

# COVID-19 and children: Frequently asked questions on the disease, vaccines and schooling

This fact sheet provides responses to common questions about COVID-19 in children and COVID-19 vaccines available for children in Australia. Refer also to [NCIRS COVID-19 vaccines: Frequently asked questions](#).

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## Severity of COVID-19 in children

### Q1. Are children at risk of getting COVID-19?

Children, particularly under the age of 10 years, are at a lower risk of getting COVID-19 than adults, but adolescents, especially older teenagers, seem to have the same risk of getting COVID-19 as young adults.<sup>1-3</sup> Studies show both children and adolescents can play a role in spreading the SARS-CoV-2 virus – the virus that causes COVID-19, but this also depends on age. Spread between young children or from young children to adults in many settings, other than the household, is relatively uncommon.<sup>4</sup>

The Delta variant of COVID-19 is more transmissible and is causing higher number of cases in children compared with the original strain.<sup>5</sup> Household or close family contact from unvaccinated adults poses the greatest risk of spread to children.<sup>4,6</sup> Details about the transmissibility and risk of disease in children for the Omicron variant are not yet known.

### Q2. How serious is COVID-19 in children?

COVID-19 is usually milder in children than in adults but can still very rarely cause severe illness. Around 98% of children and adolescents either get mild infection or have no symptoms at all.<sup>7,8</sup> However, some children require hospitalisation and a smaller number intensive care. Studies show that children and adolescents with underlying medical conditions have a greater risk of developing severe disease and complications from SARS-CoV-2 infection.<sup>9-11</sup> Hospitalisation rates in adolescents are higher with COVID-19 than with influenza.<sup>5</sup> Children very rarely die from COVID-19. Studies in the United Kingdom suggested that 2 per every 1 million children infected with the virus died of COVID-19. This is lower than childhood deaths from influenza (3–6 per million children).<sup>11-13</sup>

### Q3. Which children are at risk of serious illness from COVID-19?

Some of the conditions that increase the risk of being hospitalised with COVID-19 in children, compared with healthy children, include (but are not limited to):<sup>9</sup> type 1 diabetes (about 4.5-fold higher risk), obesity (about 3-fold higher risk); a history of prematurity (about 2-fold higher risk); heart disease, including some congenital conditions (about 2-fold higher risk); immunocompromising conditions (3.5-fold higher risk); and complex and chronic illnesses (about 2–8 times higher risk).

### Q4. Can children spread COVID-19 to other children or adults?

Yes, children can spread COVID-19 to other children and adults.<sup>14</sup> Most children who get infected with the virus have no symptoms or have only mild symptoms<sup>4</sup> but they can still pass on the virus to unvaccinated adults who can become very ill.

### Q5. What are the symptoms of COVID-19 in children?

A significant proportion of children who get COVID-19 may not have any symptoms at all (some studies estimate this will be between 16–45% of children).<sup>7</sup> Of those who do get symptoms, the illness is usually very similar to other respiratory viral illnesses, with the most common symptoms being fever and cough. Children can also have non-specific symptoms like a runny nose and tiredness. Less commonly, some children may have gastrointestinal symptoms like abdominal pain, diarrhoea or vomiting.

### Q6. How are people cared for if they get COVID-19?

When a person, including children and adolescents, is diagnosed with COVID-19, they are linked with a hospital or community service from their state or territory health system that monitors their progress. The majority of children have mild symptoms and remain safe at home. Parents and carers are advised on what symptoms and signs to monitor for. If children feel unwell and have difficulty breathing or keeping fluids in, they may need to be reviewed in hospital and sometimes require oxygen and medical treatment. Healthy children rarely need intensive care treatment – this is more likely to be needed for children with underlying medical conditions, including obesity, who have a greater risk of developing more severe disease.

Some children are also admitted to hospital to be looked after while their parents are unwell – this has been termed ‘home in the hospital’<sup>15</sup> and in NSW currently represents the reason for hospital admission in half of paediatric patients.

