

Clinical Insights on Managing COVID-19 Cases: What We've Learned

July 30, 2020

Webinar FAQs

1. We are getting different types of test results and can't tell what is a rapid test or an antigen test. What is the difference between these tests?

There are three types of tests currently available—two antigen test types: 1) the viral RNA molecular testing known as the rt-PCR test, and 2) the viral protein rapid test. The third test is “qualitative” antibody testing via blood test.

2. Which test is more reliable, rT-PCR or the viral protein testing?

Rt-PCR is considered to be the test preferred over viral protein testing. It is considered to be more reliable.

3. Is it possible to have an antibody test confirm the presence of antibodies from an infection that was several months ago?

Yes, the antibody test is specifically designed to demonstrate past infection. However, the challenge at this time is that there could be some “cross-reactivity” to non-COVID-19 coronavirus. The difficulty is that these serology tests do not specify exactly what proteins of the coronavirus that they are reacting to, i.e. S-protein, M-protein, NC protein, etc.

4. Can you get a positive test if you had a flu vaccine?

No, COVID-19 antigen test does not cross-react with the influenza virus. They are a different viral makeup.

5. Given the inconsistent accuracy of the testing for COVID-19, other than being tested if/when someone feels they are experiencing COVID symptoms, is there any other time or reason to be tested?

Testing for COVID-19 is very critical and crucial for diagnosis, treatment, and infection prevention. The biggest problem right now is the issue with the supply of testing and turnaround time for testing. Because of these challenges, testing has been limited to those who are ill or with symptoms to ensure that infection transmission prevention procedures are undertaken. The goal should be to test everyone and anyone as much as possible AND have a process for quick test result turnaround in order to make good and timely clinical care decisions; however, this is not possible at the moment.

6. I have read that serology testing is infective, as antibodies may not stay within the body post infection, is this true?

No, serology testing is NOT infective. Serology or blood test is simply testing to see if there are antibodies being produced against viral proteins associated with the COVID-19 virus or coronavirus. This is why there is some cross-reactivity with non-COVID-19 coronaviruses (there are four human coronaviruses that cause common colds). With that said, yes, there is some evidence that the antibody levels seem to diminish over time after 30+ days post recovery, but this does not indicate anything definitive, but has raised some questions about the long-term

immunity. Also not discussed much is that immunity is more than just antibodies since there is also “cellular immunity” that exists—involving T-cells, so much more research is needed.

7. What is viral shedding?

This is the process of viral particles and/or viral genetic materials being secreted by the infected cells in the body.

8. How scary is Covid-19? Is it no different from a bad flu? Why does it affect people differently? Example: super healthy person gets Covid and dies vs. an older person with numerous health issues survives.

The good news is that majority of COVID-19 cases are a mild-moderate illness not requiring hospitalization. The percentage of cases who get critically ill are fortunately smaller ranging from 2.5 to 5% but exactly who will get “super sick” or not is still difficult to predict. We know that those with high risk chronic medical conditions will have a higher probability of experiencing more complications. That is all that can be assumed at this time. Personally speaking (Dr. Michael Choo), I am sure that there are probably some genetic predispositions that can increase the likelihood of more serious illness, but nothing definitive at this time that we can be sure of 100%.

9. Would like to hear more about Covid and how it is affecting people who have not been critically ill with it.

There are many who recover from mild COVID illness and seem to be back to their usual state of health and there are many who continue to have persistent post-COVID-19 symptoms. Current studies available show that 32% had persistent symptoms post two to three weeks following recovery from mild-moderate COVID illness. Less for younger ages and higher for older ages and for those with comorbidities.

10. Have we learned what co-morbidities affect the recovery of Covid-19?

There is not a specific study on impact of co-morbidities on recovery of COVID-19; however, there are plenty of studies now showing higher risk for more severe illness and critical illness associated with COVID-19. As discussed in the presentation, these can be categorized into those with strong evidence versus with mixed evidence. The presumption is that the recovery from COVID-19 will be more challenging for those with high-risk comorbidities since the complications associated with them would be higher.

