

## Richard Abbott

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**From:** CDCInfo <cdcinfo@cdcinqury.onmicrosoft.com>  
**Sent:** Friday, September 24, 2021 5:55 PM CDC Response # 3  
**To:** Richard Abbott  
**Subject:** CDC-INFO; Topic Masking of children; [CDC-2053779-X8N9X6] CRM:04560308

Thank you for your inquiry to CDC-INFO.

Your request for information was forwarded to the CDC Coronavirus Disease 2019 (COVID-19) Response Team. We hope you find their reply helpful.

Thank you for your inquiry to the CDC. Please find below more information regarding your inquiry.

Anyone 2 years or older who is not fully vaccinated should [wear masks in indoor public spaces](#). This recommendation also applies to fully vaccinated people when they are in [an area of substantial or high transmission](#). CDC also currently [recommends](#) universal indoor masking for all teachers, staff, students, and visitors to K-12 schools, regardless of vaccination status or transmission rates. The benefits of mask-wearing are well-established. #

Parents and caregivers may have questions about NIOSH-approved respirators (such as N95s) for children. Although respirators may be available in smaller sizes, they are typically designed to be used by adults in workplaces, and therefore have not been tested for broad use in children. #

Masks and respirators should not be worn by children younger than 2 years old. Choose a well-fitting and comfortable mask or respirator that your child can [wear properly](#). A poorly fitting or uncomfortable mask or respirator might be worn incorrectly or removed often, which would reduce its intended benefits.

- Choose a size that fits over the child's nose and under the chin but does not impair vision.

Follow the user instructions for the mask or respirator. These instructions may show how to make sure the product fits properly.

Some types of masks and respirators may feel different if your child is used to wearing a regular cloth or disposable mask.

If your child has a medical condition, such as a heart or lung problem, ask their healthcare provider before they use methods to improve mask fit or use an ASTM F3502 mask or a respirator.

If your child has a hard time breathing, gets dizzy, or has other symptoms while using methods to improve mask fit, an ASTM F3502 mask, or a respirator, ask them to switch to a regular cloth or disposable mask. They should continue to follow [CDC guidance](#) to protect themselves and others. Consult your healthcare provider if these symptoms do not resolve.

For more information please visit: [Types of Masks and Respirators | CDC](#)



## Types of Masks and Respirators | CDC

This page describes different types of masks and respirators you can use to protect yourself and others from getting and spreading COVID-19. Masks are designed to contain your respiratory droplets and particles. They also provide you some protection from particles expelled by others. Respirators are ...

[www.cdc.gov](http://www.cdc.gov)

*\*\*\*Feedback about your experience with CDC-INFO is important to us and will help us continue to improve. Please rate your interaction by completing this short survey:*

<https://www.surveymonkey.com/r/FKXR5G5?CaseId=CDC-2053779-X8N9X6>

*Responses are kept completely confidential.\*\*\**

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PWG CDC SME

----- Original Message -----

**From:** Richard Abbott <[rick@abbottforensics.com](mailto:rick@abbottforensics.com)>;

**Received:** Wed Sep 22 2021 12:26:22 GMT-0500 (Central Daylight Time)

**To:** CDC Inbound Email Queue <[prodcinfo@cdcinqury.onmicrosoft.com](mailto:prodcinfo@cdcinqury.onmicrosoft.com)>; CDC Inbound Email <[prodcinfo@cdcinqury.onmicrosoft.com](mailto:prodcinfo@cdcinqury.onmicrosoft.com)>; CDC Info <[cdcinfo@cdcinqury.onmicrosoft.com](mailto:cdcinfo@cdcinqury.onmicrosoft.com)>;

**Subject:** RE: CDC-INFO; Topic Masking of children; [CDC-2053779-X8N9X6] CRM:04560308

So your answer is, "No, there is no data to support a conclusion that mask mandates on children do not have any short-term or long-term health risk associated with restricting breathing"

Thanks for clarifying.

