

**Memorandum**

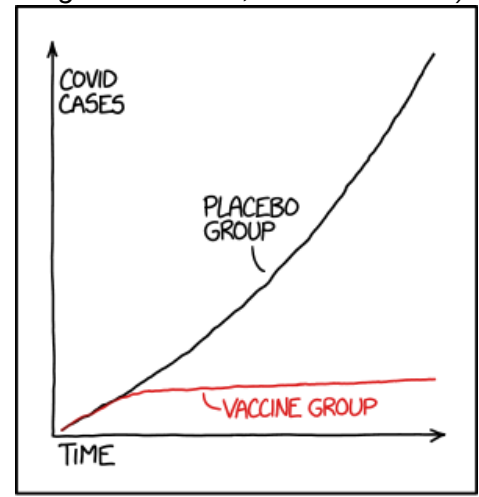
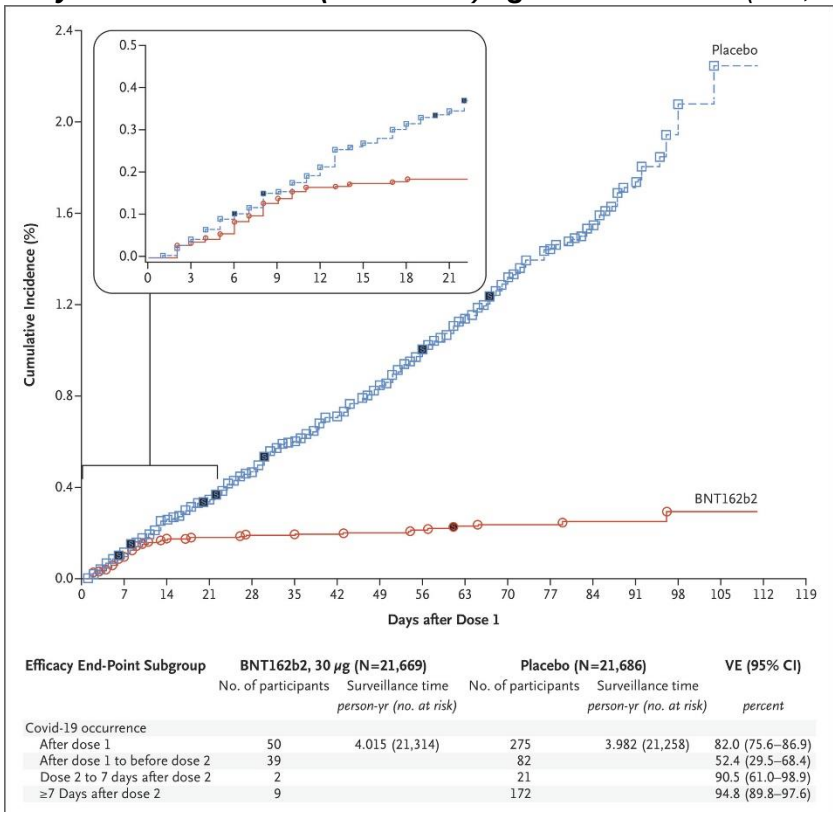
**To: UPMC Medical Command Services**  
**From: UPMC Prehospital Care**  
**Date: January 14, 2021**  
**Re: COVID-19 Vaccination Update**

UPMC Prehospital Care is making excellent progress in assisting EMS personnel from many EMS agencies across Pennsylvania get vaccinated. **UPMC has now vaccinated over 1,700 EMS personnel for COVID-19 and continues to assist EMS agencies in coordinating access to vaccine.** It is important for us to continue this important work and initiate the process for those who have received the first dose of vaccine to start getting the second dose. **We want to especially encourage EMS personnel that have not initiated their vaccination to do so as soon as possible.** Below we provide the latest information on the COVID-19 vaccines that are currently being distributed and answer frequently asked questions related to vaccination.

**Efficacy**

Both currently available vaccines are very effective, showing 94% to 95% efficacy. The Moderna vaccine is slightly more effective in persons 18-64 years (95.6%) than in those >64 years (86.4%). Efficacy is similar in subgroups by sex, race, ethnicity, body-mass index (BMI) and presence of co-existing conditions.