#### **Q7. What is ‘long COVID’? Do children get ‘long COVID’?**

The condition of ‘long COVID’, also known as the ‘Post COVID condition’, in children is not well defined. It usually refers to the persistence of COVID-19 symptoms such as fatigue and breathlessness, for over 3 months, long after the infection first occurs and the initial illness is over. Studies show that although children can get ‘long COVID’, it is uncommon.<sup>2,16</sup> It also appears to occur less commonly in children than in adults. Some of the symptoms such as body aches, difficulty concentrating, changes to mood have been reported in children and teenagers without prior infection and may be a consequence of living in the pandemic and in lockdown.

## **COVID-19 vaccines for children**

#### **Q8. Why do children need to get a COVID-19 vaccine?**

It is recommended that children 5 years of age and older get a COVID-19 vaccine in Australia.<sup>17,18</sup> This is to protect them from getting severe sickness from COVID-19, reduce the spread of virus between themselves and to adults, prevent other complications such as ‘long COVID’ and importantly, to reduce disruptions to schooling and other learning.<sup>19-22</sup>

#### **Q9. What is the minimum age for children to get a COVID-19 vaccine?**

The minimum age for children to get a COVID-19 vaccine is 5 years in Australia.<sup>23</sup>

Moderna is trialling the use of its mRNA COVID-19 vaccine Spikevax in children under 12 years of age. The AstraZeneca COVID-19 vaccine (Vaxzevria) is not registered for use in children or adolescents under 18 years of age.

#### **Q10. Which vaccines are available for children and adolescents in Australia?**

Comirnaty (Pfizer vaccine) and Spikevax (Moderna vaccine), both mRNA vaccines, are registered for use by the TGA, recommended by ATAGI and are now available for use in adolescents 12 years of age and older. Bookings for vaccination can be made using the [COVID-19 vaccine eligibility checker](#), through the GPs, eligible pharmacies and state/territory vaccination hubs.

Around one third of those aged 12–15 years have already received a first dose of Pfizer or Moderna vaccine in Australia and coverage in this age group is climbing rapidly. For more information on COVID-19 vaccine coverage in Australia, refer to the [Australian Government Department of Health website](#).

[A new formulation of the Pfizer vaccine is registered for use in children 5–11 years](#) of age. The paediatric Pfizer vaccine is a lower dose and is one third of the recommended dose for people 12 years of age and older. It is expected to be available in Australia in January 2022.

#### **Q11. How do mRNA COVID-19 vaccines work?**

An mRNA vaccine contains the genetic code for an important part of the COVID-19 virus called the ‘spike protein’. After getting the injection, the body reads the genetic code and makes copies of the spike protein. The immune system then detects these spike proteins and learns how to recognise and fight against COVID-19. The genetic code does not combine with the DNA in our cells; it is quickly broken down and cleared away by the body.

## Q12. How many doses of COVID-19 vaccine do children need?

Children 12 years of age or older are recommended to receive 2 doses of the Pfizer vaccine (Comirnaty) or Moderna vaccine (Spikevax), and the dose used (30 ug) is the same as for older teenagers and adults. The two doses of the Pfizer vaccine are given 3–6 weeks apart and the two doses of the Moderna vaccine are given 4–6 weeks apart.

[A new formulation of the Pfizer vaccine is registered for use in children 5–11 years](#) of age. The paediatric Pfizer vaccine is a lower dose and is one third (10ug instead of 30ug) of the recommended dose for people 12 years of age and older. Children 5–11 years of age are recommended two doses 8 weeks apart.<sup>18</sup>

## Q13. Are COVID-19 vaccines safe in children?

Clinical trials and real-world studies<sup>24-27</sup> have shown that COVID-19 vaccines approved for children (5–11 years) and adolescents ( $\geq 12$  years) are very safe. They may experience mild side effects after vaccination, but these usually resolve within 48 hours. In the clinical trials for people  $\geq 12$  years of age, the most common adverse events following immunisation were injection site pain (80–90%), headache (30–50%) and fatigue (30–60%).<sup>28,29</sup> Information from the USA shows that adverse events in children 5–11 years of age were milder and less frequently observed when compared to 16–25 year olds. The most common adverse events were injection site pain, fatigue, headache, muscle pain, chills and fever. In some instances injection site redness and swelling were more common in children than young adults.<sup>27</sup>

In Australia, the Therapeutics Good Administration (TGA), part of the Australian Government Department of Health, is responsible for approving medicines and vaccines for use in Australia. The TGA has a rigorous process for assessing vaccine safety, quality and efficacy before approving vaccines for use in the population. Australia's national active vaccine safety surveillance system [AusVaxSafety](#) also monitors vaccine safety in real-time and provides detailed information on age-specific rates of adverse events, as well as adverse events in Aboriginal and Torres Strait Islander people and those with risk conditions.

