

COVID-19 vaccination in solid organ transplant candidates and solid organ transplant recipients – an update (Bern, 04.11.2022)

Basic immunization against SARS-CoV-2

We encourage SARS-CoV-2 immunization of all patients awaiting solid organ transplantation and of all solid organ transplant recipients. In the post transplantation setting, the immune response to SARS-CoV-2 vaccines is reduced (1-5). Therefore, immunization before transplantation is the preferred option. We advise to follow the recommendations published by the Federal Office of Public Health and the «*Eidgenössischen Kommission für Impffragen, EKIF*» (https://www.bag.admin.ch/dam/bag/de/dokumente/mt/k-und-i/aktuelle-ausbrueche-pandemien/2019-nCoV/covid-19-impfempfehlung-herbst-2022.pdf.download.pdf/Covid-19-Impfempfehlung%20Herbst%202022_BAG_EKIF_DE.pdf) and to administer three doses of an mRNA vaccine with a minimal interval of 4 weeks between each dose. Monovalent mRNA vaccines (Comirnaty® 30 µg; Spikevax® 100 µg) are licensed for the basic immunization. Bivalent (Comirnaty® Bivalent Original/Omicron BA.1 30 µg; Spikevax® Bivalent Original/Omicron 100 µg) SARS-CoV-2 vaccines may be alternatively used (e.g. if monovalent vaccines are not available) at the discretion of the treating physician (off-label). Note, Spikevax® Bivalent Original/Omicron 100 µg means the double vaccine dose (for booster doses of non-immunocompromised individuals a dose of 50 µg is used). For patients in the age group from 12 to 29 years, Comirnaty® is preferred over Spikevax® due to possibly higher rates of myocarditis cases in this age category after immunization with Spikevax®. These recommendations are valid in the pre-transplant setting (patients on the waiting list) and the post-transplant setting. Vaccine intervals can be extended for logistic reasons (there is no maximal interval).

In the post-transplant setting, we recommend delaying vaccination at least one month from transplant surgery and 3 months from use of T-cell or B-cell depleting agents; primarily for reasons of expected reduced efficacy.

SARS-CoV-2 vaccine booster dose autumn 2022

In the light of the previous experience with SARS-CoV-2, it is likely that the risk of infection will rise during the autumn and winter season 2022/23. We therefore encourage all solid organ transplant recipients to get a SARS-CoV-2 vaccine booster dose in autumn 2022.

In line with the current recommendations of the Federal Office of Public Health (FOPH) (https://www.bag.admin.ch/dam/bag/de/dokumente/mt/k-und-i/aktuelle-ausbrueche-pandemien/2019-nCoV/covid-19-impfempfehlung-herbst-2022.pdf.download.pdf/Covid-19-Impfempfehlung%20Herbst%202022_BAG_EKIF_DE.pdf), we advise all solid organ transplant recipients and all candidates awaiting a solid organ transplantation, to get re-immunized with an mRNA based SARS-CoV-2 vaccine if the last vaccine dose was administered more than 4 months ago. For these booster doses, monovalent mRNA vaccines (Comirnaty® 30 µg; Spikevax® 100 µg) in same dosage as used for the basic immunization should be

administered. Alternatively, bivalent (Comirnaty® Bivalent Original/Omicron BA.1 30 µg; Spikevax® Bivalent Original/Omicron 100 µg) mRNA vaccines may be used. Note, Spikevax® Bivalent Original/Omicron 100 µg means the double vaccine dose (for booster doses of non-immunocompromised individuals a dose of 50 µg is used). Details about the dosing of specific vaccines in severely immunocompromised individuals are provided by the FOPH (https://www.bag.admin.ch/dam/bag/de/dokumente/mt/k-und-i/aktuelle-ausbrueche-pandemien/2019-nCoV/anhang-1-tabellarische-uebersicht.pdf.download.pdf/Anhang%201%20Tab.%20%C3%9Cbersicht_DE.pdf).

For patients in the age group from 12 to 29 years, Comirnaty® may be preferred over Spikevax® due to possibly higher rates of myocarditis cases in this age category after immunization with Spikevax®.

Additional measures

Anti-spike antibody concentrations may be measured four weeks after the third vaccine dose. However, we would like to highlight that there are no established cut-offs of anti-spike antibody concentrations for protection. We still recommend to solid organ transplant recipients to continue protective measures after being vaccinated.

We encourage considering passive immunization (Tixagevimab/Cilgavimab) for patients with low or absent anti-spike antibody levels after the third vaccine dose. The utility of passive immunization depends on the circulating SARS-CoV-2 variants and the ability of the compounds used to neutralize these variants. In case of uncertainty, we recommend to consult an infectious diseases physician. In addition, we recommend evaluating an early treatment with direct antiviral drugs or with monoclonal antibodies in case of a SARS-CoV-2 infection as suggested by the *Swiss Society for Infectious Diseases* (<https://www.sginf.ch/files/empfehlungen-zum-fruehen-einsatz-von-covid-19-therapien-und-zu-prophylaxen.pdf>).

Recommendation approved by the STAI Swisstransplant Working Group of Infectious Diseases | Dr Cédric Hirzel, President, Dr Katia Boggian, Prof Nicolas Müller, Dr Nina Khanna, Dr Oriol Manuel, Prof Christian van Delden, Prof Christoph Berger and PD Franz Immer, Medical Director and CEO Swisstransplant

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