

COVID-19 (Coronavirus): FAQs for Organ Transplantation

Updated: February 29, 2020

*The AST's Infectious Disease Community of Practice has received queries from transplant colleagues regarding the novel coronavirus (COVID-19). **The following FAQs were developed to relay information on the current state of knowledge. This document will be updated as more information becomes available.***

Also see OPTN information link: <https://optn.transplant.hrsa.gov/news/information-fortransplant-programs-and-opos-regarding-2019-novel-coronavirus/>

1. What is the origin of the novel coronavirus?

COVID-19 is the disease caused by the novel coronavirus named Severe Acute Respiratory Syndrome Coronavirus-2 (SARS CoV-2) and emerged in the Hubei province of China in early December, spread across China, and has continued to spread to include 53 countries as of today's date. The majority of cases outside of China have been linked to travelers from China, but a small number of cases have been diagnosed without obvious exposure.

Coronaviruses generally circulate in bat species. Humans have contracted COVID-19 likely through an intermediate host. The virus is transmitted by droplets and is currently not known to be airborne. There are four seasonal coronavirus strains that normally circulate in humans (HKU1, OC43, NL63, 229E). These usually are mild but on occasion can cause viral pneumonia in immunosuppressed persons and can be identified using multiplex respiratory virus panels. Two previous outbreaks from more virulent coronaviruses have been caused by Severe Acute Respiratory Syndrome (SARS-CoV) and Middle East Respiratory Syndrome (MERS CoV). There are published case reports of transplant patients acquiring SARS and MERS viruses, in some cases with fatal outcomes (AJT 2003; 3(8): 977-81 and AJT 2015; 15(4):1101-4).

2. Are transplant patients at higher risk for COVID-19?

Infection still needs to be acquired from someone who is shedding virus. It is not proven but appears that asymptomatic transmission can occur. The incubation is 2-14 days in the general population; however, the inoculum size required to infect a transplant patient may be lower. Based on data from influenza and SARS, if infection occurs, progression to pneumonia will likely be more common in the immunocompromised population, including transplant recipients. In addition, a greater viral burden and shedding will likely result in greater infectivity. Healthcare transmissions of COVID-19 have occurred and given the potential for greater infectivity, strict isolation precautions should be followed.

3. Are there any treatments for COVID-19?

Currently, the treatment is supportive care. Potential antiviral candidates are undergoing testing and vaccines are under development. However, it may be several months before any of these are

approved. Remdesivir is an investigational antiviral that is being studied in clinical trials for severe and moderate COVID-19 cases. It may be possible to obtain this via clinical trial or compassionate use. Similarly, lopinavir/ritonavir and several other compounds are being evaluated or considered as experimental therapy.

4. Are there any specific travel restrictions for transplant patients?

The CDC has recommended suspending all non-essential travel to China, Iran, Italy and South Korea. It is also recommended to avoid cruises into or within Asia. Enhanced precautions are recommended with travel to Japan.

We recommend that transplant patients do not travel to any of these locations. Travel restrictions to other locations will depend on virus activity and will change over time. Currently, we also suggest that transplant patients' immediate household contacts not travel to high-risk areas.

The CDC and WHO maintain websites that are being updated daily as the outbreak evolves, and travel recommendations will likely change over time.

- CDC: <https://www.cdc.gov/coronavirus/2019-nCoV/summary.html>
- World Health Organization: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- In Canada: <https://www.canada.ca/en/publichealth/services/diseases/2019-novel-coronavirus-infection.html>

5. Should transplant patients wear a mask or avoid public places?

In general, transplant patients should exercise caution about being in overcrowded situations. Frequent handwashing or hand sanitizer use helps prevent infection. The benefit of wearing masks in public is controversial even for transplant patients and it is unknown how much wearing a mask will help prevent infection. Most surgical masks are not tight fitting and aerosols can get through. However, they may prevent patients from touching their nose and mouth. It is unclear if an N95 mask is better than a regular surgical mask since proper fit testing has not been performed. An N95 mask can be uncomfortable to wear for prolonged periods. The CDC is not recommending mask use for infection protection outside the hospital at this time.

6. What is the approach to transplant recipients with flu-like/respiratory symptoms?

There are many different causes for flu-like/respiratory symptoms. Your hospital should have protocols in place for transplant patients with flu-like/respiratory symptoms. Consult your local hospital practices for outpatient transplant clinic screening or visitor restrictions for transplant recipients as these may evolve over time. A travel history or contact with recently returning travelers from China, Iran, Italy or South Korea (or other areas where there is local transmission) should be elicited. Other causes of respiratory illness including influenza and RSV should be sought. Patients suspected of COVID-19 should be placed in isolation and infection control should be notified. CDC has updated guidelines for infection control (<https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html>). Engagement of Transplant Infectious Diseases should be considered for suspected cases.

The CDC has also established interim risk criteria for exposure to the COVID-19 that are being updated as the outbreak evolves (<https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html>). Testing for COVID-19 is done via a specific RT-PCR on nasopharyngeal and oropharyngeal swabs. The novel coronavirus is not detected using the standard respiratory virus multiplex tests.

7. Should living and deceased donors be screened?

A travel history for the deceased donor is essential and should consider travel to China, Iran, Italy, South Korea, or anywhere local transmission is occurring. History of contact with a known case of COVID-19 should also be elicited. A deceased donor with known or highly suspected COVID-19 infection should be deferred for all organs to avoid transmission to recipient as well as to the healthcare team. There are reports of coronavirus RNA being isolated outside the lungs including in stool and blood in some cases and therefore it is possible extra-pulmonary infection can occur. Case-by case consideration is required for deceased donors with epidemiologic risks and within the 14 days incubation period, but otherwise asymptomatic or for those that were previously infected with COVID-19 but have recovered. Each case should take into account the urgency of transplant and the potential risk to the recipients, as well as consider isolation interventions if organs are used.

Living donors with travel to a high-risk area in the last 14 days should be deferred until 14 days from travel. Potential living donors can be advised to not travel to areas where local transmission is occurring and to report new onset cough and flu-like symptoms. Routine testing of living and deceased donors for COVID-19 is not suggested at this time. This may evolve over time as the outbreak situation evolves.

The current outbreak is unpredictable. If widespread community-transmission occurs, healthcare infrastructure and capacity issues may have further impact on donation and transplantation.