

# For fully vaccinated, immunity against SARS-CoV-2 wanes over time

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In all age groups, immunity against the delta variant of severe acute

respiratory syndrome coronavirus 2 (SARS-CoV-2) decreased a few months after receipt of the second dose of the BNT162b2 vaccine, according to a study published online Oct. 27 in the *New England Journal of Medicine*.

Yair Goldberg, Ph.D., from the Technion-Israel Institute of Technology in Haifa, and colleagues used data on confirmed infection and severe disease obtained from a [national database](#) for the period of July 11 to 31, 2021, for all Israeli residents fully vaccinated with two doses of BNT162b2 vaccine before June 2021.

The researchers found that among persons aged 60 years or older, the rate of infection was higher for those fully vaccinated in January 2021 (when they were first eligible) versus those fully vaccinated in March 2021 (rate ratio, 1.6; 95 percent confidence interval [CI], 1.3 to 2.0). Among those aged 40 to 59 years, the corresponding rate ratio was 1.7 (95 percent CI, 1.4 to 2.1) among those fully vaccinated in February (when they were first eligible) versus April 2021. Among those aged 16 to 39 years, the rate ratio was 1.6 (95 percent CI, 1.3 to 2.0) for those fully vaccinated in March (when they were first eligible) versus May 2021. For severe disease, the rate ratio was 1.8 (95 percent CI, 1.1 to 2.9) for those aged 60 years and older and 2.2 (95 percent CI, 0.6 to 7.7) for those aged 40 to 59 years; the rate ratio could not be calculated for those aged 16 to 39 years due to small numbers.

"Understanding the extent of waning immunity is critical for policy making, especially regarding vaccination strategies," the authors write.

**More information:** Yair Goldberg et al, Waning Immunity after the BNT162b2 Vaccine in Israel, *New England Journal of Medicine* (2021). [DOI: 10.1056/NEJMoa2114228](https://doi.org/10.1056/NEJMoa2114228)



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