

# Breakthrough SARS-CoV-2 infections ID'd in fully vaccinated

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(HealthDay)—Breakthrough severe acute respiratory syndrome

coronavirus 2 (SARS-CoV-2) infections among fully vaccinated health care workers are mainly mild or asymptomatic, according to a study published online July 28 in the *New England Journal of Medicine*.

Moriah Bergwerk, M.B., B.S., from the Ministry of Health in Israel, and colleagues identified SARS-CoV-2 breakthrough infections by performing an evaluation of symptomatic [health](#) care workers or those with known infection exposure. Patients with breakthrough infection with [antibody titers](#) obtained within a week prior to detection of SARS-CoV-2 were matched with four to five uninfected controls.

The researchers identified 39 SARS-CoV-2 breakthrough infections among 1,497 fully vaccinated health care workers. Neutralizing antibody titers were lower in case patients during the peri-infection period than in matched uninfected controls (case-to-control ratio, 0.361). There was an association noted for higher peri-infection neutralizing antibody titers with lower infectivity. Of the breakthrough cases, most were mild or asymptomatic, but persistent symptoms (more than six weeks) occurred in 19 percent. In 85 percent of samples tested, the B.1.1.7 (alpha) variant was found. Overall, 74 percent of case patients had a high viral load at some point during their [infection](#); only 17 of these patients (59 percent) had a positive result on concurrent antigen-detecting rapid diagnostic testing. There were no reports of secondary infections.

"Although the BNT162b2 vaccine is extremely effective, rare breakthrough infections carry an infectious potential and create a special challenge, since such infections are often asymptomatic and may pose a risk to vulnerable populations," the authors write.

**More information:** [Abstract/Full Text](#)

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