Frequently asked questions about **COVID-19 vaccines**

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Vaccines are considered the most promising approach for curbing the coronavirus disease 2019 (COVID-19) pandemic, preventing severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.

What types of COVID-19 vaccines are being developed?

There are many COVID-19 vaccines being developed. They work in slightly different ways. However, all authorised COVID-19 vaccines have been found to be effective in preventing serious illness and death from COVID-19. They include:

Vector vaccines

Vector vaccines contain a weakened version of a different virus, called an adenovirus. This virus does not cause illness, but acts as a "vector," or a way to deliver instructions to cells in the body. These instructions tell the body to make the protein generally found on the virus that causes COVID-19. The immune system then makes antibodies that recognise and attack the virus in the future. Vector vaccines for COVID-19 have been made by Johnson & Johnson and AstraZeneca/Oxford University.

Administration of the Johnson & Johnson vaccine was temporarily stopped in several countries, including South Africa. This happened because a very small number of people developed blood clots after receiving the vaccine. However, this possible side effect appears to be extremely rare, and the vaccine is now available again. The risk of getting ill with COVID-19 is greater than the risk of severe side effects from the vaccine.

mRNA vaccines

mRNA refers to genetic material from the virus that causes COVID-19. This genetic material is used in the vaccine. It gives the body instructions to make a specific piece of protein that is normally found on the virus. In response, the immune system then makes antibodies that can recognise and attack the virus in the future. The mRNA vaccines for COVID-19 are made by the Pfizer and Moderna companies. They both require two doses given a few weeks apart. Both doses for the vaccine are needed for vaccination to be most effective.

Other vaccines under investigation include inactivated virus vaccines and recombinant protein vaccines.

COVID-19 vaccines do **not** contain the infectious SARS-CoV-2 virus. So, they cannot cause COVID-19. They also do not affect a person's DNA.

What are the benefits of COVID-19 vaccination?

Vaccination protects people from getting seriously ill and dying from COVID-19. The COVID-19 vaccines provide protection against the disease, as a result of developing an immune response to the SARS-CoV-2 virus. Developing immunity through vaccination means there is a reduced risk of developing the illness and its consequences. Having the vaccine may also protect other people, as vaccinated people are less likely to infect someone else. It is particularly important to protect people at increased risk for severe illness from COVID-19, such as healthcare workers, the elderly and people with other medical conditions.

Do the vaccines protect against SARS-CoV-2 variants?

The COVID-19 vaccines are expected to provide at least some protection against new virus variants and are effective at preventing serious illness and death. This is because COVID-19 vaccines create a broad immune response, and any virus changes or mutations should not make the vaccines completely ineffective.

Are COVID-19 vaccines safe?

COVID-19 vaccines go through a comprehensive, multi-stage testing process, including large clinical trials designed to identify any common side effects or other safety concerns.

Once a clinical trial shows that the vaccine is effective and well-tolerated, a series of independent reviews of the safety and efficacy evidence is required, including regulatory review and approval by local health authorities.

An external panel of experts from the World Health Organization (WHO) also analyses the results from clinical trials and other information. The panel then recommends whether and how the vaccine should be used.

Does the COVID-19 vaccine cause side effects?

Minor side effects following vaccination are common. They can include:

- Pain, redness or swelling at the injection site
- Fever
- Fatigue
- Headache
- Chills
- Nausea

These side effects should not last longer than a day or two. Having these minor side effects does not mean that the person is sick, just that the immune system is responding to the vaccine.

Which is the best vaccine?

All the approved vaccines have shown to be effective in clinical trials. Since the amount of vaccine available is limited, it is best to have whatever vaccine is offered.

Do people who have had COVID-19 need a vaccine?

Experts recommend having the vaccine even if the person has had COVID-19 in the past. People who had COVID-19 do develop antibodies that provide some protection against re-infection. However, it is not known exactly how long antibodies last after a person recovers. Local experts recommend waiting 90 days after being infected with COVID-19 before being vaccinated.

How long does it take for the vaccine to take effect?

Even though vaccines work very well to prevent COVID-19, it is still possible to get the infection. It will also take some time to learn exactly how long immunity lasts after a person is vaccinated.

For the first 14 days after having the vaccine, the person does not have significant levels of protection, then it increases gradually. For a single-dose vaccine, immunity will generally occur two weeks after vaccination. For two-dose vaccines, both doses are needed to achieve the highest level of immunity possible.

Even after having the vaccine, it is important to continue social distancing, wearing a face mask, and washing the hands often.

Can the COVID-19 vaccine be administered with other vaccines such as the influenza vaccine?

Other vaccines, such as the influenza vaccine, should not be administered within at least 14 days of the COVID-19 vaccine. There are no data regarding safety and efficacy when COVID-19 vaccines are administered with other vaccines.

What about post-vaccination testing to check immunity?

There is no role for post-vaccination testing for COVID-19 antibodies. Most of the currently available antibody tests do not measure vaccine antibody response.

When will the pandemic end?

The pandemic will be controlled when countries have "herd immunity." This is when enough people are immune to the disease and it can no longer spread easily. To get to herd immunity, many people need to get vaccinated. It has been estimated that South Africa needs to vaccinate 67% of the population to achieve herd immunity.

Even after people have been vaccinated and to help keep others safe, it is recommended to continue infection protection measures, such as social distancing, wearing a mask in the community, covering coughs and sneezes and cleaning the hands frequently.

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