In addition, tens of millions of adolescents have been vaccinated in countries that are closely monitoring and reporting on safety, including the USA, Europe, Canada, Israel, Singapore and Japan. Similarly, over 4.8 million children 5–11 years of age have received at least one dose of the paediatric Pfizer vaccine in the USA, which is more than the total population for this age group in Australia.<sup>30</sup>

## Q14. What are the side effects of COVID-19 vaccines in children and adolescents?

Children and adolescents can experience mild side effects after COVID-19 vaccination.<sup>31</sup> These can include swelling, redness, and pain at injection site, fever, headache, tiredness, muscle pain, chills and nausea. These side effects usually resolve within 24–48 hours. Consult your medical practitioner if you are worried about any of the side effects. Serious side effects such as anaphylaxis or myopericarditis after COVID-19 vaccination are very rare. See also [Q16](#).

## Q15. Are COVID-19 vaccines effective in children?

Clinical trials of Pfizer vaccine (Comirnaty) and Moderna vaccine (Spikevax) in children have shown these vaccines provide excellent protection against COVID-19 in adolescents.

There are also 'real world' studies (also called observational or post-market vaccine effectiveness studies) in adults<sup>28,29,32-36</sup> from vaccination programs in countries like the USA, the UK and Israel that show strong protection for both vaccines and some indicate effectiveness against transmission.

## Q16. What is myocarditis and pericarditis and can Pfizer or Moderna vaccine cause it?

Myocarditis is inflammation of the heart muscle. Pericarditis is inflammation of the outer lining of the heart. Myopericarditis is where these two conditions occur together.

Myocarditis and/or pericarditis occurs very rarely in younger people, including adolescents and children 12 years of age and older, who have had the Pfizer vaccine (Comirnaty) or the Moderna vaccine (Spikevax). It

is more common after dose 2 and in males. In the USA, from data reported through to 11 June 2021,<sup>24</sup> the rate of myocarditis/pericarditis in female adolescents aged 12–17 years was 9.1 per million doses, and in male adolescents aged 12–17 years 66.7 per million doses of an mRNA COVID-19 vaccine given. For children 5–11 years of age, early data from the USA suggest a very low rate of myocarditis following first and second doses. Further information is expected to be available soon.

The symptoms typically appear within 1–5 days of vaccination and are usually mild. Most children and adults with myocarditis or pericarditis related to COVID-19 vaccination recover quickly after a short period of monitoring (usually in hospital) and no or simple treatment, such as anti-inflammatory medication. The symptoms of myocarditis or pericarditis can include chest pain, pressure or discomfort palpitations (irregular heartbeat, skipped beats or ‘fluttering’), syncope (fainting), shortness of breath, pain with breathing.

If a child or adult experiences any of these symptoms, they should seek prompt medical attention. Further information can be found in the [ATAGI guidance on myocarditis and pericarditis after mRNA COVID-19 vaccines](#). A [tool](#) has been developed by the Paediatric Research in Emergency Departments International Collaborative (PREDICT) to assess children and adolescents with chest pain following mRNA vaccination and evaluation of chest pain guideline in the emergency department.

It is important to note that there could be other causes for these symptoms. Data indicate that in young adults approximately 3-8 cases of myocarditis and pericarditis that are not related to COVID-19 vaccination occur on average each week in Australia. The rate of myocarditis and pericarditis is higher in people with COVID-19 than after a COVID-19 vaccine.<sup>37</sup>

#### **Q17. Should children avoid any activities after COVID-19 vaccination?**

Children can continue to perform all regular daily activities after COVID-19 vaccination. If they feel well after their vaccine, they can continue their usual exercise. Those who feel unwell after vaccination (e.g. with a fever or tiredness) are recommended to rest, and to seek medical attention for any symptoms they or their parents/carers are worried about.

