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COVID-19 Vaccines and Transplant Patients: Lessons Learned

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COVID-19 Vaccines and Transplant Patients: Lessons Learned Dorry Segev, MD PhD Professor of Surgery and Population Health Vice Chair, Department of Surgery Director, Center for Surgical and Transplant Applied Research NYU Langone Health We have learned many things from the COVID-19 pandemic, spanning from lessons in virology and biology, lessons in patient care, and lessons in logistics and strategy during a time where it is dangerous for us to interact with our patients. In terms of vaccines, our knowledge rapidly evolved during the pandemic, and continues to evolve. Early on, we learned that vaccines are safe but have limited immune response in the immunocompromised. We also figured out that certain immunosuppressive agents reduce the immune response to the vaccines more than others. We knew from biology that antibody response would be important, but we also confirmed in large-scale trials that anti-spike antibodies correlate with neutralization and protection, so these easy-to-measure surrogates can be used to identify the most vulnerable of our patients. We discovered that some vaccine platforms work better than others; this becomes more relevant with evolving variants, since Omicron neutralization requires a very high vaccine response, much more than we had seen before. Finally, we are learning that pre-exposure monoclonal antibodies are another approach, particularly for those unable to mount an immune response to the vaccines. What lessons do we apply to future patient care and research? We learned that existing registries and data collection help us learn and track. We also learned that we need to advocate for our patients in clinical trials, government policies, and clinical care. When things move quickly, we need to move quickly, and moving quickly is easier in 2022 than ever before; however, traditional research designs will not work, and traditional funding mechanisms will not work. We need to be more creative. Also, when things move quickly, we need to rely on biology; if we think with a Bayesian perspective, we can apply what little we can observe to the vast knowledge we already have on the biology of our patients. Finally, we learned that media connects us to our patients, and, perhaps even more importantly, media connects us to the world outside transplantation.