



## **What are viruses?**

Viruses are one of the simplest forms of life. They are nothing more than strings of DNA or RNA covered with proteins and fats. DNA and RNA are like tape that carry instructions on how life should work. There are a large number of types of viruses and some of them cause illnesses in people.

## **Why should I get vaccinated?**

Vaccinations protect against diseases that can spread from one person to another. When you get vaccinated, it is not only protecting you, but it is also protecting those around you.

## **How can one person getting vaccinated protect others around them?**

When you get vaccinated, you are breaking a path a virus can have to move through society. When most of the community gets a vaccine, most of the pathways a virus can take get blocked. This protects those who may be unable to get vaccinated due to health reasons. This only works when 90 to 95% of the population gets the vaccine.

## **How do vaccines work?**

Vaccines work by telling your body what is dangerous. Think of it as a “Wanted” poster for your body’s immune system. Your immune system protects your body against threats that could make you sick. It can remember and recognize threats it has seen before. The vaccine provides your immune system with proteins or other such material that shows it what a threat looks like. Then your immune system is able to set up defences against threats faster.

## **What is in a vaccine?**



A vaccine may contain any one of the following:

- Proteins extracted from bacteria or viruses
- DNA or RNA extracted from bacteria or viruses
- Killed or inactivated bacteria or viruses

Your immune system looks at these components and learns what to look for, like a "wanted" poster.

### **Are vaccines safe?**

Vaccines are safe. Scientists and doctors develop vaccines and test them well before people get them. The vaccine must meet many health safety standards.

### **How is a vaccine selected to be used publicly?**

Many teams of scientists from many different countries may be developing vaccines. Scientists must test vaccines safety and protective effect. They go through 4 phases of testing.

*Pre-clinical trials:*



The vaccines are first tested on animals. for basic safety profile and to see if they cause the development of immunity against the disease. Only if it is proven that the vaccine does not cause harm, does it even move into the sets of testing, else it is back to the drawing board.

*Phase 1 clinical trials:*

Next, the vaccine is given to a group of 50-100 healthy people. This is done to look for side-effects caused in people. This gives scientists and doctors a general idea of the types of side-effects that may be seen and their severity. Only if it is deemed safe at this stage, does it proceed to the next one.

*Phase 2 clinical trials:*

At this stage, scientists are looking at how much protection the vaccine provides. A few hundred healthy adult volunteers who are at a high risk of contracting the disease are given the vaccine. They are followed up over time and are compared to a similar group who did not receive the vaccine. Based upon how many people end up being infected among those vaccinated compared to those who weren't, the efficacy of the vaccine is determined. The vaccine moves on only if the efficacy is shown to be good.

*Phase 3 clinical trials:*

Phase 3 trials are like phase 2 trials except, they are done with tens of thousands of people. This gives even more information about how safe the vaccines are and how well they work. Doctors investigate it anytime there is a side effect and check if it is because of the vaccine or other causes. Authorities that regulate drugs and vaccines look at all the data from all the testing. People only get the vaccines if they meet all the safety and efficacy standards.



### **Is the covid vaccine safe even though it was approved much earlier?**

The COVID-19 vaccine is safe even though it was approved quickly. There are many versions of COVID, so there is already lots of data about different strains of COVID. Scientists all over the world work together and share information about their findings. Scientists were able to research the vaccine faster because more supplies were available. New technologies have helped scientists make vaccines much faster than in the past.

### **What will I feel after a vaccine?**

You may have some symptoms after getting a vaccination. These might make you feel sick for a few days, but it is just the vaccine working inside of your body to protect you. You may have sore arms, headaches, mild fevers, body aches, and tiredness after getting the COVID vaccine. These symptoms are temporary and not dangerous.

### **How long will symptoms last after getting a vaccine?**

The symptoms you may feel after a vaccine usually last around 2 to 4 days, but can rarely last upto a week. Vaccine symptoms are not dangerous and are temporary.