



COVID-19 Vaccine Q&A

By Maria Kootsikis, Pharm.D.

The following are answers to questions I encountered as a registered pharmacist giving mRNA vaccines. Please note that answers are based on evidence from the medical literature including clinical trials, the vaccine manufacturer's package labeling, and medical expert opinion. Follow up with your healthcare provider with any specific concerns you may have.

Q: What does it mean for a vaccine to be effective?

A: Vaccine effectiveness (VE) for the mRNA vaccines is defined as the percentage of patients without evidence of SARS-CoV-2 (Covid-19) infection measured at least seven days after dose two.¹

Q: Knowing that the overall VE for Pfizer-BioNTech's mRNA vaccine and Moderna's mRNA vaccine for Covid-19 prevention is almost 95%, does that hold true for all subgroups studied?

A: VE was consistent across a number of subgroups including age, sex, race/ethnicity, and comorbidities (including obesity). The only subgroup not studied was pregnant women. Some patients did become pregnant and are being monitored for long-term outcomes. Immunocompromised patients were not included in the trials in large enough numbers to make any meaningful conclusions regarding safety and efficacy in this important population. This does not mean you cannot receive the vaccine if pregnant or immunocompromised, but it is advised to first speak with your healthcare provider.¹

Q: Is it true that the most common adverse effects are local events?

A: Yes. Local adverse effects at the site of injection such as pain, swelling, and erythema (reddening of the skin) were very common. Fatigue, headache, muscle pain, chills, joint pain, and headache were observed, but less likely to occur. Adverse effects were more frequent after the second dose compared to the first and tended to occur less often in older patients (over 55 years of age).¹

When you do receive the mRNA Covid-19 vaccine, it is important to register with [V-safe](#) so you can report any side effects that you may experience. If you should experience anything, the CDC may even call you to get more information.

Q: What are the serious adverse events to the mRNA Covid-19 vaccines?

A: Serious adverse effects were rare and seen in both the treatment and placebo arms of the clinical trials. Numerically, more patients receiving the Pfizer vaccine developed Bell's Palsy (4 vs. 0; vaccine vs. placebo, respectively) and lymphadenopathy (64 vs. 6; vaccine vs. placebo, respectively). Allergic reactions were reported in two patients receiving the Pfizer vaccine in the United Kingdom, and both patients had a history of severe unspecified reactions for which they carried epi pens with them at all times in case of reaction. Most likely, it was the product's polyethylene glycol (PEG) component rather than vaccine itself causing the reactions.¹

PEGs are basically tiny, greasy spheres that are used in Covid vaccines to protect the active ingredient (mRNA), which is quite fragile. PEGs help the mRNA to penetrate cells. It is within cells that the mRNA can go to work priming the immune system.²

Q: What is the scientific evidence supporting not obtaining the second dose or splitting the first dose in two or even delaying the second dose so that more people can obtain it?

A: It is not advised to change the dosing regimen per Dr. Fauci, based on the evidence from the clinical trials showing VE of almost 95% after the second dose. Different dosing scenarios have not been studied.³

Q: If you receive one manufacturer's mRNA Covid-19 vaccine, is it ok to receive a different manufacturer's vaccine for the second dose?

A: No. The Advisory Committee on Immunization Practices (ACIP) states that the vaccines are structurally different and should not be given interchangeably. Whatever company's

mRNA Covid-19 vaccine you receive for the first dose should be the same for the second. If by mistake, you should receive Pfizer's vaccine for the first dose and the Moderna vaccine for the second dose, no additional vaccine doses should be given.

Q: If I get the mRNA Covid-19 vaccine, do I still need to wear a mask and continue to social distance?

A: Yes, because the vaccine is not 100% effective and it is still unclear if vaccinations prevent transmission even if the vaccinated patient shows no symptoms.

Q: I am 65 years old, don't live in a nursing home, and am not a healthcare provider. What is your best estimate of when I can receive the mRNA Covid-19 vaccine?

A: Tiers have been developed to improve vaccination dates (see the proposed phase chart).

