

## Research on the Use of Face Masks to Slow the Spread of COVID-19

### A. The articles below offer recent research on the effect of mask wearing on COVID-19 transmission:

1. Abaluck, J., Kwong, L. H., Styczynski, A., Haque, A., Kabir, M., Bates-Jeffries, E., & Mobarak, A. M. (2021). The Impact of Community Masking on COVID-19: A Cluster Randomized Trial in Bangladesh. Retrieved 1 Dec 2021 from <https://elischolar.library.yale.edu/egcenter-discussion-paper-series/1086>

**Summary:** *In this randomized control trial, cloth and surgical masks were made available in some villages and rates of COVID-19 infection were compared with villages where masks were not provided.*

2. Brooks J.T., Butler J.C. Effectiveness of Mask Wearing to Control Community Spread of SARS- CoV-2. JAMA. 2021;325(10):998–999. doi:10.1001/jama.2021.1505. <https://jamanetwork.com/journals/jama/fullarticle/2776536>

**Summary:** *This article highlights 11 recent studies that have shown masks reduce transmission of COVID-19.*

3. Howard, J., Huang, A., Li, Z., Tufekci, Z., Zdimal, V., van der Westhuizen, H. M., von Delft, A., Price, A., Fridman, L., Tang, L. H., Tang, V., Watson, G. L., Bax, C. E., Shaikh, R., Questier, F., Hernandez, D., Chu, L. F., Ramirez, C. M., & Rimoin, A. W. (2021). An evidence review of face masks against COVID-19. *Proceedings of the National Academy of Sciences of the United States of America*, 118(4), e2014564118. <https://doi.org/10.1073/pnas.2014564118>

**Summary:** *This article summarizes recent research of the effectiveness of masks for reducing transmission of COVID-19.*

4. Ma, Q. X. , Shan, H. , Zhang, H. L. , Li, G. M. , Yang, R. M. , & Chen, J. M. (2020). Potential utilities of mask-wearing and instant hand hygiene for fighting SARS-CoV-2. *Journal of Medical Virology*, 92, 1567–1571. <https://onlinelibrary.wiley.com/doi/10.1002/jmv.25805>

**Summary:** *This study used a simulation of human breathing to assess the effectiveness of N95, surgical and cloth masks in reducing spread of respiratory illnesses.*

5. The Ohio Schools COVID-19 Evaluation Research Team. (2021) Ohio Schools COVID-19 Evaluation (OSCE). [https://coronavirus.ohio.gov/static/responsible/schools/OSCE\\_evaluation.pdf](https://coronavirus.ohio.gov/static/responsible/schools/OSCE_evaluation.pdf)

**Summary:** *This article assesses the effectiveness of masks in limiting transmission of COVID-19 in school settings.*

6. Wang, Y., Deng, Z., & Shi, D. (2021). How effective is a mask in preventing COVID-19 infection?. Medical devices & sensors, e10163. Advance online publication. <https://doi.org/10.1002/mds3.10163>

**Summary:** *This article summarizes research on how masks work to limit the spread of respiratory illnesses, and assesses research on the effectiveness of different types of masks on both exhalation isolation and inhalation protection.*

**B. The articles below offer research on the safety of wearing face masks for protection against respiratory illnesses:**

7. Chan, N. C., Li, K., & Hirsh, J. (2020). Peripheral Oxygen Saturation in Older Persons Wearing Nonmedical Face Masks in Community Settings. *JAMA*, 324(22), 2323–2324. <https://doi.org/10.1001/jama.2020.21905>

**Summary:** *This article examines whether use of non-medical face masks is associated with a change in oxygen saturation in older persons.*

8. Epstein, D., Korytny, A., Isenberg, Y., Marcusohn, E., Zukermann, R., Bishop, B., Minha, S., Raz, A., & Miller, A. (2021). Return to training in the COVID-19 era: The physiological effects of face masks during exercise. *Scandinavian journal of medicine & science in sports*, 31(1), 70–75. <https://doi.org/10.1111/sms.13832>

**Summary:** *This article examines the physiological impacts of wearing a face mask during exercise.*

9. Hopkins, S. R., Dominelli, P. B., Davis, C. K., Guenette, J. A., Luks, A. M., Molgat-Seon, Y., Sá, R. C., Sheel, A. W., Swenson, E. R., & Stickland, M. K. (2021). Face Masks and the Cardiorespiratory Response to Physical Activity in Health and Disease. *Annals of the American Thoracic Society*, 18(3), 399–407. <https://doi.org/10.1513/AnnalsATS.202008-990CME>

**Summary:** *This article summarizes existing studies of the impact of wearing various types of face masks on the respiratory system in subjects, particularly during exercise.*

10. Samannan, R., Holt, G., Calderon-Candelario, R., Mirsaeidi, M., & Campos, M. (2021). Effect of Face Masks on Gas Exchange in Healthy Persons and Patients with Chronic Obstructive Pulmonary Disease. *Annals of the American Thoracic Society*, 18(3), 541–544. <https://doi.org/10.1513/AnnalsATS.202007-812RL>

**Summary:** *This study evaluates whether gas exchange abnormalities occur with the use of surgical masks in subjects with and without lung function impairment.*

11. Lubrano, R., Bloise, S., Testa, A., Marcellino, A., Dilillo, A., Mallardo, S., Isoldi, S., Martucci, V., Sanseviero, M., Del Giudice, E., Malvaso, C., Iorfida, D., & Ventriglia, F. (2021). Assessment of Respiratory Function in Infants and Young Children Wearing Face Masks During the COVID-19 Pandemic. *JAMA network open*, 4(3), e210414. <https://doi.org/10.1001/jamanetworkopen.2021.0414>

**Summary:** *This study examines whether surgical masks are associated with episodes of oxygen desaturation or respiratory distress among children.*

12. Shein, S. L., Whitticar, S., Mascho, K. K., Pace, E., Speicher, R., & Deakins, K. (2021). The effects of wearing facemasks on oxygenation and ventilation at rest and during physical activity. *PloS one*, 16(2), e0247414. <https://doi.org/10.1371/journal.pone.0247414>

**Summary:** *This study examines whether cloth or surgical masks impair oxygenation or ventilation at rest or during physical activity in adults.*

**C. Additional Resources:**

13. American Academy of Pediatrics. (2021). Face Masks. <https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/cloth-face-coverings/>

**Summary:** This website shares guidance from the American Academy of Pediatrics on the use of face masks for children.

14. American Academy of Pediatrics. Mask Mythbusters: Common Questions about Kids & Face Masks. [Mask Mythbusters: Common Questions about Kids & Face Masks - HealthyChildren.org](https://www.healthychildren.org/ask-the-expert/2020/06/mask-mythbusters-common-questions-about-kids-face-masks)

**Summary:** This website provides answers to frequently asked questions about the safety and effectiveness of face masks for children.

15. Centers for Disease Control. (2021). Scientific Brief: SARS-CoV-2 Transmission. [Science Brief: Community Use of Masks to Control the Spread of SARS-CoV-2 | CDC](https://www.cdc.gov/science/briefs/2021/sars-cov-2-transmission)

**Summary:** This article summarizes recent research of the safety and effectiveness of masks for reducing transmission of COVID-19.

16. Ohio Department of Health.(2021). "Why Masks Work." Retrieved December 2, 2021 from <https://coronavirus.ohio.gov/wps/portal/gov/covid-19/resources/general-resources/why-masks-work>

**Summary:** This article summarizes studies in Ohio and other research on the effectiveness of masks for reducing COVID-19 transmission.