**Efficacy of Pfizer vaccine (BNT162b2) against COVID-19 (Left, from N Engl J Med 2020; 383:2603-2615)**



STATISTICS TIP: ALWAYS TRY TO GET DATA THAT'S GOOD ENOUGH THAT YOU DON'T NEED TO DO STATISTICS ON IT

## Safety

Both vaccines underwent and continue to undergo rigorous assessment for adverse effects. Serious adverse events have been encountered in  $\leq 1\%$  of recipients and at similar rates to individuals receiving placebo. Adverse reactions have usually occurred within 1-2 days of vaccination and resolved in 1-3 days, more commonly occurring after the 2<sup>nd</sup> dose and in people under 65 years of age. The more common adverse reactions include local pain, swelling, or redness at the injection site; fatigue; headache; nausea/vomiting; fever or chills; and muscle or joint aches. These symptoms are typically self-limited and improve with use of acetaminophen or ibuprofen.

## Timing of Vaccination in Relation to Work Schedule

Because of the potential for minor vaccine-related symptoms and to help reduce the need for work call-offs, it is recommended that health care workers receive the vaccine the day prior to scheduled off days if feasible.

## Age Eligibility

- Pfizer-BioNTech: age 16 years and older.
- Moderna: age 18 years and older.

## Contraindications

The only absolute contraindication is history of severe allergic reaction to any component of the vaccine (see Appendix). The vial stoppers are not made with natural rubber latex.

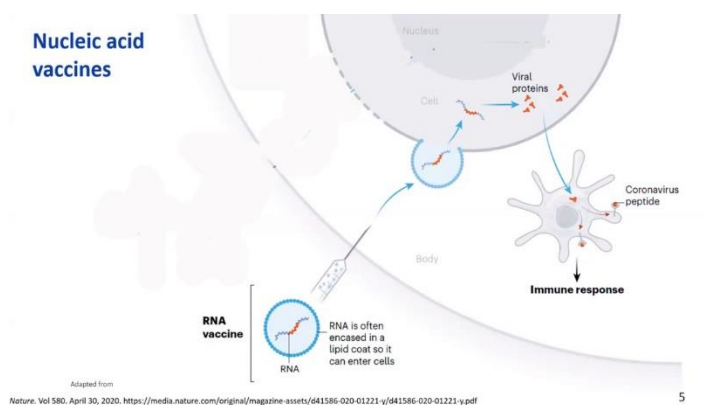
## Frequently Asked Questions

### *Can I get Covid-19 from the vaccine?*

No! The Pfizer-BioNTech and Moderna vaccines do not contain live or dead virus. They carry instructions for our cells to make the spike protein found on the virus. Once the spike protein is released from the cells, our body recognizes it as “foreign material” and develops an immune response to fight and kill SARS-CoV-2, the virus that causes COVID-19.

### *How do mRNA (like the Pfizer-BioNTech and Moderna vaccines) work?*

1. The vaccine includes a small strip of messenger RNA (mRNA) that codes for the spike protein on the surface of the SARS-CoV-2 virus, the virus that causes the disease COVID-19.
2. The mRNA enters the cell, and the cell uses the information on the mRNA to make the spike protein.
3. The mRNA is fragile and self-destructs. It does not alter DNA.
4. The spike protein is released out of the cell.
5. The body sees the spike protein as “foreign” and mounts an immune response.
6. If a SARS-CoV-2 virus enters the body, the immune system recognizes its spike protein and launches an attack by cells and antibodies.



***The vaccine was created very quickly. Should I be concerned about whether it was tested sufficiently to be safe?***

There are many reasons that the COVID-19 vaccines have been able to be developed faster than prior vaccines, including newer technologies that have been under development for over a decade and a substantial effort by the Federal government to assist in the development and acquisition of vaccines. The vaccines have undergone rigorous safety assessments including Phase 3 clinical trials with over 70,000 participants of different ages, races, and ethnicities. Additionally, over 2 million individuals have received these vaccines since distribution started with reports of very limited serious adverse effects.

***How often are people getting anaphylaxis from the vaccine?***

Only 21 out of 1.8 million people that received the Pfizer-BioNTech vaccine have been reported to get anaphylaxis from the vaccine, which is very rare and comparable to other common vaccines. Most (71%) occurred within 15 minutes of vaccination, so a brief observation period after vaccination addresses most of these cases. All instances of anaphylaxis were able to be treated with standard interventions.

***Once I am vaccinated, do we still need to maintain the same level of PPE?***

Yes! Once the vaccine series is complete, we must still use the same level of PPE we have been using prior to vaccination. While the vaccines have shown great efficacy in preventing the development of symptoms of COVID-19 disease, it is still uncertain if vaccinated individuals may be able to pass the SARS-CoV-2 virus while asymptomatic, especially to family members or patients who have not yet been vaccinated. For now, vaccination should not change any of our practices related to PPE use, general masking in public, and physical distancing precautions.

