

# Talking About COVID-19 Vaccine: Children 5 and Under

Parents continuously state that their child's healthcare provider is their most trusted source of information for vaccine-related questions. With COVID-19 vaccines being added to the CDC's routinely recommended immunization schedules for children and adults, it's important to be confident and ready to discuss COVID-19 vaccine with your patients. Your recommendation can make an impact on parents' ultimate vaccination decision.

## COVID-19 is a serious and real threat to our youngest children

COVID-19 is the fifth leading cause of disease-related death and the leading cause of death from infectious or respiratory diseases among children in the U.S. Since 2020, COVID-19 has led to more childhood deaths than either influenza or pneumonia. Over 770 children 4 years of age and younger have died from COVID-19 in the U.S. since the beginning of the pandemic. When comparing average deaths per year for vaccine-preventable diseases prior to recommended vaccines being available, COVID-19 has led to more average deaths per year than rotavirus, rubella, varicella, meningococcal disease, and hepatitis A combined (Table 1).

Table 1: Pediatric vaccine preventable diseases: Deaths per year in the U.S. prior to recommended vaccines

	COVID-19	Rotavirus	Rubella	Varicella	Meningococcal	Hepatitis A
Age	6 mos-4 yrs	<5 yrs	All ages	5-9 yrs	11-18 yrs	<20 yrs
Time period	2022	1985-1991	1966-1968	1990-1994	2000-2004	1990-1995
Average Deaths per year	<1 yoa:156 1-4 yoa:101	20	17	16	8	3

Reference: <https://www.cdc.gov/respiratory-viruses/whats-new/covid-vaccine-recommendations-9-12-2023.html>

While children are less likely to become severely ill from COVID-19 compared to adults, it is nearly impossible to predict which children will experience severe outcomes. More children were hospitalized during the Omicron wave than any previous wave, and more than half of hospitalized children ages 6 months to 4 years had no underlying conditions. Hospitalization from COVID-19 (dependent on time period and circulating variant) is comparable to or higher than the burden of pre-vaccine hospitalization from hepatitis A, varicella, or vaccine-type invasive pneumococcal disease, all serious disease we now immunize against (Table 2).

Table 2: Pediatric vaccine preventable diseases: Hospitalizations per year in the U.S. prior to recommended vaccines

	COVID-19	Vaccine-type Invasive Pneumococcal Disease	Varicella (Chickenpox)	Hepatitis A
Age	6 mos-4 yrs	0-4 years	0-4 years	5-14 years
Time period	2021-2022 & 2022-2023	1998-1999	1993-1995	2005
Hospitalization Burden (annual rate per 100,000 population)	92-220	20	17	16

Reference: <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2023-09-12/11-COVID-Wallace-508.pdf>

Young children may not have been exposed to the virus yet, and vaccination helps train the immune system without incurring the risks of natural infection. Children who remain unvaccinated have a greater risk of infection and severe disease from COVID-19, including hospitalization and death. In fact, infants under 6 months old represent some of the highest rates of hospitalization from COVID-19, only surpassed by adults aged 65 and older. Additionally, 1 in 5 infants under 6 months old hospitalized with COVID-19 were admitted to the ICU since June 2022.

There are many things we are still learning about COVID-19. However, we do know that a SARS-CoV-2 infection in children can lead to:

**Long COVID:** a wide range of ongoing health problems; these conditions can last weeks, months, or years. Research suggests that children with both mild and severe COVID-19 have experienced long-term symptoms.

**MIS-C (multisystem inflammatory syndrome in children):** a rare but dangerous inflammatory condition which can occur several weeks after a COVID-19 infection.

**Type 1 Diabetes:** Preliminary data suggests there may be an association between SARS-CoV-2 infection and the subsequent development of type 1 diabetes mellitus in both adults and children. This association warrants further study, but raises significant concerns.



13%  
Only 13% of children 5 and under have received their first dose of COVID-19 vaccine in the U.S., leaving 15 million children in this age group unvaccinated.

## COVID-19 vaccines are safe and effective

Both Pfizer and Moderna's COVID-19 vaccines were found to be effective in reducing the rate of infection (37-80% in clinical trials).

Vaccination not only decreases the rate of outpatient and ER visits, but also hospitalization and ICU stays. Completing a primary vaccination series (two doses of Moderna, three doses of Pfizer) helped provide protection for children 3-5 years old against symptomatic SARS-CoV-2 infection for at least four months after vaccination. Two doses of Pfizer COVID-19 vaccine had greater than 90% effectiveness at preventing MIS-C.

Previously-infected children benefit from receiving COVID-19 vaccinations. Studies in adults have shown that hybrid immunity (immunity acquired from having been both infected and vaccinated) provides the best protection against reinfection (41% vs 24% from infection alone) and severe disease or hospitalization (97% vs 74% from infection alone) at 12 months.

Moderna recipients had slightly higher rates of side effects than Pfizer recipients. Side effects like fever and joint pain were more common after the second dose compared to the first dose. The most common side effects were dependent on age group:

- Irritability and drowsiness for children 6-23 months old.
- Pain at injection site, low fever, and fatigue for children 2-5 years.

Over two million children between the ages of 6 months and 5 years old have been vaccinated in the U.S. Real-world safety data has been similar to clinical trial data; there have been no reports of myocarditis and serious adverse events remain rare. Rates of adverse events after Pfizer's COVID-19 vaccination in kids under 5 were comparable to those of other approved, routine vaccines for kids in the same age group.

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## Additional benefits of vaccinating children

SARS-CoV-2 will continue to circulate, and vaccination is the best way to protect children against this virus. The benefits of vaccination outweigh the known and potential risks.

- Daycares, preschools and schools may have strict isolation protocols. Keeping a child up-to-date reduces the chance of infection and the need to miss school/daycare, extracurricular activities or other important events.
- Bivalent booster vaccination has been associated with decreased hospitalization and school absenteeism in pediatric populations. Increased uptake (similar to seasonal influenza vaccination levels) of boosters could have prevented an additional 10,000 pediatric hospitalizations and five million days of school absenteeism from October 2022 to March 2023.
- Parents often have to miss work to stay home when children are sick. Vaccination keeps kids healthy and allows parents to stay at work.
- Children are very effective at transmitting COVID-19 and can get their grandparents, parents, and community members sick. Research suggests that the presence of children, notably very young ones, was associated with an increased risk of SARS-CoV-2 infection in other household members, especially during the Delta and Omicron waves.

## How we communicate about vaccines can impact how it is received

When discussing COVID-19 vaccination with patients, the way we communicate can have an impact on the patient's visit experience and their ultimate vaccination decision. Consider using these communication skills in your next vaccine conversation:

- Lead with empathy and honor a patient's personal autonomy - ask permission before you share a recommendation or information.
- Be curious and ask open-ended questions to evoke responses and avoid doubt - elicit and explore a patient's concerns to better address what they are truly concerned about.
- Find the common ground. It's important to focus on a mutual goal - what are you both striving for? (e.g. use a statement like: "We both want your child to be healthy.")
- Have the patient reflect what they are hearing and also show you are actively listening by sharing back what you are hearing, too.

Every day in the U.S., ~10,000 babies turn 6 months old and become eligible for their first dose of COVID-19 vaccine. As of May 2023, the U.S. is only initiating COVID-19 vaccination for ~7,000 children 6 months – 4 years old each week.



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