COVID-19 Vaccine Information

This presentation was last updated on March 11, 2021
INTRODUCTION

What is the best response during a pandemic?

Follow all guidance from the CDC and the California Department of Public Health

- Wear a mask and keep physical distance between yourself and others to reduce your chance of being exposed to the virus or spreading it.

Get a vaccine if one is available

- Vaccines help your body prepare to fight the virus if you are exposed.
- Vaccines protect you as well as people in your community who cannot be vaccinated.
How does the body fight an infection?

The immune system protects the body against infections and illness.

- The immune system recognizes germs, bacteria and viruses. It responds by creating proteins called antibodies.
- Antibodies fight infection, help a person recover and prevent a person from becoming ill in the future.

Vaccines work by stimulating the immune system to make antibodies.

- They help our body develop immunity to a virus without getting an illness.
- They train the immune system to recognize and fight viruses or bacteria.
How were the COVID-19 vaccines shown to be safe?

The Food and Drug Administration (FDA) sets rules for the three phases of clinical trials to ensure the safety of the volunteers. Researchers test vaccines with adults first.

**PHASE 1**
- 20-100 healthy volunteers
- Is this vaccine safe?
- Does this vaccine seem to work?
- Are there any serious side effects?
- How is the size of the dose related to side effects?

**PHASE 2**
- Several hundred volunteers
- What are the most common short-term side effects?
- How are the volunteers' immune systems responding to the vaccine?

**PHASE 3**
- Hundreds or thousands of volunteers
- How do people who get the vaccine and people who do not get the vaccine compare?
- Is the vaccine safe?
- Is the vaccine effective?
- What are the most common side effects?

FDA licenses the vaccine only if:
- It's safe and effective
- Benefits outweigh risks
INTRODUCTION

Was the vaccine made too quickly?

No.

Scientists all around the world worked together to develop safe and effective vaccines to stop the COVID-19 pandemic as quickly as possible.

Each vaccine was developed and tested following the same rules as other medications and vaccines that have been approved for use, such as antibiotics and the flu shot.

PHOTO: ISTOCKPHOTO
The vaccine was created by expert scientists. It was not created by the government.

The U.S. government provided money and support to assist in the production and distribution of the vaccine.
COVID-19 Vaccine Information

General Questions
There are **three** COVID-19 vaccines authorized for emergency use by the FDA:

- Pfizer-BioNTech (mRNA)
- Moderna (mRNA)
- Johnson & Johnson (Viral Vector)

Emergency use authorization (EUA) is a way for the FDA to make vaccines and treatments available to the public under emergency circumstances, such as a pandemic.

The vaccines were studied at different time points during the pandemic and in different settings.

All three are effective at preventing symptomatic COVID-19 infection.

There are other vaccines in various stages of clinical development.
How is the vaccine administered?

Both the **Pfizer** and **Moderna** vaccines are given in two shots.

The **Johnson & Johnson** vaccine is given in one shot.

**Pfizer** doses are given 21 days apart.

**Moderna** doses are given 28 days apart.

The vaccine is given as an injection into the muscle.

If receiving Pfizer or Moderna, you must receive the same vaccine for both doses.
GENERAL QUESTIONS

How effective are the COVID-19 vaccines?

According to data collected and released by the FDA …

- **95%**
  - The Pfizer and the Moderna vaccines are about 95% effective at preventing symptomatic COVID-19 illness about 2 weeks after the second dose is received.

- **85%**
  - The Johnson & Johnson vaccine is about 85% effective at preventing severe COVID-19 illness 28 days after vaccination.

- **100%**
  - All authorized vaccines were 100% effective at preventing hospitalizations and deaths related to COVID-19 in clinical trials.
SARS-CoV-2 is the virus that causes COVID-19.

The Pfizer and Moderna vaccines contain genetic instructions that tell your body to produce a “spike” protein. Your immune system recognizes this protein as a threat and produces antibodies.

These antibodies later block the SARS-CoV-2 virus from entering your cells.

If the virus cannot enter your cells, it cannot reproduce and make you sick.
No.

