SARS2-COVID19
General Information and Frequently Asked Questions

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Winter 2024

Since March 2020 I have been maintaining this summary of pertinent COVID19 facts due to widespread confusion, ever-evolving COVID scientific data and understanding, and misinformation. First, a quick summary of my COVID19 experience and "credentials". It is important to recognize that while facts are facts, varying interpretations of those facts, even by experts, are a major source of the "COVID confusion".

I serve as the Medical Director for a prominent national company, National Diagnostic Services (NDS).

- Between February and June 2020, I built the COVID PCR testing and ambulatory testing and treatment algorithms including when to seek emergency care in New Jersey, parts of New York including NYC, and the NJ COVID-19 Call Center and Hotline where I served as the medical director.
- I built COVID-19 PCR testing protocols and algorithms that maximize staying COVID-19-free in the workplace through prevention, symptom screening, aggressive serial testing (PCR and antigen tests), and policies for returning to work post-COVID-19 infection for large companies in many states including NJ, NY, PA, MI, WI, and Ill. Many of these are ongoing.
- I provide consultation services for many of the television filming sets in New York such as HBO, NBC, and Warner Brothers. I am also the COVID-19 test ordering physician of record for hundreds of thousands of COVID-19 PCR tests in New Jersey and New York.
- I have personally treated ~ 3,500 COVID patients since March 2020, many via telemedicine or after acute hospitalization and too many with long Covid symptoms.

At this point in the evolution of COVID-19, I no longer play a prominent role in COVID-19. I have more "Covid" knowledge and experience than most doctors, but I am back to my "normal" practice and I do not consider myself a Covid expert.

Hot topics (current, often controversial ones) are followed by general COVID information below

Monoclonal Antibody Treatment (MABs}
Outpatient monoclonal antibody infusions are also not as helpful with the current strains of Covid, and they are generally not recommended but may used in hospitalized patients.

Hot Topics

What's New with COVID-19 Variants?

Sars2Covid19 originated in China, very likely in the Wu Han lab. By "variants" or "mutants" what we mean is that the spike protein, the portion of the virus that is attached to our cells, mutates and in that way, it escapes our immunity and remains an active disease. We do genotypes and follow these mutations from all over the world. Currently, all pertinent mutants are descendants of Omicron and I no longer list them because it really doesn't have clinical import anymore. Hopefully, the virus will continue to weaken over time.

Is it protective to have contracted Covid?

Having contracted Covid once, is theoretically somewhat protective. It may be that the more times one had been infected with Covid, the worse their outcome and the more lung / breathing issues one experiences—the exact opposite of what we would generally predict. If true, this is not good news. The jury is still out on this.

What is the deal with vaccinations and boosters? Do they work?

My Summary of Covid Vaccines

Yes and no. The vaccines likely still work in preventing serious disease and death in high-risk people, but they don't work very well in preventing one from contracting Covid. The vaccines were very effective (>90%) against the original Covid in 2020 but less so as variants have mutated, rendering the original vaccine ineffective. They have saved millions of lives earlier in the pandemic. In August 2022 we had the first "improved" Covid vaccine to cover BA5/BA4 at that time. Now there is yet a newer vaccine, trying to keep up with the viruses spike mutations. My position has been and still is that there is more nuance that can be applied to the decision-making on who really needs a booster vaccine. Healthy people, and most children, in my opinion (there is great debate among doctors on this) may not need the vaccine at this time because most people do well if they contract Covid, and the long-term mRNA vaccine risks, if any, are simply unknown. Exceptions are those who are immunocompromised, have long Covid symptoms or are age 65-75 or older. For others, I am not so sure.

Current CDC Covid Recommendations (Best to click on the CDC site here)

- **CDC's new recommendations allow an additional updated (bivalent) vaccine dose for adults ages 65 years and older and additional doses for people who are immunocompromised. This allows more flexibility for healthcare providers to administer additional doses to immunocompromised patients as needed.**
- **Monovalent (original) mRNA COVID-19 vaccines will no longer be recommended for use in the United States.**
- **CDC recommends that everyone ages 6 years and older receive an updated (bivalent) mRNA COVID-19 vaccine, regardless of whether they previously completed their (monovalent) primary series.**
- **Individuals ages 6 years and older who have already received an updated mRNA vaccine do not need to take any action unless they are 65 years or older or immunocompromised.**
- **For young children, multiple doses continue to be recommended and will vary by age, vaccine, and which vaccines were previously received.**

What do you see on the horizon?

