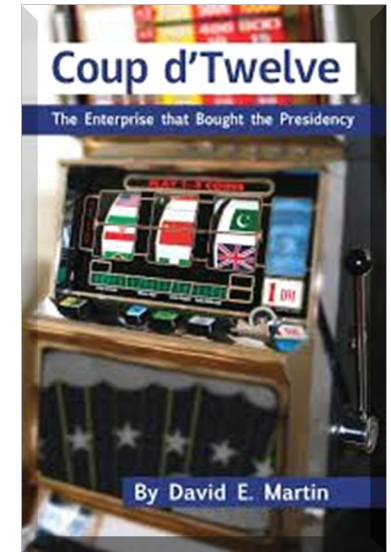
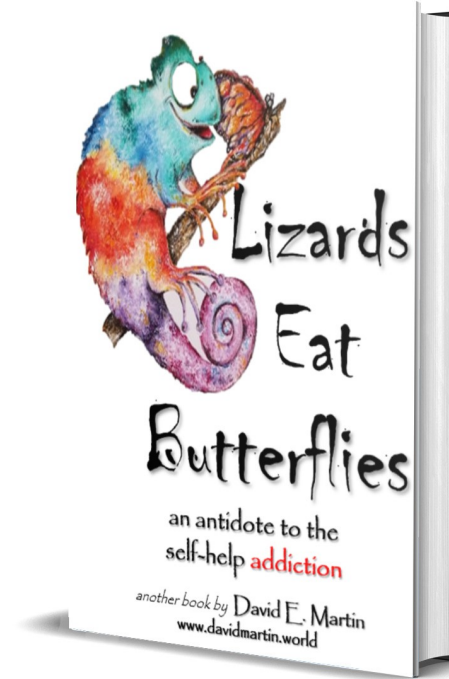




David E. Martin

Speaker, Author, Fully Human



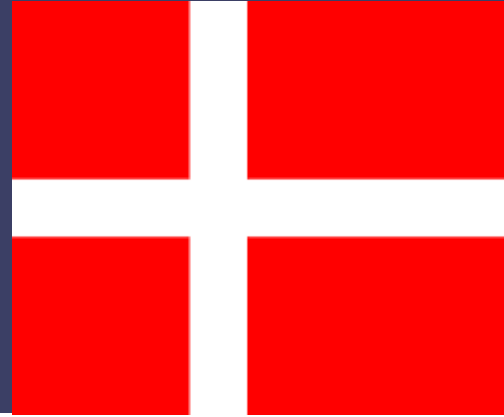
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Original Research | 18 November 2020

Effectiveness of Adding a Mask Recommendation to Other Public Health Measures to Prevent SARS-CoV-2 Infection in Danish Mask Wearers FREE

A Randomized Controlled Trial

Henning Bundgaard, DMSc , Johan Skov Bundgaard, BSc , ... [View all authors](#) 

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<https://doi.org/10.7326/M20-6817>

Eligible for CME Point-of-Care

Our results suggest that the recommendation to wear a surgical mask when outside the home among others did not reduce, at conventional levels of statistical significance, the incidence of SARS-CoV-2 infection in mask wearers in a setting where social distancing and other public health measures were in effect, mask recommendations were not among those measures, and community use of masks was uncommon.

Mask Efficacy

Scientific Brief: Community Use of Cloth Masks to Control the Spread of SARS-CoV-2

Updated Nov. 20, 2020 Languages  Print



[cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html](https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html)

Background

SARS-CoV-2 infection is transmitted predominately by respiratory droplets generated when people cough, sneeze, sing, talk, or breathe. CDC recommends community use of [masks](#), specifically non-valved multi-layer cloth masks, to prevent transmission of SARS-CoV-2. Masks are primarily intended to reduce the emission of virus-laden droplets (“source control”), which is especially relevant for asymptomatic or presymptomatic infected wearers who feel well and may be unaware of their infectiousness to others, and who are estimated to account for more than 50% of transmissions.^{1,2} Masks also help reduce inhalation of these droplets by the wearer (“filtration for personal protection”). The community benefit of masking for SARS-CoV-2 control is due to the combination of these effects; individual prevention benefit increases with increasing numbers of people using masks consistently and correctly.


Source Control to Block Exhaled Virus

Multi-layer cloth masks block release of exhaled respiratory particles into the environment,³⁻⁶ along with the microorganisms these particles carry.^{7,8} Cloth masks not only effectively block most large droplets (i.e., 20-30 microns and larger)⁹ but they can also block the exhalation of fine droplets and particles (also often referred to as aerosols) smaller than 10 microns;^{3,5} which increase in number with the volume of speech¹⁰⁻¹² and specific types of phonation.¹³ Multi-layer cloth masks can both block up to 50-70% of these fine droplets and particles^{3,14} and limit the forward spread of those that are not captured.^{5,6,15,16} Upwards of 80% blockage has been achieved in human experiments that have measured blocking of all respiratory droplets,⁴ with cloth masks in some studies performing on par with surgical masks as barriers for source control.^{3,9,14}



<https://www.cdc.gov/coronavirus/2019-ncov/more/masking-science-sars-cov2.html>

The Clinical Trials

1. Lindsley WG, Blachere FM, Law BF, Beezhold DH, Noti JD. Efficacy of face masks, neck gaiters and face shields for reducing the expulsion of simulated cough-generated aerosols. *medRxiv*. 2020. <https://doi.org/10.1101/2020.10.05.20207241>[external icon](#).
2. Fischer EP, Fischer MC, Grass D, Henrion I, Warren WS, Westman E. Low-cost measurement of face mask efficacy for filtering expelled droplets during speech. *Sci Adv*. 2020;6(36):10.1126/sciadv.abd3083. <https://www.ncbi.nlm.nih.gov/pubmed/32917603>[external icon](#).
3. Verma S, Dhanak M, Frankenfield J. Visualizing the effectiveness of face masks in obstructing respiratory jets. *Phys Fluids* (1994). 2020;32(6):061708.10.1063/5.0016018. <https://www.ncbi.nlm.nih.gov/pubmed/32624649>[external icon](#).
4. Bahl P, Bhattacharjee S, de Silva C, Chughtai AA, Doolan C, MacIntyre CR. Face coverings and mask to minimise droplet dispersion and aerosolisation: a video case study. *Thorax*. 2020;75(11):1024-1025.10.1136/thoraxjnl-2020-215748. <https://www.ncbi.nlm.nih.gov/pubmed/32709611>[external icon](#).



SARS-CoV-2, the virus that causes coronavirus disease 2019 (COVID-19), can be transmitted from person-to-person by large respiratory aerosols (airborne liquid droplets and dried particles greater than about 10 µm in diameter) produced by people who are infectious while they are talking, singing, coughing, breathing or sneezing ([CDC 2020a](#); [Hamner et al. 2020](#)).

- 
1. [CDC](#). (2020a). *How COVID-19 Spreads*. Accessed October 30, 2020. <https://www.cdc.gov/coronavirus/2019-ncov/prepare/transmission.html>.
 2. [Google Scholar](#)
- 

COVID-19 is thought to spread mainly through close contact from person to person, including between people who are physically near each other (within about 6 feet). People who are infected but do not show symptoms can also spread the virus to others. Cases of reinfection with COVID-19 have been reported but are rare. We are still learning about how the virus spreads and the severity of illness it causes.