Messenger RNA (mRNA) vaccine technology, used in the Pfizer and Moderna vaccines, is new, but not untested or unknown.

While this is the first time mRNA has been used in a vaccine, the structure and technology has been studied for years.

Advancements in biology and chemistry have improved mRNA vaccine safety and efficacy, and it is now thought to be less dangerous when compared to other types of vaccines.
What are the ingredients in the mRNA vaccines?

The ingredients include:

**Messenger RNA (mRNA)**
- The active ingredient in the Pfizer and Moderna vaccines that causes your body to produce antibodies

**Lipids**
- These create the fatty shell that protects the mRNA as it is stored, administered and delivered to cells

**Salts, sugar and other compounds**
- To maintain the proper pH balance and stabilize the vaccine

**The vaccines:**
- **Do not** contain the virus that causes COVID-19.
- **Cannot** give you COVID-19.
- **Do not** affect your DNA.
  - mRNA never enters the nucleus of the cell, where DNA is located.
  - The cell breaks down and gets rid of the mRNA soon after it is finished using the instructions.
- **Do not** contain eggs, preservatives or mercury.

**UCLA Health**
What are the ingredients in the mRNA vaccines?

<table>
<thead>
<tr>
<th>Description</th>
<th>Pfizer-BioNTech COVID-19 vaccine</th>
<th>Moderna COVID-19 vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>mRNA</td>
<td>Nucleoside-modified mRNA encoding the viral spike (S) glycoprotein of SARS-CoV-2</td>
<td>Nucleoside-modified mRNA encoding the viral spike (S) glycoprotein of SARS-CoV-2</td>
</tr>
<tr>
<td>Lipids</td>
<td>2([(polyethylene glycol)-2000]-N,N-ditetradecylacetamide</td>
<td>Polyethylene glycol (PEG) 2000 dimyristoyl glycerol (DMG)</td>
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<tr>
<td></td>
<td>1,2-distearoyl-sn-glycero-3-phosphocholine</td>
<td>1,2-distearoyl-sn-glycero-3-phosphocholine</td>
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<tr>
<td></td>
<td>Cholesterol</td>
<td>Cholesterol</td>
</tr>
<tr>
<td></td>
<td>(4-hydroxybutyl)azanediyl)bis(hexane-6,1-diyl)bis(2-hexyldecanoate)</td>
<td>SM-102 (Proprietary to Moderna)</td>
</tr>
<tr>
<td>Salts, sugars, buffers</td>
<td>Potassium chloride</td>
<td>Tromethamine</td>
</tr>
<tr>
<td></td>
<td>Monobasic potassium phosphate</td>
<td>Tromethamine hydrochloride</td>
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<td></td>
<td>Sodium chloride</td>
<td>Acetic acid</td>
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<td></td>
<td>Dibasic sodium phosphate dihydrate</td>
<td>Sodium acetate</td>
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<td></td>
<td>Sucrose</td>
<td>Sucrose</td>
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</tbody>
</table>

Ingredients for all COVID-19 vaccines are listed on the [FDA website](https://www.fda.gov).
GENERAL QUESTIONS

How does the viral vector vaccine work? (Johnson & Johnson)

- The Johnson & Johnson vaccine uses what’s known as “viral vector” technology. This means a harmless (inactivated) cold virus is engineered to contain the gene for the SARS-CoV-2 “spike” protein. Once someone gets this shot, their body mounts an immune response and produces antibodies that prevent them from a future severe COVID-19 infection. The vaccine cannot give you COVID-19 or the common cold.

- The Johnson & Johnson vaccine is delivered as a single dose.

- The Johnson & Johnson vaccine does not need to be transported frozen. This means it is easier to store and distribute.

(Johnson & Johnson)
What are the Johnson & Johnson vaccine’s ingredients?

The active ingredient in the Johnson & Johnson vaccine is a harmless (inactivated) cold virus, engineered to contain the gene for the SARS-CoV-2 “spike” protein. The other ingredients maintain the pH and stabilize the solution.