I think it is likely that Covid, as a very serious threat in the US, may be near over, although it may be with us for a while, perhaps a long while in the way Influenza is. More dangerous mutations are still possible, and we cannot let our guard down just yet.

There will continue to be more mutant strains. Currently, most of these are Omicron "children" and yet prior Omicron infection is not particularly protective. We no longer have outpatient monoclonal antibody infusions (rarely used these days) as they are no longer useful against the current mutated strains of Covid. Recent spike mutations allow them to evade our vaccines and prior infections, at least somewhat. The oral medication, Paxlovid (Pfizer) can still be helpful for patients at high risk for serious Covid but there are side effects such as diarrhea and rebound phenomena as well as some drug interactions. Paxlovid may be most beneficial in those who have had Covid and who have updated vaccinations. Other medications (IV not oral) exist but are generally inpatient infusions against IL-6 (Inflammatory mediator) or against the virus directly. I expect these to continue to be at least partially effective and new antivirals to appear.

Quarantine and Isolation Guidance

This is so fluid a moving target it is best to click the CDC link here to be most up to date.
https://www.cdc.gov/coronavirus/2019-ncov/your-health/quarantine-isolation.html

Newer CDC guidelines call for no quarantine even for individuals not vaccinated. Isolation rules have not changed—see below. It is important to understand, however, that suspending both isolation and quarantine after five days is not without risk. When people get infected, the risk of spread drops precipitously after five days, but it does not disappear for everyone. Aaron Glatt, a New York physician who is a spokesman for the Infectious Diseases Society of America states this: "If you decrease it to five days, you're still going to small but significant number of people who are contagious.

Isolation
Isolation is the term we use if you actually test Covid positive. The isolation rules are the same for people who are unvaccinated, partly vaccinated, fully vaccinated, or boosted.

1. The clock starts the day you test positive or possibly the day you become symptomatic.
2. An infected person should go into isolations for five days, instead of 10.
3. At the end of *five days, if you have no symptoms, you can return to normal activities but must wear a mask everywhere — even at home around others — for at least five more days.
4. If you still have symptoms after isolating for *five days, stay home until you feel better and then start your five days of always wearing a mask including at home.

Kids with COVID
Kids rarely became significantly ill from original or wild COVID—99.998% of kids survive COVID. Delta and Omicron did affect kids more, perhaps 5 times more but even so, very few children

become seriously ill with COVID to date. More kids were hospitalized with Omicron than prior iterations of Covid but the rate of COVID death in kids is still very low. The lethality of Delta and Omicron appears to be 2-5 x greater than influenza. The CDC advises the mRNA vaccine in kids beginning at age 6 months now although some experts find this aggressive and there remains debate under age 12 years and especially under age 5 years. It is believed that up to 70% of children in the US have already had COVID. Myocarditis and pericarditis are rare but real and serious side effects of the vaccine (both of which can also occur with natural COVID infection). Nonetheless, the vaccine does appear to be safe and effective. In high-risk children, there is no debate, and the benefit almost certainly outweighs the risk of the vaccine.

General Facts About COVID

How do we get COVID?
More than 98% of the time, via direct exposure to respiratory droplets or aerosolization. Essentially inhaling someone's breath. Occasionally, we can contract it from touching a surface with active COVID.

How long does the virus live on surfaces?
Covid may live on surfaces longer than prior strains but whether one can easily contract Covid this way is not clear but probably not. Typically, on fabrics, pet fur, and other soft materials it lives only a couple of hours. COVID19 RNA is recoverable from hard surfaces like metals and plastic for 36 hours but it is not known how contagious this might be. You may remember the Diamond Princess ship that started this mess. Japanese scientists revered COVID19 RNA from hard surfaces 17 days after the ship was evacuated. Nonetheless, touch is a rare vector of COVID19.