11. Would a patient on immunosuppressive drug therapy be at a higher risk if contracting COVID-19?

Individuals considered to be immunosuppressed either from their medical conditions and/or medications will be at a higher risk for contracting COVID-19 infection, similar to being at risk for other infections. In addition, it is now known that COVID-19 infection seems to last or persist longer for those who are with immunosuppression.

12. Would people with behavioral health problems be more at risk for having severe illness increase?

People with behavioral health conditions may be more at risk of being impacted by COVID-19 based on the connection between the social determinants of health and behavioral health conditions. Those that suffer from mental health conditions are also less likely to seek medical care, which could impact early intervention of all health conditions, including COVID-19.

13. A patient who had COVID was treated right away in the ICU and was on a ventilator less than week. Her only comorbidity was obesity and history of pneumonia. She recovered well and is back to work. How do you explain that?

Numerous patients have milder courses of the disease and recover faster and healthier without reason and explanation. That is why we have no magic bullet cure as of yet and much is still unknown about how COVID expresses itself. While obesity is a major risk, genetics and immune response seem to play a larger role.

14. Is there any treatment for anosmia and do you feel the patient needs to see an ENT?

No specific treatment exists for now, except for time.

15. Are Stryker rotating beds used for COVID patients to make it easier to prone them?

The safest way to prone a patient is with the mechanical, powered “Rotoprone” bed. We believe it is a KCI product. However, when these beds are not available, a trained team of nurses, physicians and techs can place a patient in the prone position in a standard ICU hospital bed. This is for the intubated, sedated, pharmacologically paralyzed patient. Awake patients can turn to the prone position by themselves.

16. How does long-term intubation affect someone with asthma or COPD?

Pre-existing lung disease increases the total time on a ventilator for COVID patients and decreases survival. The long-term effects result in severe degeneration of pulmonary reserve and confine such patients to sedentary lifestyles, sometimes for life.

17. Does Covid-19 effect the eyes and is there treatment? Any long term issues?

Yes, COVID-19 can result in conjunctivitis and other ocular “inflammatory reactions” due to the hyper-inflammation response evoked by COVID-19 infections.

18. Will Covid-19 cause future health issues? Like chicken pox and shingles?

At this time, no one knows. SARS-1 and MERS have not been associated with any latent reactivation infection issues like chicken pox.

19. Does a patient already on blood thinners before Covid infection fare better/avoid severe illness/ICU/ventilator, etc.?

We would agree that patients on anticoagulation seem to benefit from thrombotic complications, but studies are showing that even those on anticoagulation therapies are getting clots and needing higher doses of anticoagulation. So, it depends.

20. Can Covid patients who have never been in ICU develop the neurological symptoms of seizures, hallucinations etc.? Also can Covid cause issues with thyroid (i.e. cause hyperthyroid)?

Typically more serious neurological symptoms are more likely to be with patients in the ICU or who are seriously ill. There is no conclusive evidence on long term thyroid involvement, but as part of the “systemic inflammatory reaction” from COVID-19, there will always be a potential for any organ involvement with COVID and hence, some short-term post-COVID inflammation related sequelae may be possible involving thyroids.

21. Medical findings are consistent with multifocal pneumonia including COVID-19. Patient tested five times, all negative for COVID. MD has indicated that his lungs look just like COVID. How is this positive?

There is no denying that people with pneumonia and other respiratory illnesses may be getting categorized to have COVID-19 infection from symptom perspective without laboratory confirmation more frequently than not, unless there are definitely positive lab tests indicating infection from other etiology like influenza, RSV, Coxsackievirus, etc. However, there are a few symptoms (anosmia or loss of smell) and radiographic findings (ground glass infiltrates in the lung x-ray or CT) that are highly associated with COVID-19; hence, our physicians presume the diagnosis to be COVID-19 despite the lack of lab confirmation.

