

## Safety

### COVID-19 vaccines were developed in a very short timeframe. How can we be sure that they are safe?

The process to develop and approve COVID-19 vaccines was accelerated while maintaining the highest standards without compromising any steps. Manufacturers and researchers benefited from the experience acquired over decades with developing vaccines for other diseases, including Ebola. This made it possible to develop COVID-19 vaccines and fully evaluate them in clinical trials much faster than before. Unprecedented investments made by governments and the private sector allowed the vaccines to be developed and produced in less than a year after the pandemic was announced.

### How exactly do vaccines work?

A vaccine helps a person build up immunity against a germ to protect themselves against an infectious disease. It works by injecting something that looks very much like a germ that stimulates the immune system to produce an immune response. This is what protects a person from a future infection if they ever come across the real infection. That is the way that it works for most diseases and the way that it works for COVID-19. When we are vaccinated, we are not just protecting ourselves, but also those around us. Each person vaccinated is one person that the virus cannot use to spread within the population.

### How does the approval process for COVID-19 vaccines work?

Like all vaccines, COVID-19 vaccines go through a rigorous, multi-stage testing process, including large (phase III) trials that involve tens of thousands of people.

An external panel of experts convened by WHO analyzes the results from clinical trials, along with evidence on the disease, age groups affected, risk factors for disease, and other information. The panel recommends whether and how the vaccines should be used.

Once a clinical trial indicates that a COVID-19 vaccine is safe and effective, a series of independent reviews of the efficacy and safety evidence is required. Part of this process also involves a review of all the safety evidence by the Global Advisory Committee on Vaccine Safety.

## Do the COVID-19 vaccines cause side effects?

COVID-19 vaccines are safe and effective against severe disease and death from COVID-19. In the first days of taking the vaccine, you may experience some mild side effects, which are signs that your body is building protection.

Reported side effects include fever, fatigue, headache, muscle pain, chills, diarrhoea, and pain at the injection site. The chances of any of these side effects following vaccination differ according to the specific COVID-19 vaccine.

More serious side effects to vaccines that can have long-lasting consequences are possible but extremely rare. Vaccines are continually monitored to detect rare adverse events.

## How do we know if the mRNA vaccines that are based on new technology are safe?

The COVID-19 mRNA vaccine technology has been rigorously assessed for safety. Clinical trials have indicated that mRNA vaccines provide a long-lasting immune response. mRNA vaccine technology has been studied for several decades, including in the contexts of Zika, rabies, and influenza vaccines. mRNA vaccines are not live virus vaccines and do not interfere with human DNA.

## Can someone vaccinated against COVID-19 still get infected?

COVID-19 vaccines are not optimally effective in preventing asymptomatic and mild infection. Yet getting vaccinated is of great benefit to you and others as these vaccines produce protection against the disease by helping you develop an immune response to COVID-19. This immunity helps you fight the virus if exposed and has proven to be highly effective in protecting you from hospitalization and death due to COVID-19.

Getting vaccinated may also protect people around you, because if you are protected from getting infected and the consequent disease, you are less likely to infect someone else. This is particularly important to protect people at increased risk for severe illness from COVID-19, such as healthcare providers, older or elderly adults, and people with other medical conditions.

## Do I need the vaccine if I have already had COVID-19?

Natural immunity that is developed after COVID-19 infection will wane over time. That's why you will still need to get your vaccine shot, including booster, dose when offered. Research has not yet shown how long you are protected from getting COVID-19 again after you recover from COVID-19.

## Should everyone get vaccinated against COVID-19?

Yes, everyone should get vaccinated when their turn comes. Because vaccines prevent severe COVID-19 infection and death. Each country should adopt a policy to complete vaccination of their population in a step-wise approach based on the demography from higher to lower priority age groups. Medical professionals can best advise individuals on whether they should receive a COVID-19 vaccine. However, based on available evidence, people with the following health conditions should generally be excluded from COVID-19 vaccination to avoid possible adverse effects:

If you have a history of severe allergic reactions to any ingredients of the COVID-19 vaccine.

If you are currently sick or experiencing symptoms of COVID-19, though you can get vaccinated once your primary symptoms have resolved.

## As the vaccines start to be used, how quickly will we be able to resume normal life?

The vaccines are a new tool that we now have to make an impact on the pandemic. However, they will not solve everything immediately or put an end to the pandemic. As the pandemic continues, we still need to take all necessary measures to prevent the virus from spreading and causing more deaths. We need to follow through and to adopt a “do-it-all” approach, we need to continue to practise physical distancing, staying home if needed, and following all the prevention measures that we know have been proven to work and keep us safe. At the same time, we need to advocate and increase the number of people receiving the vaccine to increase coverage.

### There are several different kinds of vaccines that are now being used by countries for their populations. In general, what are the differences between these vaccines?

The vaccines for COVID-19 differ in the way they are made. All these vaccines protect against COVID-19, but they work differently. Some use a whole killed virus; some just parts of the virus; some use other harmless viruses as transport, like a trojan horse, and some are pieces of genetic material that give instructions to make bits and pieces of the virus to trigger immunity. Vaccines also differ in how they are stored. Some need to be stored at very, very cold temperatures. These kinds of temperatures cannot be organized everywhere, so that has consequences in terms of where we can use them and where we cannot.

### The speed of vaccine development has been extraordinary. How can we ensure that given such a short timeframe for development, the vaccines are not just effective, but also safe?

It has been truly extraordinary, and we are also benefiting from the experience that we have acquired with other diseases, including Ebola. This has made it possible to develop these vaccines and fully evaluate them in clinical trials much faster than before. Why is that? Essentially for one reason. We were conducting these trials in the middle of a pandemic, with many people infected. This gave us a lot of opportunities to see if the vaccine works or not and the opportunity to conduct that assessment faster. Another important reason is the investment made by governments and the private sector to develop and produce these vaccines.

