

Masking in Schools

Evidence for school leaders to consider as they contemplate COVID-19 prevention strategies for the 2021-2022 school year.



Key Points

- ✓ The American Academy of Pediatrics, the National Association of School Nurses, and the Centers for Disease Control and Prevention all recommend masking in schools to prevent the spread of COVID-19. See “Other Resources” for these recommendations.
- ✓ School-associated COVID-19 transmission is low when risk mitigation measures, including universal masking, are used. Schools with universal masking policies experience an extremely low secondary transmission rate (1-4%),^{2,3,4} as compared to schools without masking (11-27%).¹
- ✓ If everyone is masked there may be flexibility to institute modified quarantine protocols⁴ and reduced distancing.^{3,4,5} Consult with your local public health agency to determine the best strategy for your community.

Literature Review

1. Doyle T, Kendrick K, Troelstrup T, et al. **COVID-19 in Primary and Secondary School Settings During the First Semester of School Reopening – Florida**, August-December 2020. *MMWR Morb Mortal Wkly Rep* 2021;70:437-441. DOI: <http://dx.doi.org/10.15585/mmwr.mm7012e2>
 - This study followed 2,809,553 registered students in 6,800 public, charter and private K-12 schools in Florida. Most schools resumed in-person learning in August 2020.
 - About 60% of districts did not require masking.
 - Incidence of school-related COVID-19 infection among students was higher in schools that did not require masking (1.7% vs 1.2%).
 - Of 86,832 school-contacts of school COVID-19 cases, 43% got tested and 27% were positive. This means secondary transmission of COVID-19 to school contacts was between 11% (if everyone un-tested was negative) and 27%.
2. Falk, A., Benda, A., Falk, P., Steffen, S., Wallace, Z., & Høeg, T. B. (2021). **COVID-19 Cases and Transmission in 17 K-12 Schools - Wood County, Wisconsin**, August 31-November 29, 2020. *MMWR. Morbidity and mortality weekly report*, 70(4), 136–140. <https://doi.org/10.15585/mmwr.mm7004e3>
 - This study followed 4,876 students and staff at 17 K-12 schools in rural Wisconsin. Precautions implemented were: 1. Masking (92% compliance), 2. Students cohorted in groups of 11-20, 3. Staff maintained 6 feet of distance, if possible, and 4. Quarantined students and staff after exposures.
 - Results: During a 13-week period (fall 2020), 7 of the 191 cases of COVID-19 among the student population were linked to in-school transmission. Zero staff acquired COVID-19 during that time; no spread is known to have occurred to or from staff in school, despite the relatively high community transmission during that time.
 - This study demonstrates that, with precautions in place, including masking, in-school transmission of SARS-CoV-2 appeared to be uncommon.

3. Hershov, R. B., Wu, K., Lewis, N. M., Milne, A. T., Currie, D., Smith, A. R., Lloyd, S., Orleans, B., Young, E. L., Freeman, B., Schwartz, N., Bryant, B., Espinosa, C., Nakazawa, Y., Garza, E., Almendares, O., Abara, W. E., Ehlman, D. C., Waters, K., Hill, M., ... Chu, V. T. (2021). **Low SARS-CoV-2 Transmission in Elementary Schools - Salt Lake County, Utah**, December 3, 2020-January 31, 2021. *MMWR. Morbidity and mortality weekly report*, 70(12), 442–448. <https://doi.org/10.15585/mmwr.mm7012e3>
 - This study investigated a convenience sample of 20 elementary schools (K-6) in Salt Lake County after reopening to in-person learning (fall 2020); it followed a total of 1,214 staff members and 10,171 students.
 - There were 51 index cases: 40 students and 11 staff. Those cases had 1,041 school contacts; 71% of those contacts were tested. The secondary transmission was 0.7%.
 - Mask use among students was high (86%) and most schools used 3 feet distancing for students and 6 feet for staff.
 - Despite high community incidence and an inability to space students' classroom seats ≥ 6 ft apart, this investigation found **low transmission and no school-related outbreaks** in 20 Salt Lake County elementary schools with **high student mask use and implementation of multiple strategies to limit transmission**.

