Are the COVID-19 Vaccines Safe?

Part 1: Did researchers, manufacturers and the US government ensure that the vaccines are safe for people?

### How did the companies make the vaccines so quickly?

- **Advancement in vaccine technology**:
    - Researchers have been testing and improving RNA vaccine technology in the past decades. RNA vaccines can be designed and manufactured much more quickly compared to older types of vaccines.
- **Funding**:
    - Governments and other organizations provided large amounts of money so that companies could develop COVID-19 vaccines quickly.
- **International cooperation**:
    - Scientists shared data and worked together. Many participants were recruited via social media for vaccine testing, and clinical trial staff did high quality work.

What are the components of the vaccines?

- **mRNA** (the instruction for the body to generate an immune response)
- ingredients to help with delivery and stability:
    - fat molecules
    - polyethylene glycol
    - sugar
    - salt
    - water

> The COVID vaccines from Pfizer and Moderna:
> - do **not** contain blood products, fetal materials, or antibiotics.
> - do **not** contain the live virus or any part of the virus.
> - do **not** not contain pork, gelatin or any other animal products
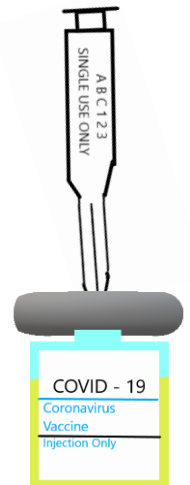
Have the vaccines been tested properly?

- **Yes!** Tens of thousands of adults took part in the testing of the vaccines.
- Like other medications, the vaccines were tested in 3 main phases to determine how safe and effective they are. The testing standards are set by the FDA.

How did the FDA make sure that the vaccines are safe before approving them?

- For a vaccine to receive an EUA (Emergency Use Authorization):
    - The manufacturer must submit clinical trial results to show that the vaccine is consistently safe and effective.
    - The FDA must be able to conclude that the benefits of the vaccine outweigh its risks.
- Safety monitoring continues after an EUA is granted.
- For more info, visit the FDA's page: Emergency Use Authorization for Vaccines Explained.

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Part 2: Can I receive the vaccine safely?

The Pfizer-BioNTech and Moderna vaccines both give excellent protection against the COVID-19 disease. **Neither of these vaccines contain any live virus, so they are safe for people with immune deficiencies**, just as they are for the general population.

Personal characteristic	Can I receive the vaccine?	
Children	Pfizer vaccine: approved for people 16 years of age and older. Moderna vaccine: approved for people 18 years of age and older	🟡 (yellow)
22q11.2 deletion syndrome 22q11.2 duplication syndrome Immune deficiency	**Yes**! The Pfizer and Moderna vaccines are **NOT** live vaccines so they are safe for people with immune deficiencies. Vaccination generates both an antibody response and a T-cell response against the virus. People with antibody deficiencies will still get some benefit through the T-cell response.	🟢 (green)
Had COVID-19 already	**Yes**! Even though you had COVID-19, your immunity may not be very strong. The CDC recommends that people have had COVID-19 to be vaccinated.	🟢 (green)
Allergy to food, latex, or environmental factors that are NOT in the vaccine	**Yes**! As long as you are not allergic to polyethylene glycol (PEG) or polysorbate, you can get the vaccine. After you receive the vaccine, stay for 30 minutes instead of just 15 for observation.	🟢 (green)
Pregnant or breastfeeding	**Yes!** You can get the vaccine based on advice by the CDC, the American College of Obstetricians and Gynecologists and the Society for Maternal–Fetal Medicine.	🟢 (green)
Allergy to polyethylene glycol (PEG) or polysorbate	**Check with your allergist for instructions.**	🔴 (red)

Remember: **You will NOT catch COVID-19 from receiving the COVID-19 vaccine.**
If you have any concerns, please check with your doctor.

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Part 3: About the use of painkillers

Don't take Acetamenophen (e.g. Tylenol) or Ibuprofen (e.g. Advil / Aleve) before receiving the vaccine. These medications may decrease your body's antibody response to the vaccines, making them less effective in building your immunity against COVID-19. You can take these medications <u>after</u> you receive the vaccine. If you are pregnant, it is recommended that you use Acetamenophen (e.g. Tylenol) rather than Ibuprofen (e.g. Advil / Aleve).

Part 4: After getting the vaccine

What are the side effects of the vaccines?

- Common side effects include **a headache, sore arm, fever, and fatigue** (being very tired).
- As with all vaccines, there is a very tiny chance that an allergic reaction can occur. If you are concerned, please check with your doctor before getting the vaccine.

When should I get the second dose of the vaccine?

- If your first dose is a Pfizer vaccine, get a second dose of Pfizer vaccine in **21 days**.
- If your first dose is a Moderna vaccine, get a second dose of Moderna vaccine in **28 days**.
- **Don't get a different brand vaccine for your second dose**.

Do I still have to wear a mask and stay 6 feet away from others?

- **Yes!** Both the Pfizer and the Moderna vaccines are about 95% effective in preventing a person from getting sick with COVID-19. However, if you are one of the remaining people for whom the vaccine is not effective, you could still get sick.
- So far, the vaccines are proven to help prevent a person from getting sick. However, we don't know whether the vaccines can prevent people from spreading the virus to others.

Part 5: Reliable information on COVID-19 vaccines

Even though the Internet contains a lot of information, not everything is accurate.
Here are some websites that provide reliable information on COVID-19 vaccines.

U.S. Food & Drug Administration (FDA) - COVID-19 Vaccines

Centers for Disease Control and Prevention (CDC) - Ensuring the Safety of COVID-19 Vaccines in the US

The Johns Hopkins University (USA) - Is the COVID-19 Vaccine Safe & COVID-19 Vaccines: Myth Versus Fact

The New England Journal of Medicine - COVID-19 Vaccines – Frequently Asked Questions

Government of Canada - Vaccine safety, concerns and possible side effects

European Medicines Agency - COVID-19 vaccines: key facts

If you are concerned about receiving COVID-19 vaccines or have any questions about your health, please check with your healthcare provider directly.