COVID-19 Vaccines

Introduction

There is good evidence that COVID-19 vaccines will prevent the severe complications of COVID-19. Getting vaccinated may also protect those around you.

This reference summary explains COVID-19 vaccines and their side effects. Common myths and misconceptions about the COVID-19 vaccines are also explored.

How Vaccines Work

When germs enter the body, the immune system learns how to build antibodies that fight off the germs. Also, some special immunity cells learn to recognize the germs and kill them off.

Sometimes the germs multiply faster than the body can fight them off. When this happens, they overwhelm the body, and the person gets sick.

Once the antibodies catch up, they overpower the germs, and the person recovers. If the immune system can't catch up and adapt intelligently, complications can happen. In very severe cases, this can result in death.

Vaccines teach the body to make antibodies ahead of time before a living germ ever enters the body. They do this by exposing the immune system to a non-living part of that germ or a weakened version of the germ. This prepares the immune system to fight off that specific germ if it attacks later. This makes the person immune to the disease caused by that type of germ.

COVID-19 vaccines do not contain live viruses. Traditional vaccines contain weakened or dead viruses that tell the immune system to make antibodies against the real virus. These vaccines do not make a person sick. The virus is either dead or too weak to cause illness.
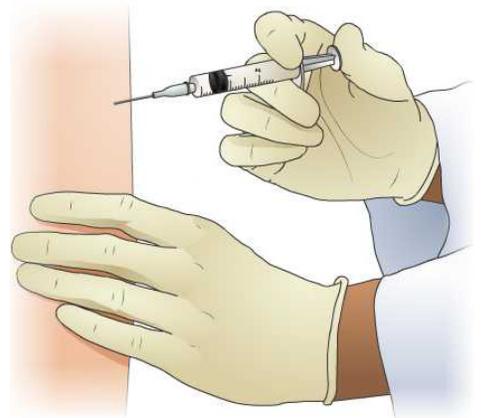
A new vaccine technology doesn't use weakened or dead viruses. Instead, these vaccines use mRNA. The mRNA tells the body to build a key protein, which the COVID-19 virus uses to attack human cells. The body then starts building antibodies to block this protein. The mRNA vaccine cannot make the person sick. It prevents future illness.

Considerations

When you have COVID-19, you may be contagious. This means that you may pass the disease to others around you. But if you have been vaccinated, COVID-19 germs that enter the body are less likely to make you and those around you sick. When most people in a community get vaccinated, it also helps protect those who cannot receive the vaccine.

Remember that the body needs a little time after getting vaccinated to build up antibodies against COVID-19. If the real virus enters your nose or mouth too soon after vaccination, there might not be enough antibodies prepared, and you might get sick.

Even if your body has prepared enough antibodies, viruses in your mouth and nose could spread to other people without your knowledge when you don't feel sick. This can happen when you talk, sing, sneeze, cough or even breathe. Judging by our experience with other vaccines, it is likely that this will not happen. But until the studies prove it for COVID-19, it is possible that you might make people around you sick after you are immune.

Until everyone has had the opportunity to receive the vaccine and become immune, continue practicing good habits to protect others. Good habits like proper hand washing, social distancing, avoiding crowds and mask use can help to keep everyone safe. These practices work for COVID-19 and all other contagious diseases.

COVID-19 vaccines may be given in 2 doses, at separate visits. If you receive the vaccine, it is very important to come back for the second dose. Without the second dose, your protection is not complete. This may make the vaccine less effective for you and others.

Getting vaccinated against COVID-19 helps in many ways:
1. It helps to prevent you from getting COVID-19.
2. Although vaccines don't work 100% of the time, if you get sick, the illness will likely be mild.
3. The vaccine may help protect you from infecting family members, friends and coworkers.
4. The more people who get vaccinated, the sooner we can put an end to the pandemic.

Side Effects

Like any vaccine, the COVID-19 vaccines can have side effects. Some people have side effects, and others don't. If you develop side effects, it doesn't mean you have COVID-19. It often means that the vaccine is working.

Possible side effects of the vaccine are often mild. Typical side effects include:
- Chills.
- Headache.
- Swelling, pain or redness near the injection site.
- Tiredness.

In very rare cases, a person could develop a serious allergic reaction to the vaccine. Be sure to tell your health care provider about any allergic reactions you have had to food, medications or other vaccines before getting the COVID vaccine. If you are allergic to any ingredient in the COVID-19 vaccine, your health care provider may advise you not to get vaccinated.

If you develop an allergic reaction to the first dose of the vaccine, you should not receive a second dose. Seek medical care if you develop an allergic reaction after the first dose.

Signs of serious allergic reactions, called anaphylaxis, include:
- Trouble breathing.
- Feeling dizzy, weak or like your heart is racing.
- A swollen face or throat.
- Itchy red bumps on your skin, called hives.

The benefit of being vaccinated against COVID-19 far exceeds the risk of immediate side effects, according to current studies. Talk to your health care provider before getting the vaccine to make sure it is safe for you. They can answer any questions you have about the vaccine and its potential side effects.

Myths and Misconceptions

Myth: The COVID vaccines are not safe.

The Food and Drug Administration (FDA) required rigorous testing in clinical trials to ensure the safety of the vaccines before approving them for public use. While we don't know whether COVID vaccines could have side effects years from now, vaccines in general have been used safely for more than 200 years.

Myth: The mRNA vaccine will change my DNA.

RNA and DNA are totally different molecules; they cannot join to become one molecule. Your genes, or DNA, are kept in an enclosed bag-like space called the nucleus inside each of your cells. The mRNA vaccine never enters the nucleus, so it can't change your DNA.

Myth: The vaccines use microchips or nanotransducers to track where you go and control your mind.

The COVID vaccines do not use microchips or nanotransducers. This type of technology may have applications for future use in healthcare, but it has not been used in the COVID-19 vaccines. The vaccines cannot track your location, affect your thinking or gather data about you.

Myth: There's no reason to get the vaccine if you are young and healthy.

Younger, healthier adults are less likely to die from COVID-19. But they can still suffer long-term complications, such as heart damage or fatigue that remains for weeks or months. Plus, studies have shown that younger people who have milder cases of COVID-19 build less lasting immunity against it. People have been reinfected, and often the reinfection is severe.

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Myth: The COVID-19 vaccines have severe side effects.

The side effects are often mild and last only a few days. These side effects are often an indication that your immune system is responding to the vaccine. The beauty of this new mRNA vaccine technology is that the mRNA gets totally recycled once it has done its job. This is what your cells do all the time with mRNA they make for other purposes.

Summary

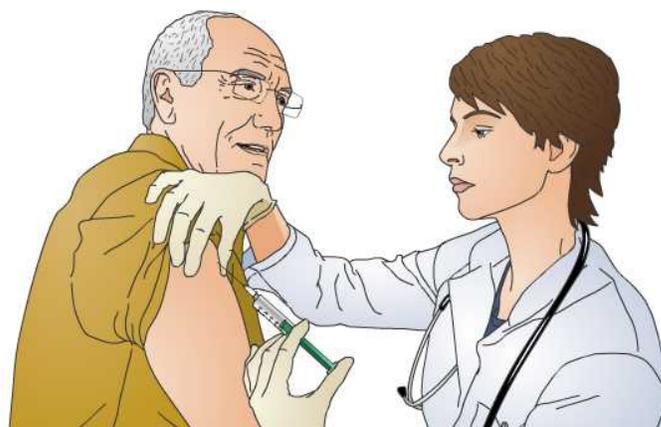Getting vaccinated against COVID-19 helps in many ways:
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