COVID-19 Vaccines Work

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What You Need to Know

- Research shows that all COVID-19 vaccines authorized for use in the United States provide protection against COVID-19.
- CDC and other experts are continuing to assess how COVID-19 vaccines work in real-world conditions. These types of studies are called “vaccine effectiveness” studies.

What We Know about How Well COVID-19 Vaccines Are Working

COVID-19 vaccination reduces the risk of COVID-19 and its potentially severe complications. All COVID-19 vaccines currently authorized for use in the United States helped protect adults and children 5 years and older against COVID-19, including severe illness, in clinical trial settings. So far, studies that have looked at how COVID-19 vaccines work in real-world conditions (vaccine effectiveness studies) have shown that these vaccines are working well.

Most vaccine effectiveness data now available are related to mRNA vaccines (Pfizer-BioNTech and Moderna) because these vaccines have been available longer. CDC and other experts continue to study the effectiveness of both mRNA vaccines and the Johnson & Johnson’s Janssen (J&J/Janssen) COVID-19 vaccine in real-world conditions.

So Far, Research on mRNA COVID-19 Vaccine Effectiveness in Real-World Conditions Is Reassuring

Vaccine effectiveness studies provide a growing body of evidence that mRNA COVID-19 vaccines offer similar protection in real-world conditions as they have in clinical trial settings, reducing the risk of COVID-19, including severe illness by 90 percent or more among people who are fully vaccinated.

In addition to providing protection against COVID-19, there is increasing evidence that COVID-19 vaccines also provide protection against COVID-19 infections without symptoms (asymptomatic infections). COVID-19 vaccination can reduce the spread of disease overall, helping protect people around you.

Research Suggests That for mRNA COVID-19 Vaccines, Two Doses Are Better than One

Real-world data from vaccine effectiveness studies have shown that receiving only one dose of these mRNA COVID-19 vaccines provides some protection against COVID-19, at least in the short term. These studies have also shown that for mRNA vaccines, two doses provide better protection than one dose. To receive the most benefit from vaccination, people should get the recommended number of doses of vaccine.

COVID-19 Vaccines Help Protect against Severe Illness with COVID-19 Vaccine Breakthrough Cases

While COVID-19 vaccines are working well, some people who are fully vaccinated against COVID-19 will still get sick, because no vaccines are 100% effective. These are called vaccine breakthrough cases. However, data suggest that vaccination may make symptoms less severe in people who are vaccinated but still get COVID-19. mRNA COVID-19 vaccines have been shown to provide protection against severe illness and hospitalization among people of all ages eligible to receive them. This includes people 65 years and older who are at higher risk of severe outcomes from COVID-19.

It typically takes about 2 weeks for the body to build protection after vaccination. You are fully vaccinated two weeks after your second dose of Pfizer -BioNTech or Moderna vaccine and two weeks after your single dose of Johnson & Johnson's J&J/Janssen vaccine. It is possible you could still get COVID-19 soon after vaccination because your body has not had enough time to build protection. Keep taking precautions until you are fully vaccinated.

People who have moderately or severely compromised immune systems are especially vulnerable to COVID-19, and may not build the same level of immunity to 2-dose vaccine series compared to people who are not immunocompromised. CDC recommends that people with moderately or severely compromised immune systems receive an additional dose of mRNA COVID-19 vaccine at least 28 days after a second dose of Pfizer-BioNTech COVID-19 vaccine or Moderna COVID-19 vaccine. This additional dose is intended to improve immunocompromised people's response to their initial vaccine series. They should continue to take all precautions recommended for unvaccinated people, including wearing a well-fitted mask, until advised otherwise by their healthcare provider.

CDC Recommends

- Everyone 5 years and older get a COVID-19 vaccine as soon as you can.
- To get the most protection, get all recommended doses of a COVID-19 vaccine.

Vaccines and Variants

- FDA-authorized COVID-19 vaccines help protect against COVID-19 and known variants.
- These vaccines are effective at keeping adults and children 5 years and older from getting COVID-19, getting very sick, and dying.
- To maximize protection from the virus that causes COVID-19 and prevent possibly spreading it to others, you should wear a mask indoors in public if you are in an area of substantial or high transmission even if you are fully vaccinated.
- We don't know how effective the vaccines will be against new variants that may arise.

More details: Learn more about COVID-19 variants.

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