

COVID-19 Response and Reactivation Update

July 7: Ordering Serology Testing and Clinical Insights Panel Q&A

This twice-weekly communication is intended to facilitate the sharing of important clinical information about the COVID-19 pandemic and reactivation initiatives across Northwestern Medicine.

Today's issue features information about ordering total antibody assay testing starting July 8, and a Q&A from the June 23 Clinical Insights Panel featuring Juan Carlos Caicedo, MD, Emily S. Miller, MD, Anne H. Rowley, MD and Clyde W. Yancy, MD, MSc.

TOTAL ANTIBODY ASSAY TESTING STARTS JULY 8

NM clinicians will be able to order SARS-CoV-2 total antibody assay testing (including IgG and IgM) starting July 8, in addition to the currently offered SARS-CoV-2 IgG antibody testing. The new testing available in Epic is called "SARS-CoV-2 Total Antibody."

For more information about the analyzers and their capabilities, please see the [Clinical Laboratory Test Update](#). Starting tomorrow, find information about total antibody testing clinical use, result interpretation and ordering workflows in Epic on the Testing Resources pages on [Physician Forum](#) and [NM Interactive](#).

CLINICAL INSIGHTS PANEL SUMMARY

A Clinical Insights Panel open to all Northwestern Medicine physicians was held June 23. Below are several questions and answers from the session.

COVID-19 and Transplantation – Juan Carlos Caicedo, MD, Transplantation Surgery

Dr. Caicedo is the director of the **Hispanic Transplant Program** at Northwestern Memorial Hospital, the only known program of its kind in the country. A team of more than 40 bilingual surgeons, physicians, social workers, a financial coordinator, a clinical research coordinator and other support staff offer individualized, culturally sensitive care.

Q: How do you counsel patients who need an organ transplant but are reluctant due to concerns regarding COVID-19?

A: For patients who need a transplant but are reluctant to get care, it's important to educate them about the mortality rate of their underlying disease versus the risk of developing COVID-19. If a liver transplant candidate has cirrhosis, the mortality rate is far higher if they don't get a transplant than if they get COVID-19.

Q: Is it necessary to adjust immunosuppression treatment in patients to prevent them from getting COVID-19?

A: If the patient doesn't have COVID-19, we are not changing immunosuppression treatment. We only reduce or stop medications like mycophenolate if the patient develops an infection and we need to treat them.

Q: Do you have concerns about Hispanic or transplant patients being reluctant to get a COVID-19 vaccine if it becomes available, and is deemed safe and effective?

A: The transplant population I've worked with is eager to get a vaccine, but it depends on the patient. With some minorities, you will see a reluctance, and we need to provide them culturally sensitive education to help them understand the benefits of vaccination.

COVID-19 and Pregnancy – Emily S. Miller, MD, Maternal Fetal Medicine

Q: If a woman develops COVID-19 while pregnant, can she transmit it to her baby?

A: Transmission that occurs in utero requires maternal viremia and the ability of the virus to transport through the placenta. Viremia is pretty uncommon in all adults (around 1%), so we think it's a low likelihood.

Another mechanism of infections is intrapartum during labor, but studies are fairly limited to date. Data are also limited about postnatal transmission via breast milk; samples that have been assayed have not been positive. Considering overall population level data, around 4% to 5% of neonates acquire SARS-CoV-2 via vertical transmission.

Q: Are there specific precautions pregnant women should take during this pandemic?

A: The precautions we recommend for pregnant women are the same as those for the general population: Practice good hand hygiene, wear a mask and physically distance.

A question early in the pandemic arose whether SARS-CoV-2 was a respiratory pathogen that would have a disproportionate impact on pregnant or postpartum women, like MERS and SARS, or even some strains of influenza. While data are limited, fortunately, we don't see a disproportionate impact. Still, about 10% to 15% of pregnant women have a severe disease when COVID-19 infection does occur, so adhering to public health measures is very important.

Q: To decrease risk of developing COVID-19 during pregnancy, should pregnant women take time off work or quarantine themselves?

A: We want to avoid a woman acquiring COVID-19 before delivery, but the same recommendations with respect to masking, physical distancing and hand hygiene apply to pregnant women as to the rest of the population. If a woman has the desire and ability to work from home, it's a good idea, but by no means are we recommending that they stay home.

Q: Are there any restrictions for visitors of pregnant women?

A: We've implemented a few restrictions to balance families' desire to provide support with our requirements for exposure mitigation. If a pregnant woman is COVID-19 positive, she is placed in an isolation room and visitors are prohibited.

Hospitals have added visiting hours for patients who are not in COVID-19 units. Specific policies for outpatient settings and for each hospital can be found on the [Visitor Restrictions Due to COVID-19](#) page on nm.org.

Q: Are you accepting labs or specimens (such as placentas) from COVID-19 positive patients from NM hospitals for clinical studies?

