

## Coronavirus Disease 2019 (COVID-19): Frequently Asked Questions for Transplant Candidates, Recipients, and Care Givers

*\*Last updated May 12 2022\**

Information regarding COVID-19 continues to change rapidly. This document will be updated with new information whenever possible. Please contact your transplant center with specific concerns.

Coronaviruses are common viruses that cause the common cold, and do not usually cause serious symptoms. A novel coronavirus named SARS-CoV-2 causes the disease called Coronavirus disease 2019 (COVID-19). This coronavirus appeared in December 2019 and quickly spread all over the world. COVID-19 spreads from person to person through close contact, most often by respiratory droplets that are spread when an infected person coughs, sneezes or talks. People are thought to be most contagious when they have symptoms, but even those who are not experiencing symptoms or have mild symptoms can also spread the virus.

Like many other viruses, mutations are common with SARS-CoV-2 and several important variants have been reported since December 2019. For example, the SARS-CoV-2 [Delta](#) variant, which emerged in late 2020, had a dozen mutations which caused the virus to be more transmissible than prior versions. Because of this, Delta quickly became the dominant variant around the world throughout 2021. In late 2021, [Omicron](#) emerged and became the dominant variant around the world within a few weeks largely because its 50 mutations allowed the virus to be even more infectious than Delta. Omicron has also shown an ability to escape immunity from vaccines or prior COVID-19 infections, causing a high number of breakthrough infections in both immunocompromised and non-immunocompromised individuals. New variants and subvariants of SARS-CoV-2 continue to emerge.

### What are the symptoms of COVID-19?

This list is not all-inclusive. If you develop symptoms concerning for COVID-19, contact your transplant center right away. Common symptoms include:

- Fever
- Cough
- Shortness of breath or difficulty breathing
- Chills/repeated shaking
- Muscle pains
- Headache

- Sore throat
- Fatigue
- Nausea, diarrhea, abdominal pain
- New loss of smell and/or taste
- Rash

## How is COVID-19 treated?

Most people with COVID 19 who have mild to moderate symptoms will recover on their own with supportive care. However, some people with risk factors, such as being a transplant recipient, are at risk for more severe disease.

COVID-19 can be a mild illness for some but for others, it may be severe and have serious complications leading to hospitalization or death. Letting your primary care provider or transplant team know about your symptoms right away is critical so they can provide further guidance on the best treatment, especially since some are time sensitive. Along with supportive care, below are some treatments currently being used for COVID-19. There are new therapies that have been developed in the past year and more may be available in the months to come.

### Oral Antiviral Therapy

The FDA has given Emergency Use Authorization (EUA) for two oral antivirals nirmatrelvir/ritonavir (Paxlovid; Pfizer; for ages  $\geq 12$  years of age and  $\geq 40$  kg)) and molnupiravir (Lagevrio; Merck;  $\geq 18$  years of age) for treatment of COVID-19. Both nirmatrelvir/ritonavir and molnupiravir are meant to be used as outpatient therapy for COVID-19, for high-risk patients early in disease (within 5 days of symptom onset). Molnupiravir is authorized for people age 18 and older and should be avoided in pregnant women or women trying to become pregnant. Nirmatrelvir/ritonavir can be challenging to use in many transplant patients due to significant drug interactions and the difficulty with checking drug levels in outpatients with active COVID-19 infection. Let your transplant team know right away if you are prescribed nirmatrelvir/ritonavir because your immunosuppression will probably need immediate adjustment if you are going to take this medication Do not start this medication or change your immunosuppression until you have received specific instructions from your transplant team.

## Monoclonal Antibodies

The FDA has issued an Emergency Use Authorization (EUA), which allows for emergency use of combination anti-SARS-CoV-2 monoclonal antibodies to treat patients with mild to moderate COVID-19, who are at high risk of clinical progression. You may be eligible for this treatment, so it is important to contact your primary care doctor or transplant team as soon as you develop symptoms to see if this treatment is appropriate for you. How well different monoclonal antibodies work can change as new variants arise so talk with your doctor to see if this is an option for use.

