



COVID-19 Continues: What's New?



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COVID-19. The worst appears to be over but there is a sense of uncertainty that persists. Is The Virus coming back? Are my activities putting me at risk? Are my loved ones at risk? Am I putting others at risk? Will we ever get back to "normal" life again?

Public health officials are monitoring testing results nationwide. Locations where the positive test rate is over 5% are considered to be potential "hot spots" for spread. It appears that in our tri-state area, where we took the biggest hit early on, the positive test rate for infection has gone down well below the 5% mark. There are several states however, currently experiencing hot spots. This may be a result of "opening up" as people start to put some normalcy back into their lives. Still prohibited from large gatherings and usual business life, the degree to which we dip our toes in the waters of "normal life" is still somewhat an individual decision. A June 1, 2020 Lancet article reviewed many studies to conclude that lowering viral transmission CAN be accomplished by physical distancing of at least 1 meter (~3 feet), and wearing face masks. To see the effects of face masks, see the Nebraska Medicine YouTube showing laser light scattering of respiratory droplets with and without a mask. Masks dramatically reduce the droplet spreading.

More good news - the US death rate from COVID-19 is decreasing. Much has been learned since the days when we were blindsided by the infection and there are now more treatment successes for hospitalized patients. You can follow the case rate and death rate by country at www.worldometer.info.

Older age remains the biggest

risk factor for severe illness from COVID-19. The CDC recently expanded its list of medical conditions that increase risk. [cdc.gov/coronavirus](https://www.cdc.gov/coronavirus). It appears that the common denominator for those at highest risk would be a pre-existing load of oxidative stress and vascular disease as is seen in diabetes, obesity and cardiovascular disease. These are lifestyle related conditions and fear of COVID-19 has driven many people to begin to make positive lifestyle changes. One lifestyle change that could be investigated is the practice of routine intermittent fasting. It is a hot topic in Functional Medicine and there are many studies showing its benefits in lowering Body Mass Index, glucose, insulin and oxidative stress. There are no studies on intermittent fasting and its effects on prevention of COVID-19 yet but I expect there will be.

The social determinants of health have been exposed during this pandemic and our awareness of this has been expanded by nightly viewing of blatant racism and social unrest. "I can't breathe" became a poignant cry for many issues from police violence to economic injustice, environmental pollution and the air hunger from COVID infection. There are broad systemic inequities in our economic, health care and social service systems. Lifestyle related conditions cannot be resolved until the barriers to a healthy lifestyle are removed. Depending on overburdened hospitals to rescue us when "we can't breathe" shows the imbalance we have created in our health care system. We need to do more to strengthen the public health, mental health, and environmental health efforts in this country. Post pandemic, supporting access to health promotion services for everyone should be a top priority.

At www.clinicaltrials.gov, you will see the listing of over 2,000 clinical studies related to COVID-19 that are in progress. This exhaustive list is further evidence that the top end of the health care system is where the money is. Recently we have gotten some of our money's worth. Two studies have led to

improved treatment strategies. The anti-viral drug, Remdesivir reduced the time to recovery in COVID-19 hospitalized patients from 15 days to 11 days. A five day course of this drug costs \$2,340 - \$3,120. The University of Oxford study showed that the steroid dexamethasone reduced deaths of COVID-19 patients on ventilators by 35% and deaths of patients on oxygen by 20%. This is the first treatment shown to reduce mortality in severely ill COVID patients. Dexamethasone is off-patent, is fairly inexpensive and widely available. Some good news about treatment at last!!!

The bad news in research is that several of the recent headline breaking treatment studies (The Lancet article on Hydroxychloroquine for COVID-19 and the New England Journal of Medicine article on blood pressure drugs and COVID-19) were retracted due to unverifiable data submitted by one of the authors. It has disturbed many in the medical community as we count on research published in prestigious journals to be reliable and the source for medical treatments and policies. It is something we must be on-guard for: bias and personal profit. In this age of pervasive media and "fake news", we must find our trusted authorities. However, this is not an easy task because my trusted authority may not be your trusted authority. This is a huge dilemma but also speaks to the variety of ideas and freedoms that make our country strong.

There are many vaccines in clinical trials as well which are listed in the Covid-19 Vaccine Tracker at www.raps.org. Several of these (The University of Oxford, Moderna, Merck, Pfizer, and Johnson and Johnson) have been picked by our White House for funding by Operation Warp Speed. The speed with which these vaccines are developed and the fact that vaccine manufacturers are exempt from liability has made many people wary of these vaccines. Despite being touted as the one thing that will return us all back to normalcy, a recent poll found that only 49% of Americans planned to get vac-

inated against SARS-CoV-2. Some have proposed a policy of mandating the vaccination. This is as dangerous as antibody testing "passports" for travel. While the merits of these policies may be well intentioned, new drugs and new vaccines need to show that benefits outweigh risks before widespread use in healthy populations should be considered. If the rushed vaccine will be anything like the rushed virus testing products - I would be concerned.

Serological testing (for SARS-CoV-2 antibodies) should determine whether you have been infected and developed antibodies to the virus. In a race to gain a new market, many entrepreneurs quickly developed tests early in the pandemic. To speed the availability of testing, the FDA allowed many manufacturers to offer their tests under Emergency Use Authorization with no third party validation of accuracy. In early May 2020, 28 tests were removed from the market as the FDA started to tighten its requirements for application and performance. Because the prevalence of this virus is so low at this time, a test has to be highly sensitive and specific to yield accurate results. The current tests have a positive predictive value of 49%. This means that less than half the people who test positive will really have antibodies - creating many false positives. There are false negatives as well. How can a test like this be used as proof of immunity for an "immunity passport", a green light to go back to work, or to visit grandma?

Antibodies to SARS-CoV-2 develop about 3 - 4 weeks after symptom onset. A blood test done prior to that would likely be falsely negative. Antibodies to other coronaviruses can last about 1 year but some studies have shown that SARs-CoV-2 antibodies may only last 2 - 3 months. It is believed that immunity still exists for some time longer. No one knows how long though. Twenty percent of the US population are asymptomatic "carriers" who test positive for antibodies but have never recognized the outward signs of illness.

Screening for active infection uses the nasal swab to check for SARS-CoV-2 viral RNA. This test is used to diagnose people with symptoms so that correct treatments can be offered. Some have suggested we use this test in screening asymptomatic people in a workplace to determine who is "safe" and who is a "typhoid Mary". For this to work one would have to test every day as infection can happen on any day with new exposures.

The viral RNA test has some accuracy problems as well, mostly from not obtaining an adequate sample. But in May 2020 we saw the first reports showing some people were still testing positive for the virus after recovering from the infection. At first, this confusing picture seemed to indicate they were still infected and would have to isolate again. Soon scientists explained that the nasal swab PCR test only tests for certain snippets of the viral RNA and that these pieces from dead virus may still be lurking in the blood, able to cause a positive nasal swab test but unable to make the person continually infectious. Again, given the limitations of this testing technology, we must be wary of policies that advocate for "immunity passports".

In summary, while we have a long way to go in our understanding of SARS-CoV-2, the rate of our learning curve has been rapid. Let's hope our ethics curve, compassion curve and discernment curve travel at the same speed. What if our "new normal" could be fantastic for all of us!!

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