## Children

### Can children and adolescents get vaccinated against COVID-19?

While symptomatic COVID-19 is rare among children, it does occasionally occur, and children with comorbidities are at significant risk of severe COVID-19. Hence, WHO recommends that adolescents and children with comorbidities receive a WHO-approved pediatric vaccine, but

only after higher priority groups — including healthy adults — are completely vaccinated with primary series and a booster dose. Currently, only the pediatric formulation of the Comirnaty Pfizer/BioNTech vaccine is approved by WHO for use among children aged five, while the Moderna and Pfizer vaccines are licensed for use in children 12 years of age or older.

### Can COVID-19 vaccines protect my children from COVID-19 entirely?

Vaccination is just one of the things you can do to keep children safe from COVID-19. You can reduce the risk of infection by ensuring they keep a safe distance from others, avoiding crowds, keeping indoor places well ventilated by opening windows and doors, getting children over six to wear a well-fitted mask covering their mouth and nose, and making sure they clean their hands regularly.

### Can my children go back to school if not yet vaccinated?

It is important that children resume education, even if national vaccine programmes have not been extended to them yet. The social and developmental benefits of attending school outweigh the risks associated with COVID-19 for children. Schools must ensure that their reliable mitigation measures are in place, as mentioned above, to reduce the risk of COVID-19.

## Boosters

### Do I need a booster dose of COVID-19 vaccines?

Emerging data consistently show a decline in vaccine effectiveness against SARS-CoV2 infection with time, more significantly in older adults. Accordingly, WHO recommends that a booster dose should be offered 4-6 months after completion of the primary series.

WHO advises that countries with low rates of primary series coverage should first achieve high primary series coverage among high priority groups before offering vaccine doses to lower risk groups. Also, countries with moderate-to-high primary series coverage rates in higher priority groups should prioritise offering boosters to these groups before offering vaccines to lower priority groups.

### What is WHO’s position on countries offering four doses of COVID-19 vaccines?

There is limited evidence to support the need for, and performance of, a fourth dose of COVID-19 vaccines. If and as new evidence becomes available, WHO will review its recommendations.

The current priority is to achieve full protection of the highest priority groups in all countries with primary series and a booster dose and advance to lower priority use groups as supply advances. Dose after dose in a small number of countries will not end the pandemic.

### What vaccines can be given as a booster?

WHO recommends that individuals follow the advice of their governments regarding whether or not to get a booster dose of any approved COVID-19 vaccine.

## Menstrual cycles

### Is it safe to get vaccinated if I am menstruating?

If you are menstruating on the day of your vaccination appointment, you can go ahead and get vaccinated. Menstruation is not a medical reason against receiving the COVID-19 vaccine. If you have concerns or questions about your periods, do not hesitate to speak with your healthcare provider.

### Could getting vaccinated against COVID-19 disrupt my menstrual cycle?

There have been some reports of people experiencing disruption to their menstrual cycle after being vaccinated against COVID-19. Several large studies researching the impact of vaccines on menstrual cycles are ongoing but there is no sufficient data yet on whether there is a connection between the vaccines and this disruption. WHO will continue to monitor any new evidence. If you have concerns or questions about your periods, do not hesitate to speak with a healthcare provider.

## Vaccines and variants

### Can COVID-19 vaccines give rise to variants?

The emergence of new variants is a result of the ongoing transmission of the virus, not the vaccines. COVID-19 vaccines approved by WHO have proved effective in reducing the likelihood of transmission of all current variants of concern, including the Omicron variant.

Vaccination is a key intervention strategy to reduce the transmission of COVID-19 alongside other public health measures which include maintaining physical social distance, practicing good hand hygiene, wearing well-fitting masks and avoiding crowds when possible.

### If the current vaccines are becoming less effective at protecting us against new variants of concern, what is the benefit of getting vaccinated?

Vaccination improves your chances of preventing a severe form of COVID-19, which could result in you being hospitalised or even dying. COVID-19 is not a mild disease; even if you are fit and healthy there is no guarantee that you will have a mild infection. Currently used vaccines are proven highly effective at preventing severe outcome from all variants.

## Infertility and pregnancy

### Can COVID-19 vaccines cause infertility?

People who are trying to conceive can receive COVID-19 vaccines safely. A growing body of evidence has not identified any adverse effects of COVID-19 vaccines on the usual fertility parameters (egg or sperm production or function) or the ability to become pregnant.

### Can I get vaccinated against COVID-19 if I am pregnant?

Yes, you can get vaccinated if you are pregnant. During pregnancy, you are at higher risk of serious illness caused by COVID-19. You are also at higher risk of delivering your baby prematurely if you contract COVID-19. WHO recommends that pregnant women are of high priority for COVID-19 vaccination. You can also talk to your healthcare provider to make an informed decision about vaccination.

### Should I get vaccinated against COVID-19 if I am breastfeeding?

If you are breastfeeding, you should get vaccinated against COVID-19 as soon as it is your turn. None of the current COVID-19 vaccines have a live virus in them. This means that there is no risk of you transmitting COVID-19 to your baby through your breastmilk from the vaccine. In fact, the antibodies you get after vaccination may go through your breastmilk and help to protect your baby.

## Vaccine permissibility in Islam

### Is COVID-19 vaccine permissible in Islam?

The International Islamic Fiqh Academy has concluded that vaccination against COVID-19 is permissible according to Sharia law. None of the six vaccines with WHO Emergency Use Listing contains animal products or components of animal origin in the final vaccine product.

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