

Update: March 20, 2020

COVID-19 DIGEST

From the Cross-Campus Infectious Disease COVID-19 Task Force

Members: Joanne Engel, MD, PhD, Harry Lampiris, MD, Lisa Winston, MD, Annie Luetkemeyer, MD, Chaz Langelier, MD, PhD, Vivek Jain, MD, MAS, Deborah Yokoe, MD, MPH, Sarah Doernberg, MD, MAS, Jennifer Babik, MD, PhD, Monica Gandhi, MD, MPH, Rachel Bystritsky, MD, Ted Ruel, MD & Chesa Cox, MPH, **Co-Chairs:** Brian Schwartz, MD & Diane Havlir, MD

EPIDEMIOLOGY

LOCAL

As of today, there are **1039 confirmed COVID-19 cases and 19 deaths** in California. In San Francisco, there are **76 confirmed COVID-19 cases and 0 deaths**.^{*} Hospitals are seeing more patients seeking evaluation for COVID. The UCSF/ZSFG/VA campuses have all been activated and things are running smoothly in terms of rule-out procedures and treatment algorithms. It is important to note that **we are still in influenza “season” in San Francisco**.

^{*}from [SF DPH](#)

NATIONAL

Latest US estimates are **14,250 cases and 205 deaths**. Testing is expanding to include drive-through options in many cities, but overall, capacity remains inadequate. On March 18, the CDC released data in the [MMWR](#) on outcomes among the 4,226 cases reported in the US since March 16. The report found that 31% of cases, 45% of hospitalizations, 53% of ICU admissions, and 80% of deaths occurred among adults aged ≥65 years with the highest percentage of severe outcomes among persons aged ≥85 years (similar to what was seen in China). As of this morning, New York City had 5,151 cases with ~1,250 hospitalized. Health systems are preparing for a surge in cases and have been limiting hospital visits, non-essential surgeries and clinic visits. There is a massive transition to telemedicine in many health systems in an effort to maintain the healthcare workforce.

^{*}from [CDC](#)

GLOBAL

There are over **247,400 cases** of COVID-19 and **10,067 deaths globally**. Europe is now the epicenter of the epidemic—with the greatest number of cases in Italy at **41,035 cases (3,405 deaths)**. The United Kingdom, slow to implement aggressive public health measures, has experienced a rapid increase in cases and reports with **3,297 cases** to date.

^{*}from Johns Hopkins CSSE

Public Health Action:

Over the last week, there has been **more, important public health actions** taken by US states and countries around the world (e.g. shelters in place, border closings, city “lock downs”). San Francisco and surrounding counties extended their early measures (limitations on gathering size and school closure) to **“shelter in place” on March 16**, which was ahead of the nation. Yesterday on March 19, Governor Gavin Newsom gave a **shelter in place order** for the entire state of California (nearly 40 million people). Mayor Bill de Blasio put a strong stay at home order in place in NYC yesterday, but not as restrictive as in SF, and there has been an alarming rise in cases in New York State (now at 7,845 cases) over this past week. The UK, after an initially slow response, is now putting restrictive social distancing orders into place after an increase in cases. In Africa, 33 African countries had reported more than 600 cases and 17 deaths due to COVID-19, but testing has been limited. Many African countries (Kenya, Senegal, Rwanda, South Africa, Ethiopia, Zambia, Tanzania, among others) are putting restrictive orders in place for social distancing in anticipation. Countries in [Latin America and the Caribbean](#) have been affected later than other regions from the pandemic and therefore have a chance to flatten the curve of contagion; Columbia, Peru, Chile, Costa Rica and Panama, for instance, have all put aggressive public health measures in effect.

DAILY UPDATES

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

COVID TESTING CAPACITY

COVID-19 PCR testing at UCSF Medical Center is currently at 80 tests/day and is expected to increase to 200-500 tests/day within a week. Currently, NP/OP swab kits are a limiting reagent. At Zuckerberg San Francisco General Hospital, capacity for inpatient samples is being met; outpatient testing remains limited. The turnaround for test results is 6-12 hours at UCSF and 24hours (from DPH) at ZSFGH and 3-5 days when sent to private labs who are experiencing extreme backlogs.

UP TO THE MINUTE DISPATCHES

Lopinavir–Ritonavir not effective in Randomized study in Adults Hospitalized with Severe Covid-19 (NEJM 03.18.20)

