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Coronavirus (COVID-19): vaccines

Several vaccines are now available to protect people against COVID-19. Vaccination programs have now happened in many countries including the US.

This leaflet explains what the vaccines do, how they are given, who can have them, and how safe they are.

We are learning more about these vaccines all the time. So some of the advice about them might change as we find out more.

What is a COVID-19 vaccine?

The COVID-19 virus spread around the world in 2020 and is still infecting people. Millions of people have become sick and many have died.

Scientists in several countries have now developed vaccines to help protect against the virus. For example, in the US, there are currently several vaccines, including:

- the **Pfizer/BioNTech** vaccine
- the **Moderna**vaccine, and
- the **Novavax** vaccine

These vaccines offer protection against the virus that causes COVID-19. But this doesn't mean that they will always work for everyone - there are no perfect vaccines. But the COVID-19 vaccines will work for most people.

This means that people who become infected after having the vaccine are much less likely to become severely sick than if they don't have the vaccine.

The vaccines do the same job, but they are slightly different in the way they work and in the protection they provide.

The type of vaccine that your healthcare professional offers you might depend on what is available locally and what is most suitable for you.

Since the first vaccines were developed, new types have become available. For example, you might have a **bivalent** vaccine. This type of vaccine targets two different strains of COVID-19 to give better protection. The Pfizer and Moderna vaccines are bivalent vaccines.

Vaccines that target the currently circulating strain of COVID-19 are in development and will be available soon.

How is the vaccine given?

You get the vaccine as a shot into the muscle of the upper arm. If you haven't had a COVID-19 vaccine before, you may need two doses, several weeks apart (usually 8 weeks), depending on which brand you have. Your healthcare professional will let you know when the second one is due.

If you have had a COVID-19 vaccine before, you will just receive **one dose**, known as a booster dose.

If you have an allergic reaction after the vaccine, you might need treatment. This will usually be an injection of **epinephrine**.

You might be familiar with this type of treatment if you know someone who has allergies and who has to carry an injector, sometimes called an 'EpiPen', which they can use to treat themselves if they have an allergic reaction.

Who can have the vaccine?

Most **adults** can have the vaccine, although the rules vary a little between the vaccines. And many countries have now approved some vaccines for children. Speak with your doctor about whether you or your child are eligible to receive a vaccine.

Pregnant and breastfeeding women

In the US, pregnant and breastfeeding women are encouraged to be vaccinated. Pregnant women are at risk of serious health problems if infected with COVID-19, including preterm birth. Vaccination should reduce these risks.

But the decision to be vaccinated is your personal choice. If you're not happy to have the vaccine, your decision should be respected.

Teenagers and children

At first, the vaccine was not recommended for children. This was because:

- children are far less likely than adults to have severe illness, and
- health authorities wanted to be sure that the vaccine was safe enough to give to children. Now that we know more, many countries are now vaccinating children in various age groups, but may focus on those with a higher clinical risk of severe illness.

When will I get the vaccine?

Most adults should now have been offered their first doses of the vaccine.

For many people, it has been quite a long time since they had their vaccine. And we know that the protection from the vaccines reduces over time.

Because of this, booster shots are now recommended for eligible people, and many people will have had their booster. These shots top up or "boost" the protection from the vaccines, so that, if infected, you are far less likely to become severely ill.

Is there anyone who shouldn't have the vaccine?

The vaccine is not currently recommended for some groups of people. This doesn't mean for certain that it's not safe for them. It just means that we don't know enough about the new vaccines yet to be absolutely sure.

People with certain allergies

A small number of people have had allergic reactions after having a COVID-19 vaccine.

You should:

- not have a particular vaccine if you are allergic to any of its ingredients
- tell the health professionals giving you the vaccine about any allergies you have, before you have the shot. He or she will check if these are a problem.

Food allergies should not be a problem. If you have a food allergy you should be able to have the vaccine.

If you have a serious allergic reaction to the first dose of the vaccine, you should not have the second dose. You may be offered an alternative vaccine.

People with weakened immune systems

Some medical conditions and some medications can cause the body's immune system to become weaker. This means that infections can be more serious.

The COVID-19 vaccines don't contain any live organisms, so they are thought to be safe for people with weakened immune systems (doctors call this being **immunocompromised**).

But you should mention to the health professional giving you the vaccine if you have a weakened immune system for any reason, before you have the shot. People with weakened immune systems might require extra doses of the vaccine.

How safe is the vaccine?

The COVID-19 vaccinations are considered safe. But, like any vaccine and any medication, they can cause side effects in some people. These side effects are usually mild, but some people feel pretty miserable for a few days. The most common side effects are:

- pain, redness, swelling, or bruising in your arm where you have the shot. This can last for a few days
- tiredness
- headache
- fever

- nausea, and
- pain in a joint or muscles.

If you get any side effects they will usually be mild and won't last more than a few days.

There are some simple things you can do to help with some of the side effects.

- If you have pain in your arm near where you had the shot, keep using and moving the arm so that it doesn't stiffen up. You could also try an over-the-counter pain reliever, such as acetaminophen or ibuprofen.
- If you have fever, drink plenty of fluids, and dress lightly to keep cool.

More serious side effects can rarely occur in some people, and might include heart problems, nerve problems, and blood clots. If you have severe side effects, such as chest pain, or if you have any problems that don't go away soon after you are vaccinated, tell your doctor or another healthcare professional right away.

After you have the vaccine

Having the vaccine might not stop you from being infected with the virus. But it can reduce your chance of becoming seriously ill with COVID-19.

But the vaccines take time to work. So you might not be protected for up to two weeks after your first dose of the vaccine. The best protection comes after you have had both doses.

Also, vaccinated people who are infected can still pass the virus onto others. So it's important to keep doing the things that help keep you and others safe. This might mean :

- wearing a face covering if unwell
- washing your hands carefully and often, and
- practicing social distancing if necessary.

For more information on COVID-19, including prevention and treatment, see our leaflet *COVID-19 (coronavirus)*.

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