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Stronger immune response after Covid if vaccinated – study

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Getting vaccinated after recovering from Covid-19 provides a significantly higher immune response, an international study has found.

Researchers at Sweden's Karolinska Institutet tested blood samples taken over a period of seven months, to examine the antibody and T cell responses to the vaccine, and how long these last. A T cell is a type of white blood cell and an essential part of the immune system.

The research team compared 118 Covid-19-recovered, vaccinated samples, with 289 vaccinated samples without previous Covid infection (all healthcare workers, with the Pfizer/ BioNTech vaccine). A smaller group with (47) and without (60) confirmed prior Covid infection receiving the Oxford/AstraZeneca vaccine were also followed for three months.

The researchers found “striking and sustained enhanced” cellular immune (T cell) responses, anti-spike IgG responses (antibody) and neutralising antibodies in the Covid-recovered group, when tested against 10 preOmicron variants. They also found that a longer time between infection and vaccination enhanced neutralising antibody “potency and breadth”, the findings show, which were published in *Clinical & Translational Immunology* today.

The research pointed to substantial reductions in antibody titres (measurement of how much a sample can be diluted before antigens can no longer be detected) over the first three months after vaccination with AstraZeneca, and seven months with Pfizer. This was in line with “several” reports of waning vaccine efficacy over time, from countries including the UK and the US.

As the study was made up of healthcare workers, the cohort was largely women of “general working age”. Antibody trajectories may differ in older populations, and in settings without repeated exposures to the virus potentially boosting immune memory, they noted.

The researchers say the findings imply prior Covid infection should be taken into consideration when planning booster doses, and the design of future vaccination programmes.

The Ministry of Health recommends that even after people have the virus, they should still get any Covid-19 vaccinations they're eligible for – whether they've previously had no doses, or their first or second. This is because being infected with Covid-19 does not provide the same level of protection as vaccination, it says. Although your antibodies will be high after an infection, it's unknown how long this natural immunity will protect you from further infection. The ministry recommends people wait three months after testing positive before getting vaccinated.

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