

# Messenger RNA COVID-19 vaccines greatly reduce risk of asymptomatic COVID-19 infection, spread to others

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Ten days after receiving a second dose of a messenger RNA, or mRNA, vaccine for COVID-19, patients without COVID-19 symptoms are far less likely to test positive and unknowingly spread COVID-19, compared to patients who have not been vaccinated for COVID-19. The Pfizer-BioNTech and Moderna messenger RNA vaccines for COVID-19 are authorized for emergency use in the U.S.

With two doses of a [messenger RNA COVID-19 vaccine](#), people with no symptoms showed an 80% lower adjusted risk of testing positive for COVID-19 after their last dose. Those are the findings of a Mayo Clinic study of vaccinated patients. These findings appear in the journal *Clinical Infectious Diseases*.

The authors say these findings underscore the efficacy of messenger RNA vaccines for COVID-19 to significantly limit the spread of COVID-19 by people with no symptoms who may unknowingly spread the infection to others.

The researchers retrospectively looked at a cohort of 39,000 patients who underwent pre-procedural molecular [screening tests](#) for COVID-19. More than 48,000 [screening tests](#) were performed, including 3,000 screening tests on patients who had received at least one dose of a messenger RNA COVID-19 vaccine. These screening tests were part of routine COVID-19 testing prior to treatments not related to COVID-19, such as surgeries and other procedures. Patients in the vaccinated group had received at least one dose of a messenger RNA COVID-19 vaccine.

"We found that those patients without symptoms receiving at least one dose of the first authorized mRNA COVID-19 vaccine, Pfizer-BioNTech, 10 days or more prior to screening were 72% less likely to [test](#) positive," says Aaron Tande, M.D., a Mayo Clinic infectious diseases specialist and co-first author of the paper. "Those receiving two doses were 73% less likely, compared to the unvaccinated group."

After adjusting for a range of factors, researchers found an 80% risk reduction of testing positive for COVID-19 among those with two doses of a messenger RNA COVID-19 vaccine.

The study was based on [patients](#) receiving screening tests between Dec. 17, 2020, and Feb. 8 at Mayo Clinic in Minnesota and Arizona and at Mayo Clinic Health System in Minnesota and Wisconsin.

**More information:** Aaron J Tande et al. Impact of the COVID-19 Vaccine on Asymptomatic Infection Among Patients Undergoing Pre-Procedural COVID-19 Molecular Screening, *Clinical Infectious Diseases* (2021). [DOI: 10.1093/cid/ciab229](https://doi.org/10.1093/cid/ciab229)

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