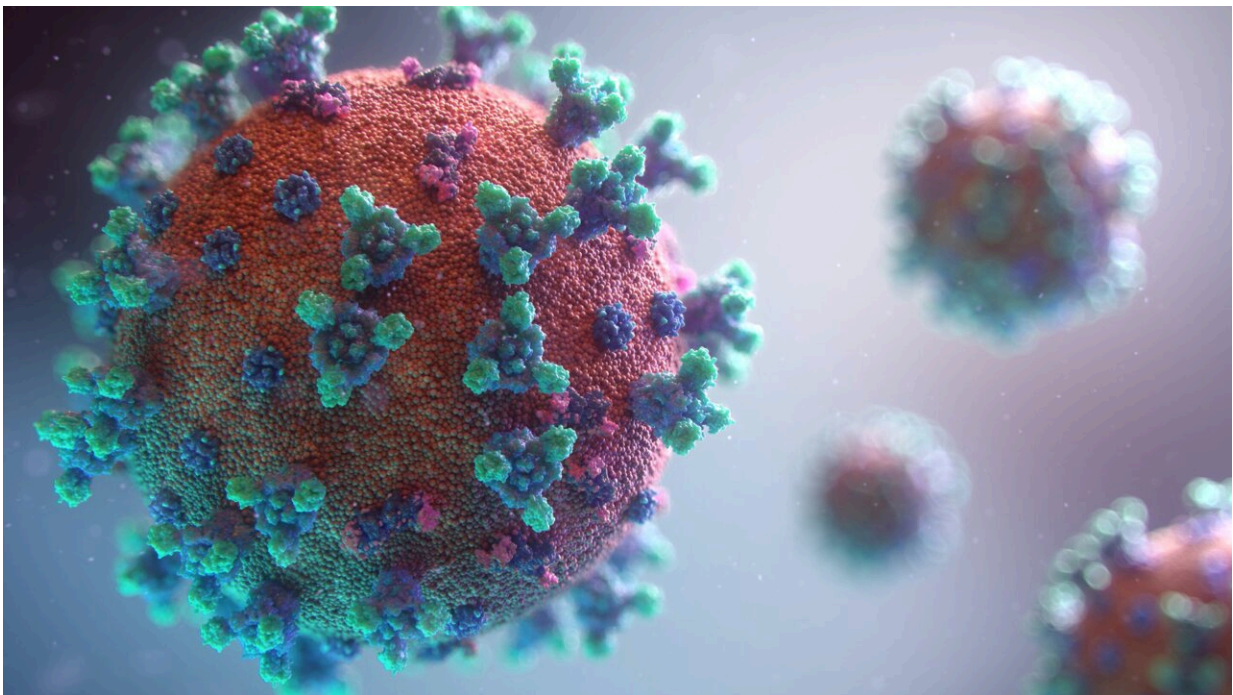


New study shows antibody responses typically equalize over time, but some patients could be left behind

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A new analysis by Cedars-Sinai investigators is furthering the scientific community's understanding of COVID-19 immunity by showing that similar levels of COVID-19 antibodies are reached over an extended period of time in different population groups.

Early data on COVID-19 vaccines had indicated disparities in [antibody responses](#) between certain demographic groups. In particular, the data showed higher antibody responses in females, younger individuals, and those who had experienced prior COVID-19 infections.

The new analysis, published today in the peer-reviewed *Journal of Internal Medicine*, extends prior findings by measuring [antibody levels](#) up to two years after initial vaccination in more than 4,000 patients and healthcare workers. This is the first study to look at data from such an extended period of time.

The findings indicate that multiple COVID-19-related exposures—comprised mainly of vaccine doses acquired over a longer follow-up period—appear to have resulted in an "equalization" of previously seen disparities in the magnitude of antibody response. Thus, most people had relatively similar antibody levels in the long run, providing they continued to get the recommended vaccines.

The analysis uncovered two notable exceptions—individuals with [autoimmune diseases](#) and solid organ [transplant patients](#). Those patients experienced lower long-term antibody levels than did individuals without these conditions.

"These findings stress the importance of remaining up to date on COVID-19 vaccination and boosters to sustain protective antibody levels," said Joseph E. Ebinger, MD, assistant professor of cardiology in the Smidt Heart Institute at Cedars-Sinai and co-first author of the study.

Ebinger said the analysis highlights the need for continued vigilance to minimize COVID-19 spread and protect the most vulnerable patients.

Another of the study's authors, Stanley C. Jordan, MD, director of the

Comprehensive Transplant Center's Human Leukocyte Antigen and Transplant Immunology Laboratory, agreed and stressed that, when it comes to COVID-19, antibodies are key markers of immune response, though antibodies don't tell the whole story.

"For these immunocompromised patients, T cells may play a larger role in painting the overall picture of COVID-19 immunity," said Jordan, professor of Medicine. "Providers should be monitoring these patients closely and provide them with more tailored immune-modulating therapies."

Ebinger said that as the world continues to learn to live with COVID-19, further research will be needed to understand what factors in addition to vaccination may enhance longer-lasting immunity.

More information: Joseph E. Ebinger et al, Long-term durability of antibody responses after SARS-CoV-2 vaccination and influencing factors, *Journal of Internal Medicine* (2023). [DOI: 10.1111/joim.13601](https://doi.org/10.1111/joim.13601)

Provided by Cedars-Sinai Medical Center

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