

# COVID-19

## Masks Help Schools Stay Open: Do masks work? Are they safe for children?

Keeping schools open and safe for all is a top priority for all of us. Schools can conduct in-person learning safely when COVID-19 mitigation strategies, such as physical distancing, hand-washing, vaccination, ventilation and masking are in place.

### **Masks prevent infection.**

Yes. The data on cloth masks overwhelmingly shows they prevent the spread of infection.



First, cloth masks are very effective at blocking large respiratory droplets that occur with normal speech (20-30 microns),<sup>1</sup> and multi-layer cloth masks can block some aerosols (<10 microns) as well. Aerosols increase with louder speech and singing.<sup>2 3</sup>

Second, cloth masks are actually quite good at filtration, thus reducing the wearer's exposure to others' respiratory droplets and aerosols. We now know that multiple layers of fabric with a high weave density (similar to a high-thread count sheet) can filter up to 50% of tiny particles (<1 micron).<sup>4 5</sup>

In addition to laboratory simulations to assess prevention of droplet transmission and mask filtration ability, there is solid real-world data that mask use is effective, with more than 20 published papers in settings including households, salons, airplanes, and even military ships. Table 1 highlights some of the most pertinent (but certainly not all) data.

### **Masks help keep schools open.**

Most adults agree that school is the best place for kids to learn and socialize. This is the third school year of this pandemic, the likes of which have not been seen for 100 years. Masks were recommended in the 1918 influenza pandemic, just as they are being recommended now. We know masks are safe for nearly all people to wear<sup>6</sup>, barring any neurologic or physical disability preventing the child from putting on and taking off the mask, or developmental delay making mask wearing unsafe or ineffective (e.g., severe autism).

Importantly, we also know that when kids wear masks in school, there is limited transmission of infection.<sup>7 8</sup> With these measures in place we can help keep kids in school safely every day, all day, for the entire school year. And, a potential silver lining may be less other respiratory viruses circulating, too.

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**Table 1. Summary of real-world effectiveness of mask use**

| Setting                       | Results   |
|-------------------------------|---|
| Hair Salon <sup>9</sup>       | No transmission of infection to 67 clients of 2 hair stylists working while sick. Stylists and clients were masked.   |
| Household <sup>10</sup>       | Secondary household transmission reduced by 79% when index patient and contacts were masked in the home (adjusted OR 0.21, 95% CI = 0.06-0.79).   |
| Military Ship <sup>11</sup>   | Mask use while on board the ship led to a 70% reduction in risk of infection (unadjusted OR 0.3, 95% CI = 0.17-0.52).   |
| Airplane <sup>12</sup>        | Minimal transmission of infection in passengers and crew within 14 days of exposure on long flights (>8 hours). One flight had 25 COVID-19 + passengers with only 2 transmissions (1 seated next to an index patient), and another 58 passengers across 5 flights with no transmission across ~2000 passengers. |
| Community-based <sup>13</sup> | Case rate per 100,000 decreased by 6% counties with mask mandate & increased by 100% in counties without a mandate.   |

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