A: We don't have a mechanism in place to accept specimens, but you can reach out to me to discuss collaboration. We have an ongoing research study where we are looking at biomarkers of this disease as well as placental histopathology to determine if SARS-CoV-2 impacts the fetus or neonates.

Q: Are you aware of reports of fetal anemia or hemolytic anemia associated with maternal COVID-19 infections?

A: I haven't seen reports of anything within the placenta or within clinical care of anemia. We've seen maternal vascular malperfusion of the placenta, as well as intervillous thrombi.

Multi-system Inflammatory Syndrome in Children (MIS-C) – Anne H. Rowley, MD, Pediatric Infectious Disease

MIS-C is an emerging serious illness that appears to be related to COVID-19 infection. Mostly affecting school-aged children and adolescents, some children with MIS-C can have some clinical features of Kawasaki disease, such as a prolonged fever, rash and conjunctival infection, and this has caused confusion. Additional and more serious signs and symptoms of MIS-C are:

- Severe abdominal pain
- Hypotension and myocardial dysfunction
- Lymphopenia
- Markedly elevated cardiac damage markers (NT-pro-BNP levels are often more than 10,000 pg/ml)

Physicians should feel free to contact **infectious disease specialists at Ann & Robert H. Lurie Children's Hospital of Chicago** to discuss cases.

Q: Are there risk factors that make some children more susceptible to MIS-C?

A: We don't know all of the answers yet. What I've observed in literature and from my own experience, we see more cases in children who have an African or Hispanic ethnicity. We don't know whether it's a genetic issue or whether it's related to other factors. We also do not know of any particular risk factors that would make a child more likely to develop SARS-CoV-2.

Q: What age range do we typically see MIS-C?

A: MIS-C is occurring primarily in older children with a median age of about 10. This is in marked distinction to Kawasaki disease, where children are affected primarily under the age of 5, and where the peak incidence occurs in infants at 10 months. There is quite an age disparity. In general, if an infant presents with prolonged fever, rash and red eyes, they are more likely to have Kawasaki disease than MIS-C.

Q: What is the time frame of onset of MIS-C related to COVID-19 infection?

A: We need to determine an answer with research studies. Some patients have positive RT-PCR from a nasopharyngeal swab. Some do not, and instead have positive antibody. It is difficult to determine the timing of infection to MIS-C onset, but limited epidemiologic data indicates cases of MIS-C are occurring later in the course of the infection.

Q: How does outdoor play for children impact transmission rate compared to indoor play?

A: Activity in close proximity in a confined environment poses a higher risk for transmission. With athletics, for example, schools are focusing on the possibility of moving more sports outdoors instead of indoors. It still poses a risk, but being outside with fewer children at one time would be a way to reduce possibility for transmission.

Q: Are there data on children’s susceptibility to COVID-19 and how that will affect schools potentially opening in the fall?

A: Data so far show that children are primarily acquiring infection from their parents, which has led some to speculate that children won’t transmit COVID-19. This does not fit with our general idea about pediatric infectious diseases, particularly respiratory viruses. Once we open schools, there is a strong possibility for transmission within schools. Schools are trying to creatively address this.

Q: Would recommendations about returning to school be different for grade schools, high schools, and colleges or universities?

A: There will be differences among age groups, and schools will have to be flexible depending on the student population. Many colleges have complex plans to keep students on campus while reinforcing physical distancing, hand hygiene, mask wearing, and continuous testing and monitoring.

Q: We heard about the susceptibility of COVID-19 infection in older patients. What recommendations do you make to help children avoid transmission to parents or grandparents?

A: We try to encourage patients to avoid contact with elderly family members if possible. And, when visiting, wear masks and physically distance.

COVID-19 and Black Communities – Clyde W. Yancy, MD, MSc, Cardiology

Here in Chicago, a particularly distressing concern is that about half of COVID-19 infections and about 70% of deaths occurred in Black patients at the outset of the pandemic, and a cluster of cases has been observed in five South Side neighborhoods. In addition to race, it’s important to recognize the social determinants of health among residents in these areas, including socioeconomic status, lifestyle, exposure to infection, and concurrent comorbidities of hypertension, obesity and cardiovascular disease.

Q: As we move through phased reopening of the city and businesses, do you have concerns about vulnerable populations on the South and West sides of the city?

A: This is an active learning experience. There will be continued risk, but all of us are more enlightened now than we were in February and March. NM can take a leading position in helping the community prevent future infections by offering ubiquitous testing. We need to make hand sanitizer and face masks available to everyone in every community. We need to overserve certain communities with precautionary measures.

Q: Are Black Americans at increased risk for mortality with COVID-19 even if they don’t have comorbidities of hypertension, diabetes and obesity?