Question # 3

I find this very disturbing.

I am finding that children are struggling to breathe under the masks for such a long time.

Does anyone there know what Tidal Volumes are?

Is anyone there concerned about children breathing through dirty masks for so long?

Anyone studying this?

Rick Abbott, PE  
Abbott Consulting Forensics & Design LLC  
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**From:** CDCInfo <cdcinfo@cdcinqury.onmicrosoft.com>

**Sent:** Wednesday, September 22, 2021 12:11 PM

CDC Response # 2

**To:** Richard Abbott <rick@abbottforensics.com>

**Subject:** Re: CDC-INFO; Topic Masking of children; [CDC-2053779-X8N9X6] CRM:04560308

Thank you for contacting CDC-INFO.

Here is the information you requested on masking of children.

Children and adolescents can be infected with SARS-CoV-2, can get sick with COVID-19, and can spread the virus to others.<sup>9-15</sup> In the United States through March 2021, the estimated cumulative rates of SARS-CoV-2 infection and COVID-19 symptomatic illness in children ages 5-17 years were comparable to infection and symptomatic illness rates in adults ages 18-49 and higher than rates in adults ages 50 and older.<sup>16</sup> Estimated cumulative rates of infection and symptomatic illness in children ages 0-4 years are roughly half of those in children ages 5-17 years, but are comparable to those in adults ages 65 years or older. These cumulative rates were estimated from CDC models that account for under-detection among reported cases.<sup>17</sup>

Several studies conducted early during the COVID-19 pandemic suggested that the incidence rate among children and adolescents was lower than among adults.<sup>9,10,18-23</sup> However, the lower incidence rates may have been due in part to children, when compared to adults, having fewer opportunities for exposure (due to school, daycare, and activity closures) and a lower probability of being tested.<sup>17</sup> Studies that have systematically tested children and adolescents, irrespective of symptoms, for acute SARS-CoV-2 infection (using antigen or RT-PCR assays) or prior infection (through antibody testing) have found their rates of infection can be comparable, and in some settings higher, than in adults.<sup>12,15,24-29</sup>

Children and adolescents can also transmit SARS-CoV-2 infection to others. Early during the COVID-19 pandemic, children were not commonly identified as index cases in household or other clusters<sup>9,10</sup> largely because schools and extracurricular activities around the world were closed or no longer held in-person. However, outbreaks among adolescents attending camps, sports events, and schools have demonstrated that adolescents can transmit SARS-CoV-2 to others.<sup>11,14,30</sup> Furthermore, transmission studies that have examined secondary infection risk from children and adolescents to household contacts who are rapidly, frequently, and systematically tested demonstrate that transmission does occur.<sup>29,31</sup>

Compared with adults, children and adolescents who are infected with SARS-CoV-2 are more commonly asymptomatic (never develop symptoms) or have mild, non-specific symptoms (e.g. headache, sore throat).<sup>32-</sup>  
<sup>36</sup> Similar to adults with SARS-CoV-2 infections, children and adolescents can spread SARS-CoV-2 to others when they do not have symptoms or have mild, non-specific symptoms and thus might not know that they are infected and infectious. Children are less likely to develop severe illness or die from COVID-19.<sup>23,37-</sup>

<sup>39</sup> Nonetheless, 271 COVID-19 deaths among persons ages 5-17 years and 120 deaths among those 0-4 years

have been reported to the National Center for Health Statistics through July 7, 2021.<sup>8</sup> The extent to which children suffer long-term consequences of COVID-19 is still unknown.<sup>40</sup> Although rates of severe outcomes (e.g. hospitalization, mortality) from COVID-19 among children and adolescents are low,<sup>41, 42</sup> youth who belong to some racial and ethnic minority groups are disproportionately affected similar to adults. For example, a higher proportion of COVID-19 cases in school-aged children who are Hispanic or Latino or are Black or African American were hospitalized or required intensive care unit (ICU) admission than reported among White school-aged children.<sup>41</sup> Underlying medical conditions are also more commonly reported among children who are hospitalized or admitted to an ICU than those not.<sup>41, 43</sup> CDC's COVID Data Tracker provides up-to-date information on [Demographic Trends of COVID-19 cases and deaths in the US reported to CDC](#).

The evidence that children and adolescents can be infected with, get sick from, and transmit SARS-CoV-2 continues to evolve. As with the studies from early during the COVID-19 pandemic, the quality and comparability of reported studies is affected by the study design, the method used to detect SARS-CoV-2 infection, the prevention measures in place during the study period, and the background rate of infection in the community.<sup>33, 44, 45</sup> The introduction of new variants of the virus into the population likely will further affect the evolving epidemiology and interpretation of future studies as will understanding how transmission varies by the age of the child. COVID-19 vaccination of adults and adolescents could also impact the incidence of COVID-19 in the United States, as young children will comprise a greater proportion of the population who are unvaccinated and therefore at risk.

Several United States studies also showed low transmission among students in schools even when student physical distancing is less than 6 feet, but other prevention strategies are in place. For example:

- A North Carolina study<sup>38</sup> found low transmission in schools and no instances of child-to-adult transmission of SARS-CoV-2 during a time when community transmission was high. Students were required to wear masks, and the schools implemented routine handwashing, daily symptom monitoring and temperature checks, contact tracing, and 14-day quarantine for close contacts. Although this study did not report the specific distances maintained between students, verbal reports from school officials indicated that in participating districts, students were placed less than 6 feet apart in classrooms.
- A study of the 94 pre-K-12 schools in the Chicago Archdiocese, the largest private school system in the United States, reported that the attack rate for students and staff participating in in-person learning was lower than the rate for the community overall: 0.2% among these students compared to 0.4% among all Chicago children.<sup>57</sup> The COVID-19 reopening guidelines for the Chicago Archdiocese schools required 6 feet between cohorts but not for students within cohorts, as well as masking, hand hygiene, cleaning and disinfection, daily symptom monitoring, contact tracing, and 14-day quarantine for close contacts of a case.<sup>82</sup>
- A study of 17 rural Wisconsin K-12 schools that were using full in-person instruction found only seven cases among students that were linked to in-school spread; the study noted limited spread among children in cohorts and observed no documented transmission to or from staff members.<sup>55</sup> These Wisconsin schools required mask use (92% observed compliance), placed students less than 6 feet apart in classrooms, and used cohorting at a time of high community transmission.
- A study of 20 K-6 schools in Utah at a time of high community transmission (>100 cases per 100,000 persons in the past seven days) found low in-school transmission (secondary attack rate of 0.7%) with mask requirements, a median of 3 feet between students, and use of cohorting.<sup>74</sup>
- A statewide analysis of Florida K-12 schools, where not all schools had mask requirements or physical distancing requirements between desks, also found low rates of school-associated transmission. Resumption of in-person education was not associated with a proportionate increase in COVID-19 among school-aged children.<sup>83</sup> Higher rates among students were observed in districts without mandatory mask-use policies and those with a higher proportion of students attending in-person

learning. These findings provide further evidence for the effectiveness of universal masking, especially when physical distancing cannot be achieved.<sup>83</sup>

- A study of 58 K-12 schools conducting full in-person instruction in Missouri, where mask use was required and 73% of schools used distances of 3-6 feet between students, found that secondary transmission was rare.<sup>76</sup>
- A large evaluation of nine school districts in Ohio at a time of high community transmission found limited in-school transmission. Children who had in-school exposure to a student who was infected had rates of COVID-19 similar to those of children with no known exposure in school.<sup>84</sup> This evaluation included K-12 schools that were using full in-person instruction and others that were using hybrid instruction; 12 schools used 3-5 feet of distance, while 17 used 6 feet. Because findings were not stratified by learning mode or distancing, it was not possible to determine the differential effects of these two factors.
- In a report using data from Michigan and Washington state, in-person schooling was not associated with increased spread of SARS-CoV-2 among students at schools located in areas with low or moderate levels of community transmission.<sup>52</sup> At the time, schools varied in how they held classes (full in-person, hybrid, and virtual). In Michigan, 6 feet of distance was recommended but not required, and in Washington, the recommended distance varied over time. The combination of learning modes and distancing definitions in this analysis did not allow investigators to draw conclusions about the effectiveness of 6 feet or shorter distances in terms limiting transmission in schools.

In summary, the preponderance of the available evidence from United States schools indicates that even when students were placed less than 6 feet apart in classrooms, there was limited SARS-CoV-2 transmission when other layered prevention strategies were consistently maintained; notably, masking and student cohorts.<sup>34, 55, 74, 85</sup> International studies further support these conclusions.<sup>46, 47, 51, 73</sup> However, greater physical distancing (at least 6 feet) between people who are not fully vaccinated should be prioritized whenever masks cannot be used (for example, while eating indoors).

Consistent with recommendations from WHO<sup>81</sup> and the American Academy of Pediatrics,<sup>86</sup> using a distance of at least 3 feet between students in classrooms could provide a feasible definition of physical distancing so long as other prevention strategies are maximized. These include mask requirements for children aged 2 years and older, adolescents, and staff who are not fully vaccinated, ensuring good [ventilation](#) that includes air cleaning, frequent hand hygiene, and encouraging children, adolescents, and staff to stay home when they have symptoms of COVID-19 or, for those not fully vaccinated, when they have been in close contact with someone who has known or suspected COVID-19.

There are insufficient data on the optimal distance recommended in ECE settings to reduce transmission risk, and feasibility of distancing between children and adults remains an issue.

For more information, please visit the following CDC website:

[https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/transmission\\_k\\_12\\_schools.html](https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/transmission_k_12_schools.html)

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JM/Approver's Initials PR#14312/

----- Original Message -----

**From:** Richard Abbott <[rick@abbottforensics.com](mailto:rick@abbottforensics.com)>;

**Received:** Tue Sep 21 2021 15:46:41 GMT-0500 (Central Daylight Time)

**To:** CDC Inbound Email Queue <[procdcdinfo@cdcinqury.onmicrosoft.com](mailto:procdcdinfo@cdcinqury.onmicrosoft.com)>; CDC Inbound Email <[prodedcinfo@cdcinqury.onmicrosoft.com](mailto:prodedcinfo@cdcinqury.onmicrosoft.com)>; CDC Info <[cdcinfo@cdcinqury.onmicrosoft.com](mailto:cdcinfo@cdcinqury.onmicrosoft.com)>;

**Subject:** Re: CDC-INFO; Topic Masking of children; [CDC-2053779-X8N9X6] CRM:04560308

Question # 2

Not what I asked.

Do you have any science based studies that show dead space vs tidal volume and force air restriction are safe or not safe for different age group and different readily available mast that are being used on young children.

Rick Abbott, PE, SE  
Abbott Consulting Forensics & Design  
612.599.6745

On Sep 21, 2021, at 3:38 PM, CDCInfo <[cdcinfo@cdcinqury.onmicrosoft.com](mailto:cdcinfo@cdcinqury.onmicrosoft.com)> wrote:

CDC Response # 1

Thank you for contacting CDC-INFO.

We hope you find the following information about masking children helpful.

Scientific evidence shows that children 2 years old and older should wear a mask because mask use is effective in preventing COVID-19. Since children younger than 12 are not yet eligible for vaccination, consistent and correct mask use is especially effective when layering multiple prevention strategies, including:

- Physical distancing,

- Avoiding poorly ventilated spaces,
- Frequent hand washing, and
- Other infection control and prevention practices.

