

COVID-19 TASK FORCE

RNS COVID-19 Virtual Town Hall Executive Summary

May 14, 2020 / 6:30-7:30 pm EST

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Summary: As the RNS COVID-19 Virtual Town Halls have continued, the RNS COVID-19 Task Force invited guest panelist Dr. Matthew Adams, MD of Detroit Medical Center to join the discussion on Thursday, May 14, 2020 from 6:30 PM - 7:30 PM to answer questions surrounding differentiating Kawasaki disease versus COVID-19 symptoms, vasculitis, antibody testing, COVID-19 vaccines, and multisystem inflammatory syndrome.

1. **What is the current state of where you live in regards to COVID-19?**

Cathy Patty-Resk: In Michigan, today, we are up to a total of 4,787 total infections, and we have 1,191 new cases in the last 24 hours, and we've had 73 deaths in the last 24 hours.

Carolyn Zic: Here in Chicago today, from our Illinois Department of Public Health website, we had a total of 87,937 confirmed cases. As of today there were 3,928 deaths here in Illinois, and most of that is in the Chicago land area, so in the general region where we are.

Barb Kienzie: In Georgia, as of today, our total cases are 35,858, and our deaths are 1,527. The good news for us is, because we have technically been an open state for about two and a half weeks, that overall our new cases, and our death rate, is continuing to decline. Which is really good, because our governor has taken a lot of flak for this, but so far he's okay. There's a few hotspots, Atlanta is still pretty bad, and their hospitals are still pretty taxed right now, but the rest of the state is looking better.

Cathy Patty-Resk: Okay, are the hospitals managing okay right now in Atlanta?

Barb Kienzle: They're managing, but several of them are almost at capacity.

Carrie Beach: Things are actually pretty well compared to some of our other states. We've had, in Ohio, as of today 24,080 cases, and 1,380 deaths. We are just now starting to open things up. I think retail opened Tuesday, patio dining tomorrow, and the governor just laid out a plan for daycares, and other things, so we'll see. It seems a little fast, everything opening at once, but so far so good here.

2. *Dr. Adams, can you review some of the COVID-19 responses that are being seen in pediatrics, such as the COVID-Kawasaki hot topic?*

Dr. Matthew Adams: So, speaking a little bit from my personal experience, speaking a little bit from what I've seen on the pediatric rheumatology bulletin board, and speaking a little bit from some of the recent articles I've skimmed through, we started to see an uptick in Kawasaki patients about the end of February, at the beginning of March. I remember I was asked to consult on them, and I remember one of my infectious disease physicians, who were the ones who primarily manage Kawasaki's, saying to me, "Boy, you know, this is kind of funny, this is like the third Kawasaki we've seen in two weeks, and that's a little on the high side for us." Then through March, and more in April, people began to see more children with systemic inflammatory response syndrome. Initially, most of these patients were patients who were the sickest. These were patients who were inside in the ICU, many of them on ventilators, some of them on ECMO, and they presented with what we typically see in these syndromes, which is high CPR, white counts, [and] hemoglobin. Platelets, which may be dropping, signs of disseminated intravascular syndrome, which you heard a lot about. You were talking early on about people having a clotting risk, that's what that is about. As time went on, people were seeing more of this, then there was a report, I'm going to say March, that came out of England, that presented six cases which they clearly associated them with COVID[-19], one of which was fatal. They laid out a testing scheme to look for with these kids, and once that testing scheme became more well-known, more of these children who were sick, but less sick than PICU admissions, were being seen. It's been associated with Kawasaki's because some of these patients had classic Kawasaki's appearance, prolonged fevers, strawberry tongue, cracked lips, conjunctivitis, that was this fine conjunctivitis that would, they would say, spare the pupil. It would fade out around the pupil. It could have a lot of goop, lymph nodes, and dilated coronary arteries. As we applied these criteria to more patients, we were seeing a far broader group who clearly had this systemic inflammatory response syndrome, but didn't always present with classic Kawasaki's features. Some of them got called Kawasaki's, some of them were just inflammatory response syndromes. Some of them are getting admitted to the PICU, a lot weren't getting admitted to the PICU.

They were manageable on the floor. As that was published, we were getting a lot of talk about these COVID[-19] toes. COVID[-19] toes are these pernio-appearing toes that get red and swollen, and they may be tender. It's subcutaneous. It's not arthritis. It seems to affect all the toes. It lasts for a week. It doesn't seem to leave any lasting damage. Several issues, one, is how do you know that it's secondary to COVID[-19]? The answer is unclear. We've certainly seen a significant uptick in COVID[-19] endemic areas. A lot of these patients have [the] inability to either get prompted. PCR is looking for the COVID[-19] virus itself. [The] issues with the high false negative rate of the antibody tests means that a lot of these patients are surprisingly not testing positive, and the diagnosis is made on clinical grounds alone. I saw a young boy who was the son of a physician, an internist, seeing tons of COVID[-19] patients, and this kid was clearly exposed to COVID[-19], but he tested negative four times. He had to have been infected at some point, but why we weren't able to get it, I don't know. The other issue is how to treat these patients. I polled the pediatric rheumatology bulletin board about five days ago, and I'm sure everyone here is familiar with IO1 inhibitors, TNF-alpha inhibitors, and IL-6 inhibitors, and I really expected to hear a consensus going around ... coalescing around IO1 inhibitors, because that's usually what we treat these systemic [with], and steroids, and actually found a much broader opinion among the people who answered. Everything from IVIG to Remicade, to anti-IL-6, to IO1. A week ago, I didn't feel like I had gotten a true consensus. My personal [opinion] is to start with pulse steroids, that's what I've been recommending people to do. I'm not that fond of Remicade, the reason for that is, that if they fail it, and you give them an IO1 inhibitor there is an increased risk of infection. But in all honesty, tons of people have been doing it, but my n-of-1 didn't respond that well to Remicade, so purely anecdotally I wasn't that thrilled with it.

Cathy Patty-Resk: So do Kawasaki patients normally respond well to Remicade then when they fail IVIG?

Dr. Matthew Adams: Yes, and for many of them some people are giving Remicade first line treatment.

Carolyn Zic: Instead of IVIG?

Dr. Matthew Adams: Yeah. Some places they just cut to Remicade. But of course some places just do steroids, the old adage you don't give steroids in Kawasaki's doesn't hold anymore.

Cathy Patty-Resk: Think of the adult world, Carrie, