

Update on SARS-CoV-2 / COVID-19:

March 27th, 2020

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Medication recommendation update

We have bumped zinc from “not a terrible idea to have on hand” to “possibly useful” as a synergistic agent with antiviral therapy, again cautioning that the level of evidence for all therapies is currently weak.

- From a mechanistic level, zinc does appear to have inhibitory properties with respect to viral replication, and chloroquine acts as an “ionophore” to help zinc get into cells. Due to its excellent safety profile, low cost, and potential upside, we are now strongly considering it as a synergistic agent to be used with antiviral therapy for SARS-COV-2.

On hydroxychloroquine based protocols

- NY state and many others have restricted prescribing of hydroxychloroquine (HCQ) to FDA-approved clinical trials only.
- The media has been circulating premature data regarding HCQ + azithromycin and/or zinc for synergistic effect. A letter from a NY-based physician claiming successful treatment of 350 individuals was limited by a total lack of patient specific data, and the fact that the average age of his population was 15 years old (not clear what the average age of his COVID-19 cohort was).
- Soberingly, a small 30 person controlled [clinical trial](#) from China showed virtually no benefit using HCQ alone. No increase in PCR-negative tests after 7 days, and no difference in fever or imaging prognosis was noted. One patient in the HCQ progressed to “severe” status. Nevertheless, we remain cautiously optimistic, if a large enough sample is considered and the drug is started earlier (likely in combination with other agents).
- We do not have yet an algorithmic approach to determining whether to initiate treatment in our symptomatic patients, and are still evaluating on a case by case basis depending on underlying risk and severity of symptoms.

Update on testing

- While slowing rates of new infections have been noted in the media over the last two days, it’s impossible to discern whether this is due to the effectiveness of lockdown measures or a reduced availability of testing kits--our data suggest that reduced total number of tests administered plays at least some of the role here.
- PCR vs antibody/IgG testing: There are two ways to test for the virus, nominally, both to look for active virus RNA shedding (PCR), and the host’s antibody response (IgG), which confirms exposure and theoretical temporary immunity, though very mild cases may not mount enough of an immune response to show a positive antibody result. Both have significant utility and minor drawbacks, but the salient point here is that we need vastly more of both, and the current rollout is insufficient.

Food safety

Below are updates and recommendations regarding food availability, procurement, and handling. All information included within has been corroborated by the USDA, CDC, and a [recent article](#) released by Harvard School of Public Health.

At the time of this update, there are no indications that [food shortages](#) will occur nationwide from a production standpoint. Any shortages noted in towns or cities is due to consumer stockpiling rather than production shortages. There have been [no confirmed reports of spread](#) or transmission of COVID-19 through imported goods, through food, or through packaging. That being said, it has been confirmed that the virus can live on a [variety of surfaces](#) that we interact with daily. The virus can persist on cardboard packaging for 24 hours, plastic packaging and steel surfaces for up to 3 days.

The following precautions should be observed if you are receiving goods or are entering stores to purchase supplies. Please note that the CDC acknowledges the greatest risk of viral transmission is through [direct interaction](#) with delivery personnel, store staff, or other customers within a shopping area. Secondary risk, they explain further, is viral transmission from [touching](#) contaminated public shopping carts or baskets.

Our bottom line: have groceries and supplies delivered, if that option exists

Grocery store--If entering a grocery store cannot be avoided, please observe the following:

1. Glove prior to entering the store. Completely avoid touching your face during this time.
2. Prior to shopping, sanitize the basket or cart with a sanitizing wipe and dispose immediately. Alternatively, you may bring your own large reusable bag.
3. To check out, use the self-check line, sanitize the scanning screen, touch screen, and belt prior to and after use.
4. Bag your own items both at the self-check and at the regular check-out line.
5. Use hand sanitizer upon leaving the store.
6. Once home, wash perishable goods with soap and water. Anything non-perishable can be left outside for 1-3 days depending on the packaging. If the item is needed, remove all cardboard packaging and dispose; wipe down plastic packaging with disinfecting wipes or with soap and water.
7. Wash hands for at least 20 second with soap and water after handling goods and prior to eating.

Delivered goods--For both grocery items and other delivered goods, our recommendations are as follows:

1. If the item is non-perishable, you may leave it outside for 1-3 days depending on packaging type.
2. If the item requires refrigeration:
 - a. Open the packaging and dispose in a receptacle or garbage bag outside.
 - b. Wash each item with soap, water, and a soft vegetable brush for at least 20 seconds.
 - c. Wash hands with soap and water for at least 20 seconds.

Prepared food delivery--This is an attractive option for many individuals and families looking to take a break from cooking or to show support to the local economy. Keep in mind that the risk of viral transmission is increased with direct contact with delivery personnel. Things to decrease risk of viral transmission are the following:

1. Pay over the phone and request contactless delivery.
2. Receive packaged meals, open the packaging, wash hands.
3. Remove food, wash hands.
4. Dispose of packaging, wash hands.

Temperatures and times for coronavirus are not yet fully researched, but conclusions from this [paper](#) suggest heating food to a temperature of 149°F (65°C) for at least 3 minutes is sufficient. Experts assume that the virus will respond like other pathogens and that hotter temperatures will require shorter times. The virus was shown to be inactivated by ultraviolet light (UV) at 254 nm, and heat treatment of 65 degrees C or greater. While the FDA does not suspect fecal-oral or food contamination as primary routes of spread, foodborne exposure is not ruled out given the presence of the virus in feces and survivability on surfaces. For more information, the current FDA recommendations can be found [here](#).