Unvaccinated children 2 years and older should wear masks indoors and in crowded outdoor settings, when physical distancing cannot be maintained. Given evidence of limited spread of COVID-19 outdoors, in general, people 2 years and older do not need to wear masks when outdoors in uncrowded outdoor spaces where physical distancing can be maintained.

Some children (and other persons) might not be able to wear a mask for medical, behavioral, psychological, or other reasons. In such cases, adaptations and alternatives should be considered. Additionally, children and adults should not wear a mask when sleeping or doing activities where the mask could get wet. Children also should not wear a mask when napping, or when they may fall asleep (such as in a car seat or stroller), and in situations when continual supervision is not possible.

For more information, visit the CDC website: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html>.

For more information on the requirement for face masks on public transportation conveyances and at transportation hubs, visit the CDC website: <https://www.cdc.gov/coronavirus/2019-ncov/travelers/face-masks-public-transportation.html>.

CDC-INFO can provide information based on the best available science. CDC-INFO is not able to address information from other agencies, such as global or national public health organizations or other government agencies or officials, including state or local government agencies. Because recommendations can change when new research findings become available, CDC's and others' guidance may change in the future. When new or updated public health information is available, it is posted on CDC's website.

For more information, please visit the following CDC website:

### **CDC Resources**

Your Guide to Masks

<https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/about-face-coverings.html>

Families & Children

<https://www.cdc.gov/coronavirus/2019-ncov/groups/families-children.html>

COVID-19 Parental Resources Kit

<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/parental-resource-kit/index.html>

Requirement for Face Masks on Public Transportation Conveyances and at Transportation Hubs

<https://www.cdc.gov/coronavirus/2019-ncov/travelers/face-masks-public-transportation.html>

Science Brief: Transmission of SARS-CoV-2 in K-12 schools

[https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/transmission\\_k\\_12\\_schools.html](https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/transmission_k_12_schools.html)

## External Resources

Age-Related Differences in Nasopharyngeal Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Levels in Patients With Mild to Moderate Coronavirus Disease 2019 (COVID-19)

JAMA Pediatrics

<https://jamanetwork.com/journals/jamapediatrics/fullarticle/2768952>

Assessment of Respiratory Function in Infants and Young Children Wearing Face Masks During the COVID-19 Pandemic

Health Informatics

<https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2776928>

An evidence review of face masks against COVID-19

Proceedings of the National Academy of Sciences of the United States of America

<https://www.pnas.org/content/118/4/e2014564118.long>

Reduction of secondary transmission of SARS-CoV-2 in households by face mask use, disinfection and social distancing: a cohort study in Beijing, China

BMJ Global Health

[https://gh.bmj.com/content/5/5/e002794?ijkey=4626eded2bb9b247dc914b19ff35acec8a886261&keytype2=tf\\_ipsecsha](https://gh.bmj.com/content/5/5/e002794?ijkey=4626eded2bb9b247dc914b19ff35acec8a886261&keytype2=tf_ipsecsha)

COVID-19 Guidance for Safe Schools

American Academy of Pediatrics

<https://services.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/clinical-guidance/covid-19-planning-considerations-return-to-in-person-education-in-schools/>

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*Responses are kept completely confidential.\*\*\**

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DDW PR# 14312 17771 18004

----- Original Message-----

Sent: 9/21/2021

From: General Public

Subject: Masking of children

Email Address: [rick@abbottforensics.com](mailto:rick@abbottforensics.com)

Question # 1

Question: I am finding from very simply scientific analysis that mask mandates on children come a significantly amount of risk. Specifically it restricts breathing drastically depending on the size of the person wearing the mask. Where or what studies have been done on short-term or long term problems related to masking of children and restricted breathing? I am looking for scientific proof that current available masks are safe for children. Not a scientist telling me is it safe.

### Optional Information

Name: Richard Abbott

Title:

Organization:

Phone: 6125996745

Other Email:

Address:

PII Extraction: