



## Frequently Asked Questions-COVID-19 Vaccines in Transplant Patients

### *What do we know about how patients with transplants respond to the COVID-19 vaccines?*

Virtually all of the information we have right now is from adult patients who have received transplants. The data demonstrate that the immune responses vary from patient to patient, with some demonstrating good antibody responses after receiving 2 doses of mRNA vaccine and others with little to no detectable antibodies after 2 doses. Complicating things further, we don't yet know if antibody levels accurately predict how protected you are with vaccine. There is a lot more to learn about protection from COVID-19 vaccines, especially in children and young adults.

### *How is the vaccine response in an otherwise healthy child/adolescent different than an adult?*

Across the board, we know that children and adolescents respond to vaccines much better than adults. The study of the Pfizer/BioNTech mRNA vaccine in adolescents demonstrated that 12-15 year olds had antibody levels almost twice as high as those ages 16-25 years old. We know with other vaccines that higher antibody levels right after vaccine translate to longer lasting protection. This has not yet been proven for COVID-19. We do not yet know how long protection lasts or if/when boosters will be needed.

### *How do adults with transplants respond when they were given a 3<sup>rd</sup> dose of vaccine?*

Generally, studies have demonstrated that most adult transplant recipients have a boosting of the antibody and cellular responses when receiving a 3<sup>rd</sup> dose. There were still patients who did not respond well to vaccine even after getting the 3<sup>rd</sup> dose. It is important to note that these studies were not standardized, using different versions of vaccine given at different times. This makes it very hard to compare one study to another and hard to make any firm conclusions either way. The recommendation was made by comparing the potential added benefit of getting a 3<sup>rd</sup> dose for some patients, the minimal risk of an additional dose of vaccine given the excellent safety profile and abundant vaccine supply where giving 3<sup>rd</sup> doses to immunocompromised people would not limit vaccination opportunities for the general population.

### *If my child already had vaccine, should we get antibody testing to measure his/her/their response?*

The short answer is no. Different labs test for COVID-19 antibodies using different methods, and the results can vary significantly from one lab to the next. We also know that some patients with a negative antibody level still may have protection because of the cells in their immune system. Our medical teams are not using these antibody tests to make any decisions about vaccine for any patient. This is in line with national guidance from the CDC and major medical societies. If antibody testing is pursued, please know that many COVID-19 antibody tests only measure antibodies against natural infection and will not detect antibodies against the



vaccine, so those tests would be expected to be negative in someone who is vaccinated but has not had COVID-19 infection.

*Do the vaccines protect against the variants of SARS-CoV-2 that are circulating, particularly the delta variant?*

Studies using blood from mRNA vaccinated patients showed protection from variants in laboratory testing. In addition, the real world experience showing that the delta variant is circulating most in places where vaccine rates are low and not being seen in areas where vaccine rates are high supports the notion that vaccination is effective against the variants thus far. We do know that even with excellent protection against COVID-19 variants by vaccines, when community activity of COVID-19 is high, there will be some breakthrough infections in people who are vaccinated. Infection rates are higher where the Delta variant is circulating. Fortunately, those breakthrough infections tend to be much milder than they are in unvaccinated people.

*Does my child with a transplant need a 3<sup>rd</sup> dose of the COVID-19 mRNA vaccine?*

Earlier this month, the CDC and ACIP announced a recommendation for a 3<sup>rd</sup> dose of mRNA vaccine at least 4 weeks after the 2<sup>nd</sup> for those patients with moderate or severe immunocompromising conditions (like organ transplant). This recommendation is based on adult studies showing poor responses after 2 doses and increased responses with a 3<sup>rd</sup> dose, although, we cannot assume that children will react the same as adults. We know that children typically respond better to vaccines, and we are waiting for (and planning) more studies to demonstrate how well our children with transplants respond to the mRNA vaccines. However, with the ongoing risk of SARS-CoV-2 variants and the excellent safety of the mRNA vaccines, **we are recommending that all of our transplant patients plan to get the additional dose.** At Lurie, we will soon be reopening the schedule so any pediatric transplant patient can get a 3<sup>rd</sup> dose of vaccine. Should you have questions or concerns about your individual situation, please contact your primary care doctor or Lurie transplant provider. As with all of our COVID-19 guidance during the pandemic, it is possible that this guidance may change in the future as we learn more.