

**2019-nCoV (Coronavirus):
FAQs for Organ Transplantation**

Updated: February 10, 2020

The AST's Infectious Disease Community of Practice has received queries from transplant colleagues regarding the novel coronavirus (2019-nCoV). The following FAQs were developed to relay information on the current state of knowledge. This document is subject to change as more information becomes available.

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

1. What is the origin of the novel coronavirus?

The 2019-nCoV emerged in the Hubei province of China in early December and has spread across China. A small number of cases have occurred outside China as well but the majority have been linked to travelers. Coronaviruses generally circulate in bat species. Humans have contracted it 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 occasionally cause viral pneumonia in immunosuppressed persons and can be identified using multiplex respiratory virus panels. In addition, two previous outbreaks from more virulent coronaviruses have been caused by SARS CoV (Severe Acute Respiratory Syndrome) and MERS CoV (Middle East Respiratory Syndrome). 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). The nCoV genome appears to have ~80% homology with SARS-CoV and similar to SARS-CoV, uses the ACE2 receptor on the host to infect cells.

2. Are transplant patients at higher risk for the novel coronavirus?

Infection still needs to be acquired from someone who is shedding virus. 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 addition, a greater viral burden and shedding will likely result in greater infectivity. Healthcare transmissions of 2019-nCoV have occurred and given the potential for greater infectivity, strict isolation precautions should be followed.

3. Are there any treatments for the novel coronavirus?

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

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

The CDC has recommended to suspend all non-essential travel to China. Thus, transplant recipients should not travel to China. Travel restrictions to other locations will depend on virus activity and will likely change over time. Currently, we also suggest that transplant patients' immediate household contacts not travel to China. The CDC and WHO maintain websites that are being updated as the outbreak evolves and travel recommendations may 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/public-health/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. At this point in the United States and Canada, nCoV cases are generally linked to travel.

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 (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 the 2019-nCoV 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.html>

The CDC has also established interim risk criteria for exposure to the 2019-nCoV <https://www.cdc.gov/coronavirus/2019-ncov/php/risk-assessment.html>.

Testing for 2019-nCoV 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 take into account travel to China or anywhere local transmission is occurring. History of contact with a known case of nCoV should also be elicited. A deceased donor with known or highly suspected 2019-nCoV infection should be deferred for all organs to avoid transmission to recipient as well as to the healthcare team. There are reports of coronavirus being isolated outside the lungs including in stool and blood in some cases and therefore it is possible extra-pulmonary infection can occur. For deceased donors with epidemiologic risks and within the 14 days incubation period, but otherwise asymptomatic or for those that were previously infected with nCoV but are now recovered, these should be considered on a case-by-case basis taking into account urgency of transplant and risk.

Living donors with travel to China in the last 14 days should be deferred. 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 nCoV is not suggested at this time.

This may evolve over time as the outbreak situation evolves.