pandemic, keeping six feet away from people outside one's household has been the quintessential rule of social distancing. But a paper published on Tuesday in The BMJ (formerly The British Medical Journal) [argues](#) that the six-foot rule is an oversimplification descended from 19th-century science. Instead of single, fixed distancing rules, the authors propose graded guidelines to better reflect the many factors that determine how dangerous a given setting might be.

What does that mean in practical terms?

The general scientific consensus, [according](#) to Andrew Joseph, Helen Branswell and Elizabeth Cooney of Stat, is that indoors is riskier than outdoors, large groups are riskier than small groups and prolonged contact is riskier than brief contact. Loud talking, heavy breathing, singing and screaming also [raise the risk of viral spread](#).

- **Social Distancing Is a Lot More Complicated Than Staying 6 Feet Apart**

**Online news source:** <https://gizmodo.com/social-distancing-is-a-lot-more-complicated-than-being-1844845193>

The 6-foot rule for distancing from others during the covid-19 pandemic might be too rigid for its own good, a group of experts in the U.S. and UK are arguing. In a new paper out Tuesday, they make the case for adopting a more nuanced approach to staying safe, where people take into account things like whether they're indoors or outdoors, staying in a location for a prolonged time, or wearing a face mask in order to figure out their risk level and how far apart they should be from others.

The crux of their argument, [published](#) in the BMJ on Tuesday, is that the 6-foot rule—or 2-meter rule, outside of the U.S.—endorsed by public health groups like the World Health Organization is based on antiquated science first collected more than half a century ago, usually involving viruses very different from the culprit behind covid-19, the coronavirus called SARS-CoV-2. The group of experts include Nicholas Jones, a primary care doctor and doctoral research fellow at the University of Oxford in the UK, Zeshan Qureshi, a UK pediatrician, and Lydia Bourouiba, a mathematician and associate professor at MIT who has studied the fluid dynamics of how infectious diseases spread, including those caused by respiratory viruses like SARS-CoV-2.

As the authors note, we've had to learn and relearn a lot about how SARS-CoV-2 works. Initially, for instance, it was thought that the coronavirus was difficult to transmit between people at all. Even once human-to-human transmission was confirmed, it was still assumed that the virus was mostly spread through close contact with large droplets emitted by infected people and that these droplets had a very short range before they fall to the ground, roughly extending to 6 feet. In recent months, however, studies have shown that the virus can stay intact in tinier aerosols, which are capable of traveling farther than 6 feet and can stay aloft for longer periods of time. Other evidence has suggested that both droplets and aerosols can be propelled farther than 6 feet under the right conditions, such as indoor places with strong airflow from an air conditioning system.

Though there are still questions about how much of a role aerosols play in driving transmission of the virus, evidence continues to accumulate that covid-19 can at least sometimes act like an airborne disease. And as such, the authors argue, it's time to retire and replace the 6-foot rule.

Rather than think exclusively about personal space, they say, people should consider their circumstances. If you're outdoors and wearing a mask, then the risk of transmission during a group activity with only a few people should be relatively low and the need for distancing is less stringent, even if you're there for a while. If you're indoors in a well-ventilated place, not wearing a covering, and around people who are talking, that risk climbs, and distancing matters more. And if you're indoors for a long time, not wearing a face covering, and around people who are yelling or singing in a poorly ventilated room, that's a much higher risk than the first scenario, and ideally you shouldn't be there at all; but if you are, then keeping a distance is especially important, though it may not be sufficient to prevent you from becoming infected. It's admittedly not as easy to crunch down into a one-sentence heuristic as the 6-foot rule, though the authors have created a handy graphic. But the nuance of this advice might make life more comfortable for people earnestly worried about walking in the park or doing other outdoor activities, they argue.

- **Seven months later, what we know about Covid-19 — and the pressing questions that remain.**

Online source: STAT, August 17, 2020 <https://www.statnews.com/2020/08/17/what-we-now-know-about-covid19-and-what-questions-remain-to-be-answered/>

## Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis

Publication Source: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31142-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31142-9/fulltext)

Published June 27, 2020; prerelease June 1.

### Excerpt: Summary

#### Background

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes COVID-19 and is spread person-to-person through close contact. We aimed to investigate the effects of physical distance, face masks, and eye protection on virus transmission in health-care and non-health-care (eg, community) settings.

#### Methods

We did a systematic review and meta-analysis to investigate the optimum distance for avoiding person-to-person virus transmission and to assess the use of face masks and eye protection to prevent transmission of viruses. We obtained data for SARS-CoV-2 and the betacoronaviruses that cause severe acute respiratory syndrome, and Middle East respiratory syndrome from 21 standard WHO-specific and COVID-19-specific sources. We searched these data sources from database inception to May 3, 2020, with no restriction by language, for comparative studies and for contextual factors of acceptability, feasibility, resource use, and equity. We screened records, extracted data, and assessed risk of bias in duplicate. We did frequentist and Bayesian meta-analyses and random-effects meta-regressions. We rated the certainty of evidence according to Cochrane methods and the GRADE approach. This study is registered with PROSPERO, CRD42020177047.

#### Findings

Our search identified 172 observational studies across 16 countries and six continents, with no randomised controlled trials and 44 relevant comparative studies in health-care and non-health-care settings (n=25 697 patients). Transmission of viruses was lower with physical distancing of 1 m or more, compared with a distance of less than 1 m (n=10 736, pooled adjusted odds ratio [aOR] 0·18, 95% CI 0·09 to 0·38; risk difference [RD] -10·2%, 95% CI -11·5 to -7·5; moderate certainty); protection was increased as distance was lengthened (change in relative risk [RR] 2·02 per m;  $p_{\text{interaction}}=0·041$ ; moderate certainty). Face mask use could result in a large reduction in risk of infection (n=2647; aOR 0·15, 95% CI 0·07 to 0·34, RD -14·3%, -15·9 to -10·7; low certainty), with stronger associations with N95 or similar respirators compared with disposable surgical masks or similar (eg, reusable 12–16-layer cotton masks;  $p_{\text{interaction}}=0·090$ ; posterior probability >95%, low certainty). Eye protection also was associated with less infection (n=3713; aOR 0·22, 95% CI 0·12 to 0·39, RD -10·6%, 95% CI -12·5 to -7·7; low certainty). Unadjusted studies and subgroup and sensitivity analyses showed similar findings.

#### Interpretation

The findings of this systematic review and meta-analysis support physical distancing of 1 m or more and provide quantitative estimates for models and contact tracing to inform policy. Optimum use of face masks, respirators, and eye protection in public and health-care settings should be informed by these findings and contextual factors. Robust randomised trials are needed to better inform the evidence for these interventions, but this systematic appraisal of currently best available evidence might inform interim guidance.

**Funding** : World Health Organization.

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<sup>1</sup> [Broad Public Use of Masks-Evidence-based research-COVID- updated July-August 2020 \(PDF\)](#). An online publication summarizing academic and medical research, intended for policy use as distinct from scientific exchange. Begun by Richard Cauchi, lead researcher at Colorado Ideas, 2.0, LLC, the updated web edition includes the [base report](#) (July) and several PDF format appendices (A, B, C, D and E).