Currently for the Omicron BA.2 variant, sotrovimab is felt to be no longer effective. A new monoclonal, Bebtelovimab, is active against the BA.2 subvariant and has been recently authorized by the FDA for the treatment of early COVID-19 infection in high-risk individuals, including transplant recipients. Availability of these monoclonal antibodies continues to be a challenge as well.

## Remdesivir

Remdesivir is an intravenous antiviral medication that has been FDA approved for the treatment of COVID 19. Initially it was used in hospitalized patients with moderate to severe COVID, but shorter courses are now also being used for outpatients or patients including children with mild to moderate disease.

## Corticosteroids

Dexamethasone (a steroid) is used for patients with moderate to severe disease who are hospitalized with COVID and are hypoxic (requiring oxygen support).

## Immunomodulatory Drugs (Medications that affect your immune system)

For hospitalized patients on dexamethasone who have rapidly increasing oxygen needs and signs of systemic inflammation, a second immunomodulatory drug (e.g., tocilizumab or baricitinib) might be used. Published data on these medications in COVID-19 have demonstrated mixed results. Nonetheless, the FDA has given Emergency Use Authorization (EUA) for the use of these two drugs in hospitalized patients on corticosteroids who meet certain EUA criteria.

- For information on COVID-19 Treatment, visit <https://www.covid19treatmentguidelines.nih.gov/whats-new/>

## Prevention

### Are the COVID-19 vaccines safe and effective in transplant candidates and recipients?

#### Vaccination

**We strongly recommend all transplant patients receive COVID-19 vaccines.** You can receive an mRNA vaccine (Pfizer-BioNTech or Moderna) or the Janssen/Johnson & Johnson (Adenovirus vector vaccine), although the mRNA vaccines are preferred. The COVID-19 vaccines are safe. It is normal to have some side effects after receiving the vaccine which will resolve in 24-48 hrs.

The mRNA vaccines are approved by the U.S. FDA and are more effective in transplant patients. When possible, please request for a Pfizer-BioNTech or Moderna vaccine. The response to a vaccine may vary from person to person. It is important you receive 3 doses (Pfizer-BioNTech or Moderna) or 2 doses (one dose Janssen/Johnson & Johnson plus one dose of either Pfizer- BioNTech or Moderna) of a vaccine followed by a booster 2 or 3 months later, depending on what you received, to ensure protection from vaccines.

The AST COVID-19 Task Force has provided updated and helpful information about vaccines [here](#). Please refer to this important [statement](#) from the AST for some guidance, which will be regularly updated as more information is gathered.

See AST Vaccine FAQ [here](#) for more info

#### Monoclonal Antibodies

If you have been vaccinated but are immunocompromised or did not receive the vaccine due to severe allergies and have not been exposed to COVID-19 recently, you may qualify for a treatment called Evusheld.

Evusheld is a combination of two monoclonal antibodies - tixagevimab and cilgavimab, to be given once initially. It is not a substitute for vaccines and it cannot be used as treatment if you have tested positive for COVID-19. Ideally you should wait for at least 2 weeks from your last vaccine dose to receive Evusheld. The dose of Evusheld was increased on February 24, 2022 so if you received a dose before then, your transplant center may contact you to give you a second dose. Please contact your transplant center to determine if you qualify for it. At this time, patients at highest risk of severe COVID-19 are being prioritized due to limited supplies.

## What can I do to protect myself and others from COVID-19?

There are several things you can do to protect yourself, **but vaccination is an important thing you can do to protect yourself and others.** COVID-19 vaccines are safe. Although they may be less effective in transplant patients, they are more effective than not getting the vaccine.

The U.S. Centers for Disease Control and Prevention (CDC) has updated interim guidance regarding COVID-19 vaccination for moderately to severely immunocompromised people. The guidance says, at the discretion of the clinical team, a booster for immunocompromised adults may be provided six months or more after they have received a third dose of an mRNA vaccine, or at least two months after they have received a Johnson & Johnson vaccine. For more detail, read the [CDC guidance](#).