A: When you fully adjust for comorbidities and socioeconomic status, the differences in mortality by race go away. The differences don’t go away regarding the infection; Black patients are more vulnerable.

Q: Do you have concerns that Black Americans will be less likely to get vaccinated against SARS-CoV-2 if a vaccine is developed, and is deemed to be safe and effective?

A: We know from the influenza vaccine rates of about 60% that there is reticence to get vaccinated in a number of populations. These populations include not only Black Americans, but also non-English speakers and people who live in challenging socioeconomic circumstances. When a coronavirus vaccine becomes available, we expect vaccine rates to be lower, especially in communities that are at risk. It's a challenge we need to address.

Q: What is the impact of COVID-19 on the cardiovascular system?

A: COVID-19 infection has raised an enormous number of questions about the angiotensin-converting enzyme (ACE) functionality, but we have not yet seen that the drugs we use to treat hypertension or heart failure create more infection or offer protection.

People with pre-existing history of hypertension, coronary disease and heart failure have more severe consequences of COVID-19 infection, but we don't know why. We can't say that the virus uniquely exacerbates cardiovascular disease; all we can say is there is a co-relationship with outcomes.

One of the more disturbing observations is the prothrombotic nature of COVID-19. Clotting has been associated with significant strokes in young adults, fatal pulmonary emboli and coronary thrombi. We are beginning to understand that yet another important consideration is how COVID-19 changes thrombogenicity.

Q: Throughout the pandemic, we've moved from in-person visits to more telehealth visits and virtual consults. Should we adjust?

A: We need more data about this period of increased telemedicine and decreased physical touch. So far we see two disturbing observations: One, more disease is occurring away from the hospital. And, most worrisome are reports of increased out-of-hospital cardiac arrests. Even those with access to telemedicine are either not being diagnosed, not being transparent about their condition, or are reticent to make a trip to the hospital. We still need to see patients in person.

General Questions

Q: What is the biggest concern you hear from patients regarding getting care?

A (Dr. Caicedo): The COVID-19 pandemic is enhancing misconceptions and concerns about getting transplant care. Knowing Spanish is a limiting factor for many, and we need to make sure they understand the options to help them receive the care that they need.

A (Dr. Miller): One of the big changes in our health services is transitioning care that is incredibly high-touch, particularly at the end of pregnancy and the beginning of a newborn's life, to being more physically distanced. We are trying to come up with creative ways to give moms and families the support they need to safely navigate such a big transition in their lives. We are continually adapting as we learn more information.

A (Dr. Yancy): Overall, patient concerns are disparate depending on the type of patient, but we've been able to manage it in many different ways. About half of our patients tell us they enjoy the telehealth format. It's more convenient, and they feel like they get undivided attention. Also, we're hearing that our patients are selecting to have diagnostics done at facilities closer to home.

Q: How safe is it for patients or families to travel?

A (Dr. Yancy): A survey of about 500 epidemiologists in the U.S. indicated time frames of three, six or nine months from now as the earliest they would be comfortable flying again. We know that without question, the strongest risk factor for complications related to COVID-19 is age. I insist that my older patients think seriously about air travel and give it more time before they reengage.

A (Dr. Rowley): We don't have any answers at present. Individuals can reduce probability of infection by masking and practicing good hand hygiene. And, as with an elderly population, it's not advisable to take an infant on a plane. Individuals are at higher risk for infection if they can't comply with protective measures.

Q: What can NM do to better address healthcare inequities?

A (Dr. Yancy): Our system benefits from an excellent data repository. We know the populations we serve and our community partnerships. We can anticipate where we will receive patients, and the types of diseases those patients will have. By being proactive, like taking testing to the community, setting up mask distribution sites and engaging with patients at peripheral locations instead of at the ED, we can interrupt progression of disease through early intervention.

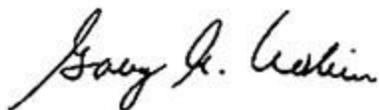
A (Dr. Caicedo): For a diverse population, we need to address, in a culturally sensitive manner, how they think, feel and speak, and the social issues they face. For example, within the transplant program, our Hispanic patients are very family-oriented. When we restricted visitors, we used telemedicine platforms to reach family members to keep them engaged. And, we have a Spanish-speaking staff to help communicate and share information more effectively.

Q: For an outpatient surgical procedure, can a patient bring a companion for either pre-op or post-op visits?

A (Dr. Chrisman): We evaluate our visitor policy weekly. Specific policies for outpatient settings and for each hospital can be found on the **Visitor Restrictions Due to COVID-19** page on nm.org.

Please remember, if members of the media reach out to you for comment or an interview, per **NM's Media Relations Policy**, please refer them to Media Relations at 312.926.7432.

Thank you to all NM physicians and clinicians for your ongoing support, collaboration and dedication to providing exceptional care during this pandemic.



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