

# Cystic Fibrosis and COVID-19: An Update

By Richard Moss, MD

## COVID in People with CF

According to data from the Cystic Fibrosis Foundation (CFF), as of March 25, 2021 there have been 1,328 confirmed cases of COVID-19 among those with CF, with 215 (16.2%) hospitalizations. Of these cases, 386 were children, 39 of whom were hospitalized. Fourteen patients, all adults, have died (1.1%); 8 had received lung transplants and 3 non-transplant patients had advanced lung disease. Quite similar data have been obtained from a consortium of European CF Centers organized by the European CF Society. There were 1,126 reported cases as of March 8, 2021, with 206 (18.3%) hospitalizations and 13 deaths (1.1%).

These data suggest COVID-19 continues to affect people with CF no worse and perhaps less than the general population, likely because of high adherence to public health measures in reducing exposure to respiratory pathogens. Basic infection control measures were accepted and ingrained in our CF community long before SARS-CoV-2. A serendipitous “side effect” of the pandemic for CF patients documented in the 2020 CFF Patient Registry has been a reduction in respiratory illnesses as reflected in reduced numbers of pulmonary exacerbations. (This drop in exacerbations is additional to a large, beneficial Trikafta effect seen since its approval in 2019.)

Research has begun into possible protective effects against COVID-19 in people with CF. Besides social distancing and infection con-

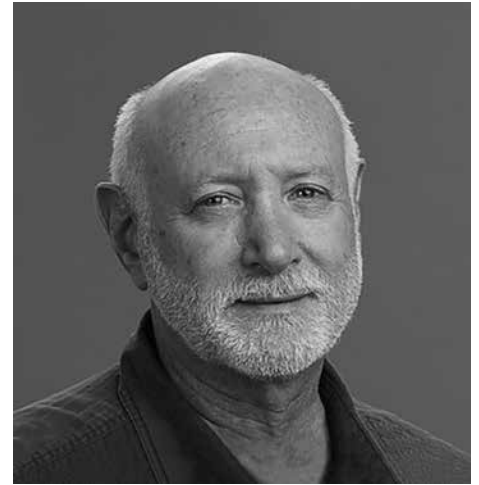
trol public health measures, potential factors include a younger age distribution, less frequent high-risk comorbidities (e.g., obesity, hypertension), certain chronic medications (e.g., azithromycin, dornase alpha), and a variety of potential biological mechanisms such as airway fluid pH or content of molecules affecting SARS-CoV-2 entry into cells (the ACE2 receptor for the virus, certain enzymes called proteases that can affect viral entry).

## Vaccines

The success of COVID-19 vaccine development has been a singular triumph of human ingenuity, focus and cooperation. Since December, the FDA has approved three vaccines for use under its Emergency Use Authorization power. Currently 78 different vaccines are being tested in clinical trials around the world, with 22 in pivotal late-stage trials, and another 75+ vaccines in preclinical development. While vaccines are currently approved for ages 16 (Pfizer) or 18 (Moderna, J&J) and up, pediatric studies are underway. Over 3.2 million children in America have been diagnosed with COVID-19 and at least 266 children have died. Perhaps the most important fact to keep in mind about the available vaccines is their ability to almost completely prevent serious illness and death from COVID-19.

## Variants

Natural selection ensures that some mutations that arise from viral replication errors may increase survival fitness of the virus,



and indeed that is the case with SARS-CoV-2, as many identified mutations, labeled “variants of concern,” may affect COVID transmission, infection or illness severity. As variants of concern have tended to rapidly dominate their identified regions of origin and quickly spread globally, red flags are being raised for new transmission surges, and the urgency to increase vaccinations.

Worries have focused on how some of these variants may decrease vaccine efficacy. However, data so far are reassuring that the levels of antibody after vaccination seem adequate to afford protection against variants. Importantly, preliminary evidence indicates that the T-cell response, the other big gun of the immune system, is robust even against the variants in vaccinated people. The most important point is to get fully vaccinated as soon as possible with whatever vaccine is available in order to personally protect yourself and help your

*Continued on page 9*



## Coping with COVID-Related Stress and Anxiety

By Siri Vaeth, MSW

The pandemic has unleashed a broad spectrum of pain and suffering around the globe. Each lost life is mourned by a larger circle of loved ones; those who survive COVID face ongoing physical and emotional sequelae. For many, depression and anxiety have been triggered by fear, financial challenges, isolation, and the loss of life rituals that bring meaning and joy. Even as the number of vaccinated Americans grows and communities re-open, mental health specialists are calling for attention to both the short and long-term effects of the pandemic upon individual and collective community mental health.

Yelizaveta Sher, MD, Clinical Associate Professor of Psychiatry at Stanford and an embedded psychiatrist at the Stanford CF Center, has worked directly with many individuals experiencing depression and anxiety triggered and exacerbated by COVID-19. In addition to her work with patients at Stanford, Dr. Sher volunteers her time facilitating CFRI’s online

*Continued on page 9*