Can we get COVID from food?
Theoretically, it is possible, but it has never been shown to occur and no serious scientists are believing that food is a vector, but everyone believes it is necessary to aggressively wash hands and use hand sanitizers.

Can I get COVID19 from the air when no one is close by (say, 10 feet away or more)?
Basically, no. Most patients contract COVID from being within the flume of someone's breath. The CDC uses this barometer: If you are within 5 or 6 feet for more than 10 minutes of a person who has or tests positive for COVID and you or they are without a mask—especially them, you are at risk. Eye exposure counts here, not just breathing it in.

Masks revisited—again
The CDC seems to change their stance every week on this. Here is a quick summary of what is known and what is not regarding masks vis a vis COVID. Masks are and have always been much less protective against COVID than touted. The relative difference between wearing an N95 mask and no mask is ~ 40%, meaning it may reduce by just 40% one's risk of contracting Covid. A non-N95 mask versus no mask is just 10% different if that. In summary, the only mask of value is an actual N-95. The size of the virus is 10 times smaller than the pore size of most

masks so the virus can go right through it. Cloth masks are useless and are of no value. That means all the kids you see with their cute little masks do absolutely nothing. Why kids wear cloth masks is beyond me. Distance trumps masks so don't let media or politics give you a false sense of security regarding masks. More confounding is that wearing a mask poorly may be worse than not wearing it at all because if your mask is not tight enough one can breathe in contaminated air, and you will rebreathe it in your poorly fitting mask. Also, if the COVID virus is in your environment it will be on the outside of your mask and most people do not practice sterile techniques when donning and removing their mask so now that virus is on your hands.

My point on masks? The real benefit of masks against Covid is quite minimal but it is easy to wear a mask so everyone must decide for themselves. My opinion, conservative by nature, is that based on all I know, very crowded areas, in an automobile, an elevator, or an airplane and in dense crowds there is a good argument for N-95 masks *when COVID is high in the region or one is high risk*. Same for distancing.

Is air travel safe?
There is no real consensus on this, but I feel that air travel if one practices good distancing and hand sanitizing, is very safe. Although the air is safe, there are 6-9 people within 6 feet of air travelers breathing each other's air. Also, boarding and deplaning crowds people very closley. N-95 masks on a plane still seem reasonable to me and I wear one.

What are my odds of getting extremely sick or dying from COVID19?
The two overwhelming factors here are having had COVID and being fully vaccinated or not. Risk factors include hypertension, obesity, diabetes, immune deficiency states, lung disease (probably not asthma, though) and pregnancy. Age is a huge risk factor.

The ORIGINAL mortality rate from native Covid (not the variants) of a 20-year-old was ~ 0.15 % where flu is near that. At age 65 that jumped to `2%. At age 75 it approached 9% and at age 85, 15% or more. These are probably overestimates because we do have new weapons (medications) to bring to the fight, but age is still a huge risk stratification. The virus is weaker now and most of us have some natural protection. Covid is currently roughly the same risk as Influenza is for most people.

Do children get sick from COVID?
See the Kids section above

How long am I contagious after getting sick?
One is most contagious 2 days prior and 3 days after symptom onset. Contagiousness is much less on day 5 and probably noncontagious by day 10.

What is the deal with COVID tests?
It has been a long journey these past 2 years regarding. PMG became a State of MI certified Covid testing location early in the pandemic in March 2020 because one of our doctors has served as a consultant (medical director level) nationally for municipalities and companies

addressing the COVID19 pandemic. In the spring of 2022, home antigen-based tests became both more reliable and more available. These tests are often good enough to depend on it properly performed and performed at least 1.5 days from the outset of symptoms. It is frequently wise to test early but repeatedly if negative because testing too early during Covid can miss the diagnosis, especially with home tests. The PCR test is still much better, and PMG has the Abbott ID NOW, NAAT rapid (10-minute) PCR test. Our providers determine when these are advised over the home tests. Home tests AFTER recovering from Covid is debatable and generally not recommended as a helpful indicator as to whether one is still contagious.