Full ingredient list:
- Recombinant, replication-incompetent adenovirus type 26, expressing the SARS-CoV-2 spike protein
- Citric acid monohydrate
- Trisodium citrate dihydrate
- Ethanol
- 2-hydroxypropyl-β-cyclodextrin (HBCD)
- Polysorbate-80
- Sodium chloride
GENERAL QUESTIONS

Do the COVID-19 vaccines contain aborted fetal cells?

No.

The COVID-19 vaccines do not contain aborted fetal cells. However, Johnson & Johnson did use fetal cell lines — not fetal tissue — when developing and producing their vaccine, while Pfizer and Moderna used fetal cell lines to test their vaccines and make sure that they work.

Fetal cell lines are grown in a laboratory and were started with cells from elective abortions that occurred several decades ago in the 1970s-80s. They are now thousands of generations removed from the original fetal tissue.

We understand this is a sensitive issue, and specifically important to religious communities. However, the California Catholic Conference noted in an official statement that they support the use of all COVID-19 vaccines to prevent the continued spread of COVID-19, and the Vatican issued a statement saying it is morally acceptable to receive COVID-19 vaccines that have used cell lines from aborted fetuses in their research and production process.
Is the COVID-19 vaccine safe?

The FDA has confidently said the Pfizer, Moderna and Johnson & Johnson vaccines are safe, and has authorized them for emergency use.

People who receive the vaccine will be monitored to check for safety, and participants in the original clinical trials will be followed for two years.

NURSE NICOLE CHANG, ONE OF THE FIRST UCLA HEALTH EMPLOYEES TO GET THE COVID-19 VACCINE. (DEC. 16, 2020)
What are potential side effects to receiving vaccine?

In ongoing clinical trials, the most common side effects included:

- Pain at the injection site
- Fatigue
- Headache
- Muscle pain
- Chills
- Joint pain
- Mild fever

Mild symptoms are common when the body produces antibodies, and are not a sign of infection.

Side effects are generally mild and went away after a day or two. They were more pronounced after the second dose.

As with any vaccine, there is a **low chance** of allergic reaction. If a patient has a history of severe allergic reaction to other vaccines, they should talk to their doctor.
We don’t know yet.

Clinical studies have so far followed patients for only a few months after vaccination.

Patients in the studies will eventually be followed for two years.

After that, we should know more about how long immunity lasts.
Can I catch and transmit COVID-19 after I am vaccinated?

We don’t know.

Clinical trials tested the vaccine’s ability to prevent symptomatic COVID-19 disease in vaccinated individuals.

The trials did not test if vaccinated individuals could still become infected with COVID-19 or transmit the illness.

Based on experience with other vaccines and early data, it is likely that if people who get the vaccine become sick with COVID-19, they would have few or no symptoms and would not pass the virus to others. Researchers will continue to study this.
COVID-19 Vaccine Information

Who Should Get the Vaccine?
WHO SHOULD GET THE VACCINE?

Should I get the COVID-19 vaccine?

For most people, the answer is yes!

You should not get the vaccine if you have had a severe allergic reaction to:
- any ingredient in the vaccine, or
- a previous dose of the vaccine

Talk to your doctor before you receive the vaccine if any of the following apply:
- You have severe allergies
- You have a bleeding disorder
- You are on blood thinners
- You are pregnant or plan to become pregnant
- You are breastfeeding
- You are immuno-compromised
- You are on a medication that affects your immune system
- You have a fever

UCLA Health
Should I still be vaccinated if I already had COVID-19?

Yes.

- You should still get the COVID-19 vaccine if you have already recovered.
- There is not currently enough information available to say if or for how long after infection someone is protected from getting COVID-19 again.
- You cannot receive the vaccine if you have an active COVID-19 infection.
Is it better to get vaccinated or contract the virus naturally?

It is better to get vaccinated.

The vaccine won’t make you sick. It will help your body produce antibodies to keep SARS-CoV-2, the virus that causes COVID-19, from later infecting your cells.

Getting the actual COVID-19 virus can make you very sick and, in some cases, can be deadly.

Getting the virus naturally can also cause both direct damage to your cells and inflammation, which can harm your entire body.
Why get the vaccine if most don’t die from COVID-19?

