

# Can children transmit the new coronavirus to other people? <sup>[1]</sup>

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## AVAILABILITY

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Excerpted from the article

Over the last few weeks, there have been conflicting news reports about the ability of children to transmit the new coronavirus.

This is in part understandable, as the knowledge we have about the new coronavirus and the illness it causes (Covid-19) is still rapidly developing, and not all studies that are being done reach the same conclusions.

To get a clearer picture of what's going on, it's helpful to look at what credible reviews of the research are saying because these consider the existing evidence as a whole. This is particularly important because a lot of research is being published online that hasn't been fully quality-assured (partly due to the urgent need for evidence during the crisis).

According to these reviews, the evidence to date does not provide a definitive answer to the question of whether children are more or less likely to get or pass on the virus.

Nonetheless, the overall trend from current evidence suggests that children play a minimal role in the transmission of the new coronavirus. However, there remains some uncertainty until antibody studies (which can show past exposure to infection and so tell us a lot more than most kinds of study) are completed.

### Children can get ill from the new coronavirus

As we've written about before, children can contract the new coronavirus and get a severe Covid-19 illness (although this severe illness is rare). Covid-19 has been reported in children and young people of all ages according to the Royal College of Paediatrics and Child Health (RCPCH).

As at 18 May, 2,330 (1.6%) of the 144,127 confirmed Covid-19 cases in England were among people under 20 years old. 1,028 (0.7%) of cases were in the under-10s. Similar levels of confirmed infections in children compared to adults has also been noted in other countries.

Fever and cough are common Covid-19 symptoms in all ages and, like adults, children can also develop pneumonia from the illness. A condition called pediatric inflammatory multisystem syndrome has been recently noted in a small number of children, some of whom tested positive for the new coronavirus, and the potential link between the two conditions is being investigated urgently.

Death from Covid-19 is very rare among young people. Of 33,614 deaths of people with Covid-19 registered in England and Wales up to 1 May 2020, only two were in people aged between 1 and 14.

### Children seem to be less prone to catching the virus

Official testing statistics, whilst giving an overview of severe Covid-19 illness, cannot be used to determine how likely people of different ages are to catch the new coronavirus. Research studies have employed a variety of methods to try to get a better understanding of the spread of the virus.

Three community testing studies (which use targeted testing to provide representative results), have presented significantly lower rates of infection in children compared to adults. One of the studies screened 70% of the population in one Italian town and found 2.6% of residents tested positive. However, there were no positive cases in under-10s and a 1.2% positive rate in 11 to 20 year olds.

In contrast, provisional results from the Office for National Statistics' Covid-19 infection survey finds no "evidence that the proportions of individuals testing positive for COVID-19 between different age categories". However, with only 33 Covid-19 positive people included in this analysis, experts have advised caution against over-interpreting these pilot stage results.

Community testing studies, such as the Infection Survey for England, tell us the number of people who tested positive for Covid-19 at the time of swabbing (the "positivity rate"). Dr Tom Wingfield from Liverpool School of Tropical Medicine notes that antibody tests are needed to know the true prevalence of the illness. An ongoing Covid-19 study in the Netherlands has begun to do just this. Of participants under the age of 20, 2% had antibodies against Covid-19 present compared to 4.2% of adults.

Dr Alasdair Munro, Paediatric Registrar and Clinical Research Fellow, in a review of relevant literature, notes five studies that measured

the proportion of people that became infected after contact with someone who has tested positive for the new coronavirus (known as the “attack rate”). Although one study noted similar rates across age groups, the other four found attack rates in children roughly a third of that in adults.

Researchers at the London School of Hygiene and Tropical Medicine modelled epidemic data from six countries and estimated that under-20s were about half as susceptible to infection from the new coronavirus as adults. Where infections were present, children are far more likely to show little to no symptoms compared to adults.

In total, the evidence presented so far suggests that children can contract the new coronavirus, but the rate of infection and severity of illness is significantly lower than in adults.

### **Can children pass the new coronavirus on to other people?**

“The importance of children in transmitting the virus is difficult to establish, in particular given the number of asymptomatic cases” according to the RCPCH. In other words, there will be large numbers of infections we simply don’t know about because a lot of people don’t display symptoms and (under current UK guidance) are unlikely to be tested for the virus.

This selective testing makes it harder to work out who’s more likely to be spreading the disease.

Nonetheless, the overall trend emerging from the evidence to date suggests that children have a limited role in spreading the virus.

One widely cited study investigated the contacts of one 9-year old boy with Covid-19 as part of a wider contact tracing study of new coronavirus cases in the French Alps. The boy visited three schools whilst symptomatic, but the researchers found no evidence of transmission of the virus to other pupils in follow-up interviews and testing.

Other contact tracing studies found that children were very rarely the first person to develop Covid-19 symptoms within a household (known as the index case). However, these studies also suggest that it is at least possible for children to transmit the virus: a review found three instances where a child under 10 was the index case within a household

However, these studies cannot account for differences in the likelihood of outside contact between children and adults of the same house.

Dr Munro writes that it is “impossible to tell at the moment” how infectious a child is once they have the new coronavirus because there are no “direct experiments comparing exposure to an infected child to exposure to an infected adult”.

The RCPCH has stressed that high-quality evidence from widespread sero-surveillance—where antibodies against Covid-19 are measured across the population—is needed to reliably quantify the risk of transmission of the new coronavirus from children to other people. Many studies with this type of evidence are currently in progress.

#### **Related link:**

**Region:** [Europe](#) <sup>[3]</sup>

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Source URL (modified on 21 May 2020): <https://childcarecanada.org/documents/research-policy-practice/20/05/can-children-transmit-new-coronavirus-other-people>

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[1] <https://childcarecanada.org/documents/research-policy-practice/20/05/can-children-transmit-new-coronavirus-other-people> <sup>[2]</sup>

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