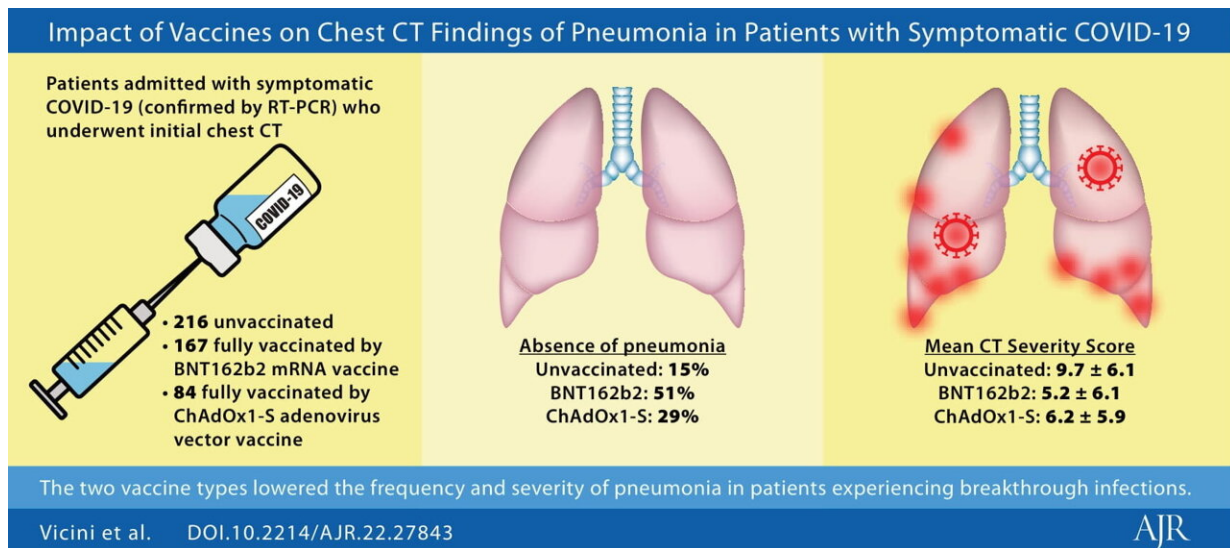


# COVID-19 vaccine impact on chest CT of pneumonia in symptomatic patients

June 1 2022



"The visual observation by radiologic imaging of the protective effect of vaccination on lung injury in patients with breakthrough infections provides additional evidence supporting the clinical benefit of vaccination," the authors of this AJR article reiterated. Credit: American Roentgen Ray Society (ARRS), *American Journal of Roentgenology (AJR)*

According to ARRS' *American Journal of Roentgenology (AJR)*, evaluating chest CT findings offers an additional approach for demonstrating the efficacy of different COVID-19 vaccines in reducing the impact of a COVID-19 diagnosis.

"Pneumonia frequency and severity were lower in patients with full vaccination by mRNA and adenovirus vector vaccines experiencing [breakthrough infections](#), in comparison with unvaccinated patients," wrote corresponding author Davide Bellini from the department of radiological sciences, [oncology](#), and anatomical pathology at "Sapienza" University of Rome.

Bellini and colleagues' single-center study included 467 patients (250 men, 217 women; mean age, 65 years) who underwent chest CT between December 15, 2021 and February 18, 2022 during hospitalization for symptomatic COVID-19, confirmed by reverse transcriptase-polymerase chain reaction assay. A total of 216 patients were unvaccinated, while 167 and 84 patients were fully vaccinated—having received a second dose at least 14 days before COVID-19 diagnosis—by the BNT162b2 mRNA vaccine or the ChAdOx1-S adenovirus vector vaccine, respectively.

The frequency of an absence of pneumonia was 15% in unvaccinated patients, versus 51% and 29% in patients fully vaccinated with BNT162b2 and ChAdOx1-S vaccines, respectively. Additionally, mean CT-SS was significantly higher in unvaccinated patients (9.7) than in patients fully vaccinated with BNT162b2 (5.2) or ChAdOx1-S (6.2) vaccines (both *p*

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