

COVID-19 Vaccination FAQs

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What are the differences between the 3 COVID-19 vaccines available in the US?

- Pfizer-BioNtech and Moderna vaccines are mRNA vaccines
 - mRNA is the instruction for your body to make the protein that your body will then develop immune response to
 - This helps your body prevent severe disease or hospitalization when encountering the virus
- Johnson & Johnson's Janssen vaccine is a viral vector vaccine
 - this vaccine has a modified version of a different virus which carries the Instructions for your body to make the protein and develop the immune Response

Were these vaccines rushed?

- mRNA technology has been around for decades and has been used in cancer and other viral research

What are some side effects that have been reported and can be expected? - -

- People who are vaccinated can develop fever, chills, arm soreness at the injection site, headache, nausea, fatigue for about 2 days after vaccination. -
- These side effects are self limited and resolve

Who should not get the COVID-19 vaccine?

- Anyone who has serious allergic reaction or anaphylaxis to any component of vaccine
- Allergic reactions are extremely rare, they have been reported as ~2-5 people/million vaccinated.
- Allergic reactions can be treated immediately and occur within the first few minutes of vaccination while people are being monitored

What if I have food or other medication allergies?

- The only contraindication to vaccination is severe allergic reaction/anaphylaxis to any component of the vaccine.
- The main ingredients in mRNA vaccines are polyethylene glycol (active ingredient in miralax) or polysorbate

What about long term side effects?

- Historically any vaccine related side effect usually occurs within the first six weeks of vaccination
- Millions of people have received these vaccines for the past year and no long term side effect has been reported

What about myocarditis?

- Myocarditis- inflammation of the heart has been reported from several other viral infections, including SARS-CoV2 infection causing COVID-19.
- Myocarditis due to SARS-CoV2 infection was associated with a substantial increase in the risk of hospitalization/death from myocarditis, pericarditis and cardiac arrhythmias ¹
- Myocarditis following infection can be severe,
- The rare cases of myocarditis seen in males ages 12 through 17 years is approximately 54 cases/million people vaccinated ²

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What about fertility and pregnancy?

- There has been no link to vaccination and infertility
- Thousands of women have gotten pregnant after being vaccinated, including some who were in the early vaccine clinical trials
- A recent study found no differences in successful pregnancy between vaccinated vs unvaccinated women ³
- Pregnant women are at higher risk of severe COVID-19 and poor outcomes
- Pregnancy is a risk factor for severe disease, pregnant women are more likely to have preterm labor and need ICU stay

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I already had COVID-19 do I need to get vaccinated?

- Vaccination provides a more robust and long lasting immune response
- Re-infections from COVID-19 can occur and with new and emerging variants due to significant global circulation of SARS-CoV2 virus, there seems to be more

occurrence of re-infection with newly circulating Omicron variant (25% increased risk)

Even vaccinated people are getting COVID so why should i get vaccinated?

- Breakthrough infection after vaccination is usually milder than in unvaccinated individuals, prevents hospitalizations and deaths in most, results in quicker recovery from illness and shorter infectious period ⁴

Why do I need a booster if I am fully vaccinated?

- Studies have shown that vaccine induced immunity wanes over time . People who are vulnerable and at high risk of severe COVID-19 can be most susceptible given high levels of virus circulating contributing to an average of 100,000 cases/day , hospitalizations of over 65,000 and an average of a 1000 deaths/day.
- To prevent further virus transmission and protect against Delta and Omicron, people over the age of 18 should get booster doses if they are 6 months from their 2nd mRNA vaccine dose of 2 months from their initial J&J Janssen dose. ^{5/6}
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Children are not affected by COVID-19 so why should we vaccinate them?

- As of 12/9 over 7.2 million children have tested positive with COVID-19 ⁷
- Over 164,000 new cases were added last week, an increase of 24% ⁷
- Children can transmit virus as much as adults and studies have shown that children carry significant viral loads even when they have mild symptoms or no symptoms ⁸
- Children have had record hospitalizations, icu admissions and even death from COVID-19 ⁹
- More than 8,300 Children ages 5-11 have been hospitalized due to COVID-19 and over 100 have died. COVID-19 ranks as one of the top 10 causes of death in children ages 5-11. ¹⁰
- Children can suffer from MIS-C (Multi-System Inflammatory Disease of Children) or Long COVID (PASC- post acute sequelae of COVID-19) even if they have no symptoms of COVID-19 ¹⁰
- Symptoms of Long COVID include headache, heart racing (palpitations), joint/muscle aches, pins and needles feeling, diarrhea, fever, dizziness/lightheadedness, sleep disturbance, rash, loss of sense smell/taste, changes in menstrual cycle, rash, changes in mood etc
- Approximately 6.4 million children in the U.S. have been suffering from Long COVID as of October 2021 ¹¹

- More than 2,300 children ages 5-11 have suffered from MIS-C ¹²

Children and vaccination

- 3,100 Children ages 5-11 in the clinical trials tolerated COVID-19 vaccine, there were no major safety signals. The vaccine was 90.7% effective in preventing COVID-19 in children ¹³
- The most common side effect was arm soreness/redness ~15-19%
- Fever was less common ~3-7% as compared to older age groups ~20%
- 5 Million children ages 5-11 have been vaccinated with no cases of myocarditis reported ¹⁴

Why should I get vaccinated if I can just get an Antibody treatment and feel fine after?

- Monoclonal antibody treatments have been developed for preventing progression of COVID-19 in high risk individuals. ¹⁵ The treatments are effective if given early and may help prevent progression to severe disease and hospitalization. As more variants emerge, some of our Antibody treatments will not be effective against these variants. Supply and national shortages may also hinder access to these antibodies as treatments. These treatments require evaluation and infusion at a center or emergency room and may pose an access issue for some people.
- Antibodies are not meant to replace vaccination as prevention.
- People who have been previously infected are at risk of re-infection and should get vaccinated in order to prevent reinfection with SARS-CoV2 and its emerging variants. ¹⁶

1. Nature medicine <https://www.nature.com/articles/s41591-021-01630-0>
2. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq-children.html>
3. <https://pubmed.ncbi.nlm.nih.gov/34095871/>
4. [CDC.gov](https://www.cdc.gov)
5. <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2780964>
6. <https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/index.html>
7. www.aap.org
8. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/faq-children.html>
9. <https://pubmed.ncbi.nlm.nih.gov/34752019/>
10. <https://combatcovid.hhs.gov/possible-treatment-options-covid-19/monoclonal-antibodies-high-risk-covid-19-positive-patients>

11. <https://www.medrxiv.org/content/10.1101/2021.11.11.21266068v2>