#### **Q18. Can children get COVID-19 from COVID-19 vaccines?**

No, children cannot get COVID-19 from a COVID-19 vaccine. To get COVID-19, a live virus that can multiply in your body has to infect you. No COVID-19 vaccine supplied currently in the world contains live coronavirus. The vaccines available for children in Australia and elsewhere contain the code for the body to make only the spike protein (not the actual virus) that the person’s immune system then responds to give them protection in the future.

#### **Q19. Can a child get COVID-19 vaccine if they have already had COVID-19?**

Yes, children can be vaccinated (with the usual two-dose schedule) as soon as they have recovered from their illness. However the risk of reinfection is reduced for at least 6 months after infection, so vaccination can be deferred for up to 6 months.<sup>17</sup>

#### **Q20. Can children with underlying health conditions get a COVID-19 vaccine?**

Yes, children with underlying health conditions are recommended to receive a COVID-19 vaccine, particularly if they have a health condition that increases their risk of severe illness. Talk to your family doctor to find out whether a particular health condition increases the risk of severe COVID-19.

#### **Q21. Can children get a COVID-19 vaccine if they are on other medications?**

In most cases medication should not be stopped before or after having a vaccine, including a COVID-19 vaccine. There are a few situations in which people might be advised to either delay vaccination or delay a particular medication:

- Some people taking blood thinners (anticoagulants) may be advised to delay vaccination if there is a high risk of bleeding or bruising at the site where the vaccine is injected. Most people on a stable dose of blood thinner can receive the vaccine without any checking of medication levels or change to their medication.
- People taking immune-weakening treatments (immunosuppressants), including chemotherapy, have a higher risk of developing severe COVID-19 and importantly can have a COVID-19 vaccine but should discuss the best timing of vaccination with their treating doctor.

Children and adults taking other medications should continue their regular treatment before and after vaccination.

## Q22. Can COVID-19 vaccines lead to infertility?

No, there is no evidence that any of COVID-19 vaccines being used in the Australian COVID-19 vaccination program can lead to infertility. Importantly, COVID-19 vaccines protect young people from getting severely ill and developing serious complications which could affect their ability to become parents.

Before human trials, the Pfizer, Moderna and AstraZeneca vaccines were assessed for their effect on fertility in animal studies. These studies found pregnancy rates in animals that received the vaccine were same as for those that did not receive the vaccine.

Studies from Israel and the US of mRNA vaccines in women undergoing in vitro fertilisation (IVF) comparing who had and had not been vaccinated or had COVID-19 in the past showed that Pfizer and Moderna vaccines did not affect fertility treatment.<sup>38</sup>

## Q23. Is COVID-19 vaccination mandatory for adolescents in Australia?

COVID-19 vaccination is not mandatory for adolescents in Australia (refer to the question “Is the COVID-19 vaccine mandatory” in [NCIRS COVID-19 vaccines: Frequently asked questions](#)). However, children and adolescents 5 years of age and older are strongly recommended to receive a COVID-19 vaccine to protect themselves from serious disease and to prevent spread of the virus to other children and adults.

## COVID-19 and attending school

### Q24. Can children get COVID-19 in school?

Yes, children can get COVID-19 in schools. An ongoing [study of the transmission of COVID-19 in educational settings in New South Wales, Australia](#) shows that although the risk of child-to-child spread of the Delta variant is lower (1.6%), infected school staff members can pass on the virus to children (7.0%).

The virus that causes COVID-19 will continue to circulate in Australia as public health and social measures become less restrictive and in this context cases of COVID-19 will inevitably occur in students and/or staff who attend schools or childcare centres. However, with high vaccination rates in the population aged 5 years and older and where transmission of the virus in the community remains contained, the likelihood of spread of the virus in school settings the severity of any associated infections is anticipated to be low.

### Q25. How can we keep children safe in schools?

There are many relatively simple measures that can be taken to [minimise COVID-19 spread in schools](#). These include wearing masks, keeping adults and parents off school grounds and avoiding large crowds. The state, territory and Commonwealth governments are working with health and education sectors to implement guidelines that include these and other measures that can minimise the risk of COVID-19 spreading in schools.

As always, it is important that children who are unwell with even mild symptoms stay home from school and get tested for COVID-19. Vaccinating adults and children 5 years of age and older will protect people from severe disease and decrease spread to younger children.

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