

COVID-19 VACCINES

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WHY SHOULD SOMEONE CONSIDER VACCINATION?

- Vaccination:
 - Provides increased protection for me
 - It can slow the spread of COVID in my facility
 - Help stop spread in the community

COMMON QUESTIONS

- How do we know the vaccine is effective and safe?
- Why should we trust the vaccine?
- Is there new technology being used and is that dangerous to me?
- What is an EUA and what does that mean for me?
- When and how long will I be protected?
- Will I still need to wear a mask?
- What are the expected side effects?
- What if I've already had COVID-19?
- Where should I look to get accurate information?

ARE THE COVID-19 VACCINES SAFE?

- Safety is the most important priority in vaccine approval
- Monitoring for safety with the clinical trial volunteers is continuing—even as the vaccine is distributed to the public
- To assess safety FDA typically advises that a minimum of 3,000 participants are included in the trial. The COVID-19 vaccine trials for the current vaccines included 30,000 to 44,000 participants

HOW EFFECTIVE ARE THE COVID-19 VACCINES?

	Pfizer (BNT162b2)	Moderna (mRNA-1273)
Efficacy Overall	95% protection from having an infection	94.1% protection from having an infection

Similar efficacy with different race, ethnicity and age

The FDA requires vaccines have at least 50% protection for approval.

WHO WAS INCLUDED IN THE COVID-19 VACCINE TRIALS?

	Pfizer (BNT162b2)	Moderna (mRNA-1273)
Number of people enrolled	Over 40,000	Over 25,000
Race and ethnicity of participants	Total 30% racially diverse 10% black, 13% Hispanic	37% racially diverse 10% black, 20% Hispanic/Latino
Older adults	45% were 56-85 years	23% were >65 years

- **Notes:** Courtesy of Dr. Anuj Mehta, Data is accurate as of 11/18/2020. More information is constantly becoming available. Sub-group comparisons (e.g. comparisons about efficacy between races or age groups) may be less accurate due to smaller numbers. Sub-group numbers for the Pfizer vaccine are given for US participants with international percentages in parentheses.
- <https://www.pfizer.com/news/press-release/press-release-detail/pfizer-and-biotech-conclude-phase-3-study-covid-19-vaccine>
- <https://www.pfizer.com/science/coronavirus/vaccine>
- <https://investors.modernatx.com/news-releases/news-release-details/modernas-covid-19-vaccine-candidate-meets-its-primary-efficacy>
- https://www.modernatx.com/sites/default/files/content_documents/2020-COVE-Study-Enrollment-Completion-10.22.20.pdf

WHY SHOULD WE TRUST
THE COVID-19 VACCINE?

- The FDA used the same strict standards that it has for decades
- No steps were “skipped”
- Two **independent advisory committees** reviewed the results. Members and experts of these committees have no conflict of interest and are not associated with any vaccine manufacturers

WHAT IS EMERGENCY USE AUTHORIZATION?

- **An Emergency Use Authorization (EUA)** is issued based on the need to get a medication to market quickly during a public health emergency
- EUA is a shorter process **but no steps are skipped in the safety evaluation process**
- The FDA assesses if the vaccine “known and potential” benefits outweigh the known and potential risks
- Two separate advisory boards review the data and make recommendations
- **An EUA does NOT imply that the authorization was done too quickly or that the vaccine is not safe**

HOW WAS THE M-RNA VACCINE DEVELOPED SO QUICKLY?

- Developing a COVID vaccine was a global effort:
 - the world's leading scientists focused on a single task
 - Information was freely shared between researchers (this is not usually done!)
- Significant resources (money, knowledge, manpower, technology) put toward single goal
- A large pool of diverse adult volunteer trial participants

THE FIRST TWO
COVID-19
VACCINES

Both are mRNA vaccines

- Pfizer (BNT162b2)
- Moderna (mRNA-1273)

They Do NOT contain COVID-19 virus



COVID-19 VACCINE IS mRNA
VACCINE- WHAT IS THAT?


- mRNA technology is new in vaccine production but is already being used in cancer treatment. It has been studied for more than ten years.
- COVID-19 mRNA vaccines give instructions for our cells to make a **harmless piece** that looks like the COVID-19 “spike protein.” The spike protein is found on the surface of the COVID-19 virus.
- Our bodies “see” this protein as foreign, so the immune system builds antibodies that will remember how to fight the virus that causes COVID-19.

Can mRNA vaccine give me COVID-19? NO

Can mRNA vaccine change my DNA? NO

WHEN AND HOW
LONG WILL I BE
PROTECTED BY THE
CURRENT
(PFIZER AND
MODERNA)
COVID-19
VACCINES?

- Most of the vaccines are **2 doses**, 3-4 weeks apart.
- Protection occurs **1-2 weeks after the second dose.**
- We may need to have vaccine shots for COVID-19 on a regular basis (like the flu shot).