Everyone 5 years of age or more should get a COVID-19 vaccination as soon as they can. Younger children will soon be eligible for vaccination as well. Widespread vaccination is critical to stopping the pandemic. Vaccination is recommended even if you have had COVID-19 infection. Please discuss the timing of your vaccination with your provider if you have had COVID-19 infection.

Other best practices include:

- Wash your hands or use hand sanitizer frequently
- Avoid touching your eyes, mouth, and nose
- Avoid large crowds
- Wear a well-fitting mask if you are going to be in crowded areas indoors
- Practice social distancing by staying at least six feet from other people and groups
- Stay at home if you are sick
- Get vaccinated against the flu during flu season
- Get your COVID 19 vaccination as soon as possible. If you are immunosuppressed (after transplant), continue safety measures even after vaccination until more is known about how protected transplant patients are from the vaccine.
- Make sure that your family, friends, and other close contacts get vaccinated too.

## Is it safe for me to go outside without a mask? When can I resume normal activities?

In most areas of the country, it is safe to be outdoors without a mask, provided that you follow basic safety guidelines. Local and state public health authorities will determine many of these, so it is important to stay up to date.

The CDC recently changed its [guidelines](#) for the use of masks indoors for completely vaccinated individuals. However, even if you are fully vaccinated, **transplant recipients should**

continue wearing a well-fitting mask, such as a surgical mask or KN95 or a N95 respirator. , indoors when surrounded by other people. Transplant recipients should also continue to avoid crowds and large gatherings (especially indoors), practice social distancing, and wash their hands often.

The CDC does not specifically recommend wearing gloves under most circumstances. Instead, transplant candidates and recipients should wash or sanitize their hands often. The CDC also does not recommend the use of face shields, as the effectiveness of these face coverings is unknown at this time. You should still wear a mask even if you use a face shield.

You can resume domestic travel (within the U.S.) safely. You should wear a mask on planes, buses, trains, and other public transportation, even if others are not. For international travel, please follow the U.S. Department of State [requirements](#). Please monitor for an increase in COVID-19 cases at your travel destination and avoid traveling to places with high rates of COVID-19.

It is safe to return to work and/or school once you have been fully vaccinated. However, we recommend you continue wearing a mask, social distancing and washing your hands, as the response to vaccine varies by individual and post-vaccine infections are possible.

## What are the outcomes of COVID-19 in transplant recipients?

Transplant recipients are at higher risk of severe COVID-19. Initial reports in 2020 showed that transplant recipients experienced higher rates of hospitalization (up to 77% of patients) and mortality (up to 19% of patients) when compared to the general population. As more effective treatments became available, such as remdesivir, dexamethasone and monoclonal antibodies, these outcomes [steadily improved](#) for most people, including transplant recipients. Despite those improvements, transplant recipients still have higher rates of hospitalization, ICU admission and death when compared to the general population.

More importantly, even though vaccinated transplant recipients may develop breakthrough infections, especially with the Delta and Omicron variants, studies have shown that COVID-19 is [milder](#) in those who are vaccinated (80% reduction in COVID-19 symptoms).

## What should I do if I have COVID symptoms or am diagnosed with COVID-19?

The first step is to separate yourself from others. Although there are many different causes for fever, cough, shortness of breath, stomach upset, and flu-like symptoms, COVID-19 is still a concern in most parts of the world. If your symptoms are mild, you should then contact your transplant center or primary care provider to arrange for COVID-19 testing. However, if you

notice chest pain, confusion, difficult breathing, or other severe symptoms, please call 911 (or emergency services).

Letting your primary care provider or transplant team know about your symptoms **right away** is critical so they can provide further guidance on the best treatment, especially since treatment options and availability varies and some treatments are time sensitive. It is important to remember that most people, including transplant candidates and recipients, experience only mild to moderate symptoms and recover from COVID-19 without problems. Many do not need hospitalization but are able to stay at home in isolation.