Lopinavir-ritonavir, a viral 3CL protease inhibitor that had been commonly used to treat patients with HIV infection, has been shown in vivo to have activity against coronaviruses. A randomized, controlled, open-label trial comparing lopinavir-ritonavir in adults hospitalized with severe COVID-19 was just published. The study was conducted in China and randomized patients with confirmed (PCR+) COVID-19 and hypoxia (O₂ saturation < 95% on room air OR PaO₂/FiO₂ < 300 mm Hg) to receive lopinavir-ritonavir (400mg/100mg) twice daily for 14 days versus placebo. Primary end-point was improvement on a seven-category ordinal scale or discharge from hospital. 199 patients were enrolled. Patients had a mean of 13 days of illness prior to randomization. Treatment with lopinavir-ritonavir was not associated with clinical improvement. Mortality was not statistically different in the treatment and control groups. There was also no difference in detectable viral RNA during the course of disease in either group. Gastrointestinal side effects were more common in the treatment group and 13.8% of patients in the treatment arm had stopped treatment. There were several limitations in the trial; most notably, it was an open-label study. Although in vivo studies have demonstrated activity of lopinavir-ritonavir against SARS-CoV-2, it does not offer clinical benefit. It is terrific to have this information, and given the results of this study, we are not recommending regular use in the care of our patients with COVID-19. Its role in patients at earlier stage of disease is unknown.

SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients

COVID-19 early high viral load (NEJM 03.19.20)

Researchers recently [published](#) a study where they monitored SARS-CoV-2 viral loads in upper respiratory specimens from 18 patients in Guangdong, China within two family clusters. They analyzed the viral load in relation to the day of onset of any symptoms. Higher viral loads were detected soon after symptom onset, with higher viral loads detected in the nose than in the throat. The pattern of nucleic acid shedding with SARS-CoV-2 appeared very different from that previously reported in patients infected with SARS-CoV, where viral shedding for SARS-CoV peaked much later in the course of illness. The researchers also report a possible case of asymptomatic transmission of SARS-CoV-2. It is hypothesized that this early, high-level viral shedding may be a key factor in the transmission dynamics of SARS-CoV-2 and may help explain the difference in extent of spread of SARS-CoV-2 when compared to SARS-CoV.

FAQ

1. Can SARS-CoV2 be spread via blood products?

To date, there have not been any reported cases of SARS-CoV-2 spread via blood products. In a recent [study](#) that examined PCR samples from many body compartments, only 1% of 307 blood samples were positive. Viremia is most likely to occur in patients with symptomatic infection. Patients are not recommended to donate blood when they have signs and symptoms of COVID-19. Testing of blood products for SARS-CoV-2 is not presently used in the United States. Additional information from the American Association of Blood Banks can be found [here](#).

2. What are best practices to reduce transmission of SARS-CoV2 who require surgical procedures?

(1) Avoid surgical procedures on patients with COVID-19 unless medically urgent; (2) minimize the number of people

in the operating room during aerosol generating procedures (e.g., intubation and extubation); (3) all individuals in the OR during the surgical procedure require PAPR or N95 with face shield/goggles plus gowns and gloves; (4) bring patients directly to the OR and recover the patients in the OR—avoid pre-op holding and PACU

3. **If my patient has COVID-19, how many days into their illness might they develop hypoxia and respiratory failure?**

In a [study](#) of 191 patients in China with COVID-19, dyspnea developed at about day 7 of illness and respiratory failure requiring ICU admission on day 12 of illness.

4. **Is chloroquine useful for prophylaxis against COVID-19?**

Data for use of hydroxychloroquine and chloroquine are limited to in vitro studies thus far, with a number of RCTs currently underway. These trials are examining the role of chloroquine or hydroxychloroquine for active COVID-19 treatment as well as post exposure prophylaxis. Given the lack of data available, providing these medications widely off-label to patients for prevention outside of a study is not advisable.

EDUCATION

The UCSF Task Force can provide updates by ID faculty on COVID-19 to your department, division or team in varying formats: a 15-minute talk, a Grand Rounds, a Q&A session or another format that might suit your group. *For more information or to schedule a session, please contact Chesa Cox at chesa.cox@ucsf.edu.*

INSTITUTIONAL CONTACTS FOR CLINICAL OPERATIONS

ZSFG Hospital - Infection Control Team: Lisa Winston, MD (lisa.winston@ucsf.edu) and Vivek Jain, MD, MAS (vivek.jain@ucsf.edu) *Program Manager:* Elaine Dekker (elaine.dekker@ucsf.edu)

UCSF Health - COVID-19 Preparedness Leadership Team - Infection Prevention Team: Deborah Yokoe, MD, MPH (deborah.yokoe@ucsf.edu), Lynn Ramirez, MD, MPH (lynn.ramirez@ucsf.edu), Chaz Langelier, MD, PhD (chaz.langelier@ucsf.edu), and Amy Nichols (amy.nichols@ucsf.edu)

SFVAHCS - Infection Control Team: Harry Lampiris, MD (harry.lampiris@va.gov), Shelley Dwyer, RN (shelley.dwyer@va.gov), Alma Pipkin, RN (alma.pipkin@va.gov), and Scott Miller, RN (dean.miller2@va.gov)

UCSF Hospital Epidemiology and Infection Prevention COVID-19 webpage:

<https://infectioncontrol.ucsfmedicalcenter.org/ucsf-health-covid-19-resources>

San Francisco DPH link: <https://www.sfcddcp.org/infectious-diseases-a-to-z/coronavirus-2019-novel-coronavirus/>