22. I have a couple of current cases that have had lingering problems after the initial respiratory problems went away. Is there any evidence that heartburn or acid reflux symptoms are associated with or have been causally connected to the virus? Also, both have had increased heart rates that started about two to four weeks after the initial respiratory symptoms. Is this something that has been connected to the virus as well? Is it possible or likely that these symptoms are just incidental findings or coincidence?

As discussed during the presentation, persistent symptoms post-COVID is more common and expected as we are caring for more survivors of COVID and post-COVID infections. The post-COVID symptoms can be vague and can include fatigue, dyspnea, palpitations, chest pain, and joint pains and others involving respiratory, cardiac, musculoskeletal, and other bodily systems. It is more intuitive to accept those post-COVID symptoms that were present at the time of their acute COVID infection period, but there are challenges with some of the symptoms since they can also be related to other conditions that may not be related to COVID-19, including psychological factors such as depression and anxiety. There are a lot of uncertainties for now.

23. Are you finding any relevance to blood type vs. level of symptoms due to COVID-19?

Blood type implications have been noted in the literature from the genomic study that was done in Spain and Italy. Yes, the study did identify two locus of areas in the genes that seemed to be more prevalent in those patients with higher severity illness from COVID-19. The one area seemed to be an area that was made of clusters of genes that were associated with the ACE2 receptors while the other area was the ABO blood type; hence, the idea that perhaps blood type may be a determinant of COVID-19 illness severity. Although the study conclusions seemed to be compelling, the reality is that the study excluded about 20% of the study population due to the people not having “European ancestry genes” and there was no consideration given to the existence of any chronic medical conditions which we know heighten the risk of COVID-19 illness. Therefore, it is my opinion (Dr. Michael Choo) that ABO blood typing is not definitive, but of a theory and will need more studies.

24. Regarding children born with asthma and children who become more asthmatic when they are sick, would there be more of a concern should they become exposed to or contract the virus?

Currently, children are generally more likely to experience the “mild” form of the COVID-19 illness. There is a higher probability of more serious infections if the child has congenital neurological, cardiac, and metabolic conditions. Asthma is currently in the “mixed” evidence category; however, it is our opinion that due to the asthma being a reactive airway disease, children with asthma who get COVID-19 would experience worse respiratory symptoms like

wheezing and persistent cough etc., similar to what they would experience with other respiratory viruses like RSV, parainfluenza, etc.

25. Is Remdesivir indicated for someone not experiencing symptoms, but who tested positive for COVID-19?

Remdesivir is indicated for those seriously ill with COVID-19 who are hospitalized. Remdesivir is given EARLY to hospitalized patients prior to deterioration to respiratory failure and has been shown to prevent the deterioration. It is restricted in most places because of short supply. This drug and dexamethasone (steroids) are really the only two drugs that have prospective randomized studies (the gold standard) that show a survival difference.

26. Any promise in use of Hydroxychloroquine?

Currently, the use of Hydroxychloroquine is still being debated due to “mixed” research studies showing mixed and contradicting results. So, due to the potential adverse drug reactions, it is not being studied for effectiveness in large trials by WHO. Hence, there are practitioners still advocating for and some recommending against its use in COVID-19 infections.

Dr. Lottenberg personally reviews 5-10 studies a week and looks for the gold standard prospective randomized studies that have a control group (no drug) and a treatment group (drug) with NO other therapies to be convinced a therapy MAY be effective in treatment. There are no such studies for Hydroxychloroquine and to the contrary, numerous studies show ineffectiveness and more importantly dangerous and adverse reactions.

27. There was no mention of meds Bidisomide nebulizer and nothing on use of Hydroxychloroquine, Zinc, and Zithromax. Is there a standard treatment and if so, what is it for mild to moderate infection and for severe illness that requires inpatient stay?

There is no “magic bullet” treatment for COVID. We must rely on reviews of all the studies coming every week, focusing on the prospective randomized studies that have a treatment arm and a no-treatment arm. There are very few of them. The use of Zinc and Vitamin C are excellent “supplements” but not the cure.

