

# COVID-19: How to Manage the Reopening of Schools

Series | COVID-19 & strategy response

ISGlobal Barcelona  
Institute for  
Global Health

**Author:** Jordi Sunyer, Head of the Childhood and Environment programme at ISGlobal\*

## 1. The Risks of Reopening Schools

[ This document is part of a series of discussion notes addressing fundamental questions about the COVID-19 crisis and response strategies. The works are based on the best scientific information available and may be updated as new information comes in. ]

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### How does the virus spread?

If infected with COVID-19, both children and adults can spread the virus. Patients are most contagious **from two days before until eight days after symptoms appear**. In some cases, however, this highly contagious period can begin several days earlier and last for several weeks.

**Between 25% and 50% of those infected never develop symptoms.** Although little is known about the contagiousness of asymptomatic people, it is suspected that they, like patients with mild symptoms, are responsible for a significant percentage of infections. Since they are unaware that they are infected, they do not limit their contact with others and take fewer precautions than people who feel unwell.

Carriers of the infection spread the virus when **they breathe, cough or sneeze**. They also transmit the disease when they

touch other people or surfaces (door handles, light switches, etc.) after touching their noses. Other transmission pathways, such as the faecal-oral route, seem very unlikely. It is believed that the virus is not found in urine.

**Most infections occur when people enter into close contact** (less than two meters) with a carrier or touch a surface contaminated with the virus.

### Is the virus in the air?

The virus is transmitted in **small droplets measuring between 5 µm and 10 µm**.

Several laboratories have observed that these droplets **can stay suspended in air** for hours at a time and that airborne viruses can remain infectious for more than three hours.

This information is key to decisions taken **to prevent infection in closed spaces with poor ventilation**, where carriers

\* Jordi Sunyer is Research Professor at ISGlobal.

could infect people who are sitting or standing more than two meters away from them.

In the case of outdoor spaces, preliminary evidence shows **more contaminated particles are released by carriers who are exercising than those at rest**. Only during exercise would it be possible for a carrier to transmit the virus at a distance greater than two meters.

### **Can the novel coronavirus spread through the air inside workrooms or classrooms?**

In closed spaces, the coronavirus can stay suspended in the air and remain infectious for several hours.

In closed spaces without proper ventilation, the evidence suggests that **a carrier can infect people farther** away than the recommended safety distance of two meters.

Indoor spaces should therefore be kept as uncrowded as possible and ventilated frequently. Children and adults must wear masks while inside ●

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## **2. How can Viral Spread in Schools be Prevented?**

**“Children (and school staff) with cough, fever, or flu- or cold-like symptoms should not go to school.”**

### **What do we know about how the novel coronavirus affects children?**

COVID-19 causes less severe disease in children under 18 years of age than in adults.

Relatively **few children have been hospitalised**, and symptoms such as fever, cough and shortness of breath are less common in children than in adults. However, in rare cases, the disease has caused severe illness and even death in children.

Children with COVID-19 may not present with a fever or cough.

### **How can infection be detected in children?**

Children (and school staff) with **cough, fever, or flu- or cold-like symptoms should not go to school**.

Since the infection is also spread by children or adults with no symptoms, **carriers can only be detected by testing nasal swabs or blood samples**. However, these tests would have to be repeated regularly and for reasons of cost and feasibility, testing capacity is currently limited ●

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# 3. What Should we Do if Schools are Allowed to Reopen?

**“Spatial distancing of at least two meters should be practised both in the classroom and on the playground.”**

## **What should we do if schools are allowed to reopen during periods of active community spread?**

### **Should spatial distancing and everyday preventive behaviours be practised in schools?**

All these measures are important for all age groups, since we know that **patients with mild or no symptoms play an important role** in spreading the virus.

Therefore, **spatial distancing of at least two meters** should be practised both in the classroom and on the playground.

Moreover, children should **wash their hands with soap and water** or an appropriate antiseptic solution whenever they enter or leave a classroom or the playground.

The **use of gloves is not recommended**, since they are a potential source of viral spread if not used very carefully (changing gloves frequently and avoiding contact with the face). The virus cannot enter the body through the skin, so frequent handwashing is a more effective preventive method than the use of gloves.

Since particles containing the virus tend to settle within a few hours of being released, surfaces—including tables and chairs—**should be cleaned at the end of each school day**.

### **How often should classrooms be ventilated?**

Windows should be opened to ventilate closed spaces and classrooms **several times a day**.

There is evidence to suggest that **air purifiers are useful** for removing small airborne particles or droplets, but the costs of installing, running and maintaining such systems, plus the special procedures that would be required for the disposal of used filters, must be taken into account.

### **How useful are masks?**

Several studies have found that **surgical masks may prevent the spread of coronaviruses**, so their use is recommended to limit transmission of the SARS-CoV-2 virus. Masks are particularly useful in helping to prevent infected people from spreading the virus, thereby reducing transmission by asymptomatic or pre-symptomatic carriers.

Masks should be required whenever students are in crowded spaces where a safety distance of two meters cannot be guaranteed—for example, whenever children enter or leave classrooms or the school grounds.

Due to the difficulty of constantly ventilating classrooms, **wearing masks indoors is also advisable**.

### **What is the best strategy for break time?**

Because carriers can spread the virus, a **safety distance of at least two meters** should be observed during break time.

Although it is unlikely that the virus will be transmitted outdoors at distances greater than two meters, **it would be prudent to wear masks during physical activities** because of the increased risk of carriers spreading the virus while exercising.

Given the difficulty of maintaining the safety distance during break time, physical activities and transitions between classrooms and the playground should be reorganised accordingly.

### **What aspects of schools should be considered?**

**Diversity by age** should be addressed in the application of the above aspects. They seem very difficult to apply to children under 6 years of age.

Schoolchildren should be **trained** in hygienic behavior, the use of masks and, above all, how to maintain spatial distances without creating phobic attitudes.

Pedagogical criteria are important for the application of the above aspects, for example in the selection of priority courses.

## What should we do if schools are allowed to reopen during a period without active community spread? <sup>1</sup>:

### Should spatial distancing and everyday preventive behaviours be practised at schools?

During periods without active community spread, it is not necessary to practise spatial distancing at schools. However, **the habit of frequent handwashing should be encouraged as a basic hygiene practice.**

### How often should classrooms be ventilated?

Even during periods without active community spread, windows should be opened several times a day to ventilate closed spaces such as classrooms.

## How useful are masks?

During periods without active community spread, rules regarding the use of masks at school could be relaxed.

## What is the best strategy for break time?

Physical exercise and playground activities can be allowed during periods without active community spread.

## How can viral spread be prevented in universities?

Guidelines developed for schools are also appropriate for universities ●


## TO LEARN MORE

- <https://www.who.int/docs/default-source/coronaviruse/key-messages-and-actions-for-covid-19-prevention-and-control-in-schools-march-2020.pdf>
- <https://www.nejm.org/doi/full/10.1056/NEJMoa2006100>
- <https://www.nature.com/articles/s41591-020-0869-5>.
- [https://ec.europa.eu/info/sites/info/files/communication\\_communication\\_-\\_a\\_european\\_roadmap\\_to\\_lifting\\_coronavirus\\_containment\\_measures\\_0.pdf](https://ec.europa.eu/info/sites/info/files/communication_communication_-_a_european_roadmap_to_lifting_coronavirus_containment_measures_0.pdf).
- <https://doi.org/10.1086/650396>

<sup>1</sup> These guidelines are most likely to be applicable in areas where the epidemic is under control and contact tracing for new cases is being carried out.

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