COVID-19 Health Basics

Does COVID-19 lead to immunity?

After exposure, the immune system naturally produces antibodies against SARS-CoV-2, usually with a couple of weeks. Individuals with compromised immunity—such as people receiving cancer treatment, people with advanced or untreated HIV and organ transplant recipients—may have weaker immune responses.

But antibody levels don't tell the whole story. Antibodies in the blood normally wane after a few months, and people who had COVID can get it again. But long-lived memory B cells remain on guard and ready to resume antibody production if they encounter the virus again. T cells, a different type of immune cell, also play a role in maintaining protection against severe illness for a longer duration. Click here to learn more about B cells and T cells.

Vaccines mimic this natural process, showing the immune system pieces of the virus to train it in advance of infection. Studies show that COVID vaccines stimulate both antibody responses and longer-lasting memory B-cell and T-cell responses. Natural immunity and vaccine-induced immunity do not reliably prevent infection, transmission or mild illness, but they do protect against severe COVID, hospitalization and death.

Population immunity (sometimes called herd immunity) occurs when enough people have some degree of immunity, due to either past infection or vaccination, that the virus cannot spread as easily and people who do become infected are less likely to become seriously ill or die.

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