

# COVID-19 booster vaccination is safe and effective in immunosuppressed patients

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Patients under immunosuppressive therapy, who do not respond to primary COVID-19 vaccination, have an increased risk for severe COVID-19 disease courses. Until now, it was not clear whether those

patients at risk can benefit from an additional booster vaccination. Recent research findings from MedUni Vienna show that a third vaccination is safe and effective in those patients who were initially unable to produce antibodies after vaccination. The study was recently published in the acclaimed journal *Annals of the Rheumatic Diseases*.

Even after two vaccinations, [patients](#) receiving immunosuppressive treatment for [autoimmune diseases](#) often fail to develop an adequate immune response after vaccination to protect them against COVID-19. In particular patients treated with the B-cell depleting drug rituximab, e.g., for [rheumatoid arthritis](#), are considered to be particularly at risk for severe disease courses. Up until now, it had not been established whether these patients can benefit from a third vaccination and whether they should be vaccinated with the same vaccine or a different vaccination strategy.

## **Booster vaccination essential**

This question has now been answered by a recently published study conducted by an interdisciplinary research group from MedUni Vienna, coordinated by the Division of Rheumatology of the Department of Medicine III. First author Michael Bonelli and his study team were able to show that even patients under rituximab treatment who did not respond to primary vaccination are able to develop an immune response following a booster vaccination. "Since patients under certain immunosuppressive therapy are at high risk for an insufficient vaccination response and therefore a severe COVID-19 disease, an early booster vaccination should be considered" explains Michael Bonelli.

## **Included in vaccination recommendations**

"Our study is the first randomized, blinded trial to show the efficacy and

safety of a booster vaccination in patients without an [immune response](#) after two vaccinations because of an rituximab treatment. In addition, ongoing studies investigate the efficacy of a forth vaccination in our patients at risk." points out Daniel Aletaha, Head of the Division of Rheumatology at MedUni Vienna. The results obtained with the chosen study design are considered particularly reliable within the scientific community. Aletaha says that "accordingly, our study, which also compared the efficacy and safety of different vaccination strategies, has already been included in the World Health Organization (WHO) and Australian Technical Advisory Group on Immunization (ATAGI) COVID-19 vaccination recommendations for immunosuppressed patients."

**More information:** Michael Bonelli et al, Additional heterologous versus homologous booster vaccination in immunosuppressed patients without SARS-CoV-2 antibody seroconversion after primary mRNA vaccination: a randomised controlled trial, *Annals of the Rheumatic Diseases* (2022). [DOI: 10.1136/annrheumdis-2021-221558](https://doi.org/10.1136/annrheumdis-2021-221558)

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