***If I had a recent diagnosis of COVID-19 disease, should I get the vaccine?***

Yes, individuals who have had COVID-19 disease should still be vaccinated but should wait at least until they meet criteria for discontinuation of isolation. Additionally, because having had the illness appears to provide protective immunity for at least 3 months, it is reasonable to wait up to 90 days since having the illness to receive vaccination. Immunity after natural disease beyond 90 days is uncertain, so we encourage individuals who have had COVID-19 to still get vaccinated.

***Should individuals who were treated with monoclonal antibodies or convalescent plasma defer vaccination?***

These individuals should defer vaccination for 90 days after their last treatment with monoclonal antibodies or convalescent plasma.

***I had a recent unprotected exposure to SARS-CoV-2 and am asymptomatic. When should I be vaccinated for COVID-19?***

Vaccination should be deferred until after the end of the quarantine period (14 days after exposure).

***I recently received another vaccine (e.g., influenza vaccine). When should I be vaccinated for COVID-19?***

Vaccination for COVID-19 should be deferred until 14 days after the prior vaccination.

***Should women who are pregnant or breast-feeding receive a COVID-19 vaccine?***

The currently available vaccines have not been tested in these populations, but FDA and CDC state both are eligible to receive vaccine and recommend the person consult with PCP or obstetrician in making a final decision on whether to receive a COVID-19 vaccine.

**Should individuals that are immunocompromised (due to underlying medical condition or medication) receive a COVID-19 vaccine?**

There are currently no data that have been reported in these populations, so efficacy and risks are unknown. The primary concern is a decreased efficacy, not an increased risk of adverse events. These individuals are eligible to receive vaccine but are recommended to consult with their PCP or physician specialist prior to vaccination.

***If I haven't yet signed up for the COVID-19 vaccine, who should I contact?***

EMS personnel from a UPMC medical command service that have not yet initiated vaccination with their first dose should contact their EMS agency manager, who can coordinate with UPMC Prehospital staff to facilitate vaccination. EMS personnel from other EMS or first responder agencies, should register your organization to request vaccination: [Vaccinating Non-UPMC Health Care Workers in PA](#).

***I received my first dose of COVID-19 vaccine. What do I need to do to be scheduled for my second dose of vaccine?***

If you received your vaccine through UPMC, we recorded your contact information (email and/or phone number) and will contact you to schedule your second dose of vaccine. This should be scheduled 21 days after the first dose for the Pfizer/BioNTech vaccine or 28 days for the Moderna vaccine. If these dates are missed, the second dose should be administered as soon as possible thereafter. If you did not receive your first dose of vaccine through UPMC, contact the site where your first dose of vaccine was administered to schedule your second dose of vaccine as vaccine supply for both doses are being distributed by the Federal government to each specific site.

**Information is subject to change. For additional and the latest information:**

CDC COVID-19 Vaccination Information: <https://www.cdc.gov/vaccines/covid-19/index.html>.

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## **APPENDIX. Vaccine Contents**

### **Contents of Moderna COVID-19 Vaccine**

Each dose of the Moderna COVID-19 Vaccine contains the following ingredients: a total lipid content of 1.93 mg (SM-102, polyethylene glycol [PEG] 2000 dimyristoyl glycerol [DMG], cholesterol, and 1,2-distearoyl-sn-glycero-3-phosphocholine [DSPC]), 0.31 mg tromethamine, 1.18 mg tromethamine hydrochloride, 0.043 mg acetic acid, 0.12 mg sodium acetate, and 43.5 mg sucrose.

### **Contents of Pfizer-BioNTech COVID-19 Vaccine**

Each dose of the Pfizer-BioNTech COVID-19 Vaccine also includes the following ingredients: lipids (0.43 mg (4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate), 0.05 mg 2[(polyethylene glycol)-2000]-N,N-ditetradecylacetamide, 0.09 mg 1,2-distearoyl-sn-glycero-3-phosphocholine, and 0.2 mg cholesterol), 0.01 mg potassium chloride, 0.01 mg monobasic potassium phosphate, 0.36 mg sodium chloride, 0.07 mg dibasic sodium phosphate dihydrate, and 6 mg sucrose. The diluent (0.9% Sodium Chloride Injection, USP) contributes an additional 2.16 mg sodium chloride per dose.