**WHAT
SHOULD I
EXPECT
WHEN I GET
THE
VACCINE?**

The VACCINE CANNOT GIVE YOU COVID-19!

- You can expect to have short-term discomfort: fatigue, headache, muscle pain, chills, fever and pain at injection site after vaccination
- These reactions can last for 1-3 days and are typically more pronounced after the second dose
- Side effects mean your body is doing its job and making antibodies (IT IS A GOOD THING)
- These side effects are normal, common and expected

MOST COMMON SIDE EFFECTS


BASED ON DATA FROM
CLINICAL TRIAL OF PFIZER
COVID-19 VACCINE

- Fever: 4-16%
- Fatigue 34-59%
- Headache: 25-52%
- Muscular pain: 14-37%

Side effects were more common after the second dose of the vaccine.

Reference: Data published in the New England Journal of Medicine:

<https://www.nejm.org/doi/full/10.1056/NEJMoa2034577>



**WHAT
SHOULD I
EXPECT
WHEN I GET
THE
VACCINE?**

- **YOU MUST GET THE SECOND DOSE** because the vaccine will not fully protect you if only get one dose
- It is important to get the **SAME Manufacturer** as the first dose (i.e. start with **Pfizer**, 2nd dose must be **Pfizer**).

J& J COVID-19 VACCINE

- This vaccine uses a modified cold (adenovirus) virus ; it makes copies of the coronavirus' spike protein, which COVID uses to enter cells.
- Though the altered virus can't replicate in humans, it induces an immune response that prepares the body for an actual COVID-19 infection
- This technology is the same as that used for the Ebola vaccine.
- It requires just a single vaccine
- Approved under EUA in early March.

J&J COVID-19 VACCINE

- Vaccine Candidate 72% Effective in the US and 66% Effective Overall at Preventing Moderate to Severe COVID-19, 28 Days after Vaccination
- 85% Effective Overall in Preventing Severe Disease and Demonstrated Complete Protection Against COVID-19 related Hospitalization and Death as of Day 28
 - 43,783 participants accruing 468 symptomatic cases of COVID-19.
- Protection Against Severe Disease Across Geographies, Ages, and Multiple Virus Variants, including the SARS-CoV-2 Variant from South Africa
- Single-shot compatible with standard vaccine distribution channels provides important tool in pandemic setting



**WILL I STILL NEED TO
WEAR A MASK?**

YES !

Similar to other vaccines, a large number of people in the community will need to get vaccinated before transmission drops enough to stop the use of masks

- It is safe to get the COVID-19 vaccine even if you have had COVID-19
- Even if you have had COVID-19, it is important to get vaccinated. It could give you longer or better protection against the disease
- Even if you have positive antibodies, you should get the COVID-19 vaccine

SPECIAL
CIRCUMSTANCE

WHAT IF I
ALREADY HAD
COVID-19?

WHERE SHOULD I LOOK TO GET ACCURATE INFORMATION?

It is important to get information from reliable sources (CDC is the best one-stop shop for scientifically accurate information)

Here are some link to information:

- CDC: <https://www.cdc.gov/vaccines/hcp/covid-conversations/answering-questions.html>
- CDC: About COVID-19 vaccines: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/about-vaccines.html>
- CDC: Provider Resources for COVID-19 Vaccine Conversations with Patients and Answering Patients' Questions: <https://www.cdc.gov/vaccines/hcp/covid-conversations/>

WHERE CAN I GET INFORMATION ON VACCINATION SITES

- Arizona Department of Public Health has a vaccine registration site that everyone must go through for individual vaccine appointments
 - <https://podvaccine.azdhs.gov/>
- Maricopa County has an application process if you would like to host a vaccine event for your staff, residents, or the community.
 - <https://survey123.arcgis.com/share/e87787a39823458aad3093f9adc99818>
- Here is a link to all open vaccine sites in the county:
 - <https://www.maricopa.gov/5659/COVID-19-Vaccine-Locations>

VACCINES ARE
THE ONLY WAY
TO CONTROL
THE COVID-19
PANDEMIC

- Everyone has to do their part and get vaccinated to get back to a normal life



COVID TESTING IN MARICOPA COUNTY

- Most reliable source for COVID testing information is:
 - The Maricopa County Department of Public Health site provides information on testing clinics, what to do while waiting for results and other COVID testing resources.
 - <https://www.maricopa.gov/5588/COVID-19-Testing>
 - Arizona Department of Public Health also provides COVID testing information, 300 sites around the state offering rapid and PCR tests:
 - <https://azdhs.gov/preparedness/epidemiology-disease-control/infectious-disease-epidemiology/index.php#novel-coronavirus-testing>

QUESTIONS?