28. Are doctors free to prescribe Hydroxychloroquine if they feel like it would help? Is there evidence to show that it helps?

Physicians can prescribe medications that they feel are appropriate as long as they have been FDA approved for manufacturing and sales.

29. Are each of these three types of vaccines safe—i.e., is the RNA type just as safe as the "regular" way of creating a vaccine (adenovirus vector)?

Safety has been studied in the phase I trials, but will need to do much larger testing to determine the true frequency of adverse reactions. The messenger RNA vaccines should theoretically be safer than the traditional vaccine approaches; however, we will need to see how the trials go.

30. If a vaccine is developed, would you yourself get it?

Dr. Michael Choo and Dr. Lottenberg were asked this question and both stated they would get the vaccine.

31. Why is IV Vitamin C therapy not more widely considered as an effective treatment?

Vitamin C is anecdotal and without any definitive evidence so far. More studies are needed.

32. What type of therapy do you recommend for PICS?

Post ICU syndrome treatments will vary based upon which domains are impacted. Hence, cognitive impairments will require neuropsychiatric approaches and cognitive therapies, while physical impairments will need PT/OT/speech rehab. Psychological domain will need behavioral health treatments.

Psychological treatments would include support for the presenting symptoms and would most commonly include EMDR for post-traumatic stress disorder symptoms, such as nightmares and unwanted memories, and CBT treatment for symptoms of depression and anxiety.

33. Any documentation on the amount of reoccurrence and if so, do their antibodies help them at all?

As discussed in the presentation, there is no definitive evidence for reinfections within the short period following COVID-19 infection recovery. Long term immunity is still pending.

34. For the more severe Covid-19 matters in workers' comp that require ICU and ventilation, what is the average amount of days and the average total medical costs associated with these matters?

Fortunately, most people diagnosed with COVID-19 do not require hospitalization and costs are minimal. For those that have severe COVID symptoms and require intensive care, the average length of hospitalization is 10-13 days (CDC). Costs vary greatly by region. On average, hospitalization of those ages 23-30 was \$25K. For those ages 51-60, \$45K. Extensive hospitalization with prolonged ventilator support and post-discharge rehabilitation can result in costs exceeding \$250K.

35. Do you think with all the positive cases, we are getting herd immunity?

We would need to have about 60% of the population have immunity to achieve this against COVID-19, so we are a long ways off for now.

36. What could explain the higher distribution of cases to the US versus other countries?

Our opinion is that this is because the US has a higher percentage of the population with higher rates of chronic medical conditions, including diabetes, heart disease, and obesity.

37. Is wearing masks recommended as we return to work indoors?

Yes, we personally support wearing masks when you cannot social distance and/or in an environment that is not well ventilated and/or in environments where people are conversing and talking, etc.

38. I am on the infection control committee at my workplace. We have secured KN95 masks, however they are failing the fit tests. I wondered if KN95 masks are fit-test worthy since they are not adjustable? Do you have any resources regarding KN95 masks and their efficacy against surgical masks?

The whole concept around masks is that it will provide a protective barrier against the viral spread and viral exposure. The higher the mask filtration efficiency like N95, the lower the likelihood of being exposed to viral load and viral particles. Hence, N95 masks are recommended as PPE when taking care of patients in the hospital with known COVID-19 infections and this is where fit test is especially important—since having a good fit supports the efficiency and effectiveness of masks. With that said, in general N95 masks and general medical masks are believed to be

protective from COVID-19, although there are no specific studies comparing them to each other. Also, cloth masks have been shown to be with some protection as well from studies done on influenza virus and other pathogens.

39. Are animals exposed from humans initially?

Domestic animals such as cats and dogs have been shown to have acquired the COVID-19 infection from infected humans.

40. Is the federal government picking up the expense of Covid treatment?

Not sure about this, but we do know that “research trials are supported by Federal grants.”

41. Does Paradigm offer a COVID-19 Nurse Certification?

At this time, Paradigm’s COVID-19 clinical education for nurses is an internal program.