You can also refer to the AST COVID-19 Resources for Transplant Recipients and candidates for specific instructions and home monitoring guides: <https://www.myast.org/covid-19-transplant-handouts-recipients-and-candidates> .

## **I had COVID-19. When can I stop self-isolating?**

The CDC [recommends](#) that transplant recipients recovering from COVID-19 stay home longer than 10 days and up to 20 days counting from the first day of symptoms and/or diagnosis. The CDC also recommends that immunosuppressed patients (including transplant patients) should undergo testing before they end their quarantine period. Consequently, some medical centers may require that transplant patients repeat COVID-19 testing to further determine when to stop isolation. These extended recommendations are because transplant recipients with COVID-19 may be infectious for a longer period than those who are not immunosuppressed.

## **I had COVID-19 and recovered. Can I get reinfected?**

Yes, reinfection with COVID-19 has been reported, particularly with the Omicron variant. As new variant strains develop, it is also possible to get another infection. A variant strain has one or more mutations in its viral structure that make it different from the virus circulating in the community. Some variants may be more infectious. For now, the available COVID vaccines protect from most currently circulating variants, although breakthrough infections have occurred with the Omicron variant. The CDC continues to monitor [emerging variants](#) and its implications on current treatment guidelines and vaccines. It is likely that new vaccines will be developed to help protect against new variants.

## **I am awaiting a transplant. Could I get COVID-19 from my donor?**

The risk of acquiring COVID-19 from organ donation is low. The very rare cases reported in the literature thus far involve lung transplant recipients only. Organ procurement organizations are screening all potential donors for COVID-19 symptoms and exposure history. All potential donors are also tested for COVID-19 prior to transplant. Given the low risk of transmission

outside of lung transplant, some centers may accept carefully selected donors with positive PCRs.

Transplant centers have also taken careful steps to screen living donors, including checking for symptoms, exposures, and viral testing. At some centers, living donors are being asked to avoid travel to high-risk areas and to isolate themselves before donation and monitor symptoms.

## **I had COVID-19. When can I be cleared for transplant?**

If you have had COVID-19 and recovered, please contact your transplant center once you are symptom free so they can assess you and determine when you would be ready for transplant.

## **How do I cope with stress and take care of my mental health?**

We understand the uncertainty associated with the pandemic may be stressful for you.

We suggest the following to support yourself:

- Take breaks from watching, reading, or listening to news stories and social media.
- Take care of your body. Take deep breaths, stretch, or meditate. Try to eat healthy, well-balanced meals, exercise regularly, get plenty of sleep.
- Make time to unwind. Try to do some other activities you enjoy.
- Connect with others. Talk with people you trust about your concerns and how you are feeling.
- Call your healthcare provider if stress gets in the way of your daily activities for several days in a row.

### **Get immediate help in a crisis**

- Call 911
- [Disaster Distress Helpline](tel:1-800-985-5990): 1-800-985-5990, or text TalkWithUs to 66746
- [National Suicide Prevention Lifeline](tel:1-800-273-TALK): 1-800-273-TALK (8255)

## **Resources for Patients**

1. Get the latest public health information from CDC or WHO:  
<https://www.coronavirus.gov>  
<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
2. Get the latest research information from NIH: <https://www.nih.gov/coronavirus>
3. For information on COVID-19 Treatment:  
<https://www.covid19treatmentguidelines.nih.gov/whats-new/>

4. For information on specific clinical trials underway for treatment of patients with COVID-19 infection: [clinicaltrials.gov](https://clinicaltrials.gov).
5. Information from the American Society of Transplantation: <https://www.myast.org/covid-19-information>
6. CDC information for COVID-19 and children: [Caring for Children](#)
7. COVID-19 information for parents from Pediatric Infectious Disease Society: [COVID-19 Resources](#)
8. AST COVID-19 resources for transplant recipients and candidates: <https://www.myast.org/covid-19-transplant-handouts-recipients-and-candidates>