4. Dawson, P., Worrell, M. C., Malone, S., Tinker, S. C., Fritz, S., Maricque, B., Junaidi, S., Purnell, G., Lai, A. M., Neidich, J. A., Lee, J. S., Orscheln, R. C., Charney, R., Rebmann, T., Mooney, J., Yoon, N., Petit, M., Schmidt, S., Grabeel, J., Neill, L. A., ... CDC COVID-19 Surge Laboratory Group (2021). **Pilot Investigation of SARS-CoV-2 Secondary Transmission in Kindergarten Through Grade 12 Schools Implementing Mitigation Strategies - St. Louis County and City of Springfield, Missouri**, December 2020. *MMWR. Morbidity and mortality weekly report*, 70(12), 449–455. <https://doi.org/10.15585/mmwr.mm7012e4>
 - This study investigated participating school teachers, staff, and students with COVID-19 from 22 schools over a 2-week period. The precautions in place were universal masking, increased ventilation, 3 feet distance.
 - There were 56 cases with 270 contacts identified; 102 contacts were tested and 2 were positive. The secondary transmission was 1-2%.
 - Despite high community transmission, **SARS-CoV-2 transmission in schools that implemented COVID-19 mitigation strategies, including masking, was lower than that in the community**.
 - One school district implemented a [modified quarantine](#) (in-person learning with masking, no extracurriculars, 6 ft distance from anyone at lunch, daily symptom screening, and testing 5-10 days after exposure) for certain students. They permitted 42 student contacts to continue in-person learning during their quarantine period; 30 of these contacts were interviewed, and none of the 21 students who received testing had a positive test result.

5. van den Berg P, Schechter-Perkins EM, Jack RS, Epshtein I, Nelson R, Oster E, Branch-Elliman W. **Effectiveness of three versus six feet of physical distancing for controlling spread of COVID-19 among primary and secondary students and staff: A retrospective, state-wide cohort study**. *Clin Infect Dis*. 2021 Mar 10:ciab230. doi: 10.1093/cid/ciab230. Epub ahead of print. PMID: 33704422; PMCID: PMC7989511.
 - This study compared incident rates cases of SARS-CoV-2 in students and staff in Massachusetts public schools (251 districts, 537,336 students, 99,390 staff) among districts with different physical distancing requirements (3 feet versus 6 feet). During the study period there was a state masking mandate for all school staff and students grade 2 and higher; the majority of school districts required universal masking for all students.
 - **They concluded that lower physical distancing can be adopted in school settings with universal masking policies without negatively impacting student or staff safety.**

6. Zimmerman KO, Akinboyo IC, Brookhart MA, et al. **Incidence and Secondary Transmission of SARS-CoV-2 Infections in Schools**. *Pediatrics* 2021;147(4). doi:10.1542/peds.2020-048090
 - This study was conducted in North Carolina over 9 weeks with 11 school districts including more than 90,000 students and staff who attended school in-person.
 - Among that group there were 773 community-acquired SARS-CoV-2 infections; 32 infections were determined to be acquired within schools (secondary transmission). Most of the secondary transmission cases were related to non-compliance with masking.
 - **Enforcing SARS-CoV-2 mitigation policies - such as mask wearing, hand washing and distancing - resulted in minimal clusters of SARS-CoV-2 infection and low rates of secondary transmission in schools.**

Other Resources

- Children’s Hospital Colorado
 - [Masks and Kids FAQ | Children's Hospital Colorado \(childrenscolorado.org\)](https://www.childrenshospital.com/faq/masks-and-kids)
- American Academy of Pediatrics (AAP)
 - [COVID-19 Guidance for Safe Schools \(aap.org\)](https://www.aap.org/COVID-19-Guidance-for-Safe-Schools)
 - [AAP: Masks encouraged for camp, child care, school to prevent COVID-19 | American Academy of Pediatrics \(aapublications.org\)](https://www.aapublications.org/aap-masks-encouraged-for-camp-child-care-school-to-prevent-covid-19)
 - [Face Masks \(aap.org\)](https://www.aap.org/face-masks)
- National Association of School Nurses (NASN)
 - [NASN Statement on Schools Providing In-person Learning](https://www.nasn.org/2020/04/nasn-statement-on-schools-providing-in-person-learning)
- Centers for Disease Control and Prevention (CDC)
 - <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/k-12-guidance.html>
 - [Science Brief: Community Use of Cloth Masks to Control the Spread of SARS-CoV-2 | CDC](https://www.cdc.gov/science/briefs/2020/s050120-science-brief-community-use-of-cloth-masks-to-control-the-spread-of-sars-cov-2)
- Colorado Department of Public Health and Environment (CDPHE)
 - [Guidance for wearing masks | Colorado COVID-19 Updates](https://www.cdphe.state.co.us/COVID-19/updates/guidance-wearing-masks)
- Large literature review on the evidence behind mask efficacy in general, outside the school setting (see pages 146-161).
 - <https://globalhealth.massgeneral.org/covidlibrary.pdf>