- As of March 2021, COVID-19 has killed more than 510,000 people in the United States.
- This is significantly more deaths than other viruses that we routinely vaccinate against, such as influenza, which according to the CDC typically causes 24,000 to 62,000 deaths in the U.S. per year.
- In addition to the high death toll, COVID-19 can also cause other long-term complications. The COVID-19 vaccine will save lives and decrease the likelihood of long term COVID-related problems involving the brain, heart and lungs.

U.S. average annual deaths

- 510,000 COVID-19
- 24,000-62,000 Influenza
There are several variants of the SARS-CoV-2 virus that scientists are actively tracking, including:

- **B.1.1.7** first reported in the U.K.
- **P.1** first reported in Brazil.
- **B.1.351** first reported in South Africa.

- Based on new research, the Pfizer and Moderna vaccines appear to work as intended against the B.1.1.7 variant.
- All authorized vaccines, while less effective against the B.1.351 and P.1 variants, still offer significant protection.
WHO SHOULD GET THE VACCINE?

When are vaccines expected to be offered to children?

We don’t know.

- The Pfizer vaccine is authorized for people 16 and older.
- The Moderna and Johnson & Johnson vaccines are authorized for people 18 and older.
- Before a vaccine can be offered to children under 16, clinical trials must be run in different age groups to test its safety and effectiveness.
- Pfizer and Moderna are currently running clinical trials in kids 12 and older that will be completed in 2021.
- No clinical trials have been announced for kids under 12.
COVID-19 Vaccine Information

Distribution
Who will receive the COVID-19 vaccination first?

The State of California requires that the vaccine be made available first to those facing the greatest risk. This includes health care workers, nursing facility residents, people 65 and older, and now essential workers in education and childcare, emergency services and food and agriculture.

UCLA Health is following LA County Public Health’s direction and guidance to ensure an equitable and orderly vaccination scheduling process.
What is UCLA Health’s vaccine distribution plan?

The state, LA County and the CDC have recommended a tiered approach to determine the order in which the vaccine will be distributed. The vaccine supply is being prioritized as follows:

1. Health care workers and long-term care facility staff and residents
2. People age 65 and older
3. Workers in essential industries
4. People age 16-64 with high-risk medical conditions
5. General public (those not in groups listed)
Can I choose which vaccine I will receive?

No.

While UCLA Health will receive several vaccines produced by different manufacturers, we do not foresee that patients will be able to choose.

For vaccines with a two dose series, it is important that you receive the same vaccine for both doses, as vaccines cannot be "mixed."

That means if you receive the Pfizer vaccine for your first dose, you must receive the Pfizer vaccine for your second dose. The same is true for the Moderna vaccine.
Will the COVID-19 vaccine be mandatory?

**No.**

Just like getting the flu shot is not mandatory, getting the COVID-19 vaccine will not be mandatory either.

However, it is highly encouraged as a way to protect yourself and those around you.

PHOTO: U.S. SECRETARY OF DEFENSE
COVID-19 Vaccine Information

Life After Vaccination
Will I need to wear a mask after vaccination?

Yes.

The CDC still recommends wearing a well-fitted mask in public and when visiting with unvaccinated people that are at a high risk for severe COVID-19 disease. This includes unvaccinated household members of people that are high risk for severe COVID-19 disease. Fully vaccinated people should also avoid medium and large sized in-person gatherings.

Fully vaccinated people can:

- Visit with other fully vaccinated people indoors without wearing masks
- Visit with unvaccinated people from a single household who are at low risk for severe COVID-19 disease without wearing masks
- Refrain from quarantine and testing following a known exposure, if asymptomatic
LIFE AFTER VACCINATION

Will I need to quarantine after vaccination?

According to CDC guidance from Feb. 10, fully vaccinated people who meet criteria will no longer be required to quarantine following an exposure to someone with COVID-19.