Phase 1 Began: Mid-December Estimated everyone will have been offered at least one dose: Late Jan/Early Feb.*	<ul style="list-style-type: none"> Healthcare workers (who have the potential for direct or indirect exposure to patients or infectious materials) Long-term care residents 				
Phase 1B Estimated to begin: Early Feb. Estimated everyone will have been offered at least one dose: Late March*	<table border="1"> <tbody> <tr> <td>Tier 1</td> <td> <ul style="list-style-type: none"> Persons 75 years and older Those at risk of exposure at working the following sectors: <ul style="list-style-type: none"> Education Emergency services Childcare Food and agriculture </td> </tr> <tr> <td>Tier 2</td> <td> <ul style="list-style-type: none"> Persons 65-74 years of age Those at risk of exposure at work in the following sectors: <ul style="list-style-type: none"> Transportation and logistics Industrial, commercial, residential, & sheltering facilities & services Congregate settings with outbreak risk: incarcerated & homeless Critical manufacturing </td> </tr> </tbody> </table>	Tier 1	<ul style="list-style-type: none"> Persons 75 years and older Those at risk of exposure at working the following sectors: <ul style="list-style-type: none"> Education Emergency services Childcare Food and agriculture 	Tier 2	<ul style="list-style-type: none"> Persons 65-74 years of age Those at risk of exposure at work in the following sectors: <ul style="list-style-type: none"> Transportation and logistics Industrial, commercial, residential, & sheltering facilities & services Congregate settings with outbreak risk: incarcerated & homeless Critical manufacturing
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Phase 1C Estimated to begin: March Estimated everyone will have been offered at least one dose: Late April/Early May*	<ul style="list-style-type: none"> Persons 50-64 years old People 16-49 years of age and have an underlying health condition or disability which increases their risk of severe COVID-19 Those at risk of exposure at work in the following sectors: <ul style="list-style-type: none"> Water and wastewater Chemical and hazardous materials Communications and IT Government operations / community-based essential functions Defense Energy Financial services 				
Phase 2 (Proposed) Estimated to begin: Mid-May/Early June*	<ul style="list-style-type: none"> Persons 16-49 years old without high-risk medical conditions 				

Proposed but not voted on by the CDC Advisory Committee on Immunization Practices (ACIP) and may be modified by the CDC and/or CDPH.⁴

A recent vaccination update on January 12 from Mayor Garcia's office stated that vaccinations have been given at all 25 nursing homes in Long Beach and now are available for people who are 75 years old and over. They will soon move to other age groups. See [link](#) to sign up for notifications. Appointments are required.⁵

Q: Can I take the mRNA Covid-19 vaccine if I've already been infected with Covid-19?

A: Yes. Based on data from clinical trials, it is safe to take the mRNA Covid-19 vaccine if you have recovered from the SARS-CoV-2 infection. This is the same if you were symptomatic or asymptomatic.⁶

Please submit any other questions regarding the Covid-19 vaccines you may have so that we can share with our Bluff Heights neighbors.

- <https://www.powerpak.com/course/content/120748>
- <https://snacksafely.com/2020/12/what-we-know-about-peg-suspected-as-the-cause-of-reactions-to-pfizers-covid-19-vaccine/>
- <https://www.nytimes.com/2021/01/01/world/dr-fauci-advises-against-the-british-approach-of-delaying-a-second-dose-of-vaccine.html>
- Los Angeles County Covid-19 Vaccination Update: Issue 2; January 11, 2021
- <http://longbeach.gov/press-releases/city-vaccination-clinics-expand-to-administer-covid-19-vaccine-to-older-adults/?fbclid=IwAR3PpThwTUWnuPvCQHj-7D2KuAQEgB-pnb4-CE6osDqDbPzpM30RTLEO14>
- <https://www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html>

Maria Kootsikis, Pharm.D., is a recently retired clinical pharmacist who worked half her career for the Veteran's Administration and the other half for the pharmaceutical industry. She and her husband, Paul Montalbano, chose to retire and live the dream in beautiful Bluff Heights.