Criteria include:

- Are fully vaccinated, meaning it’s been ≥2 weeks since they received their second vaccine dose in a 2-dose series — or — since they received a single-dose vaccine
- Are within 3 months following receipt of the last dose in the series
- Have remained asymptomatic since the current COVID-19 exposure

There may be additional considerations for patients and residents in health care settings.
Should I wear two masks instead of just one?

One or two masks?

- CDC has updated recommendations on this topic, noting that not all masks provide the same protection.
- One option is to wear one quality mask with at least two layers of fabric worn properly.
- Another option is to double mask with a disposable mask worn underneath a cloth mask, paying attention to proper fit and coverage.
- Proper fit means it should completely cover your nose and mouth and fit snugly against the sides of your face and under your chin, without gaps.

What type of mask is best?

- N95 respirators should only be used in health care settings.
- Wear a double layer cotton mask, a surgical mask or a mask with two layers and a filter.
- You should never wear a mask with an exhalation valve, vents or holes, which would allow virus particles to escape.
- Face shields are not a substitute for a mask.
COVID-19 Vaccine Information

Additional Slides
ADDRESSING CONCERNS

Can the vaccine cause autoimmune problems?

No.

There is no evidence that the COVID-19 vaccine will cause autoimmune problems.

The immune response caused by the vaccine only targets the spike protein of the virus, not the other cells in your body.
Can the COVID-19 vaccine cause infertility or sterility?

No.

There’s absolutely no evidence that the vaccine interferes with fertility or pregnancy.

The vaccine expresses one protein of the virus, which causes your immune system to respond against that specific protein. This is something our body is used to — it happens every day.

PHOTO: NEPHRON
Can the vaccine impact mammography results?

Yes.

Any type of vaccination can impact mammography results. Here's what you need to know:

- When you get the COVID-19 vaccine or any other vaccination, the normal immune response may cause you to develop swollen lymph nodes under the arm in which you received the injection.
- Swollen lymph nodes under the arm can be seen on a mammogram and can be a rare sign of breast cancer.
- Swollen lymph nodes from a vaccination are normal and likely to normalize after about four weeks.

Based on this information, the current recommendation from the Society of Breast Imaging is that anyone due for a screening mammogram either schedule it before their COVID-19 vaccination or at least four weeks after vaccination. If that isn't possible, just let your make sure to let your doctor know when you received your COVID-19 vaccination so they can note that information on your medical record.
Can I receive the vaccine if I have a weak immune system?

In most cases, yes.

People with medical problems can and should receive the vaccine if they do not have a severe allergy to the ingredients in the vaccine.

This includes people living with HIV and autoimmune disorders, such as Lupus, as well as people with other medical problems that lead to a weakened immune system.

If you have questions, please talk to your doctor.

PHOTO: GETTY IMAGES
Can I get the vaccine if I’m pregnant or plan to conceive?

Yes.

However, you should talk to your OB or primary doctor first to discuss the risks and benefits of vaccination. While there is no reason to worry that getting the COVID-19 vaccine will affect your pregnancy, there will likely be some warning about getting the vaccine while pregnant, since pregnant women were not included in clinical trials.

While the vaccine is not a concern, pregnant women are at increased risk for serious disease if they get COVID-19.
Can I get the COVID-19 vaccine if I am breastfeeding?

Yes.

The COVID-19 vaccine should be offered to people who are lactating/breastfeeding.

Although lactating individuals were not part of the vaccine clinical trials, based on experience with other vaccines, the benefits of vaccine outweigh any safety concerns.

You do not have to delay or stop breastfeeding if you receive the COVID-19 vaccine.

PHOTO: WENDY WEI FOR PEXELS
Can I wait to be vaccinated?

It is important to get the vaccine when it is offered to you. People at greatest risk will be given the vaccine first.

If you are concerned about potential long-term side effects, please note that all previous vaccine studies show that serious vaccine-related side effects normally occur within 6-8 weeks (2 months) after a vaccine shot.

Approximately 100,000 people received the vaccine more than 6 months ago and there have been no serious side effects.

Getting the vaccine will keep you and people around you safe. Everyone who can get the vaccine should get it so that we can end the pandemic through herd immunity.

100,000
Approximate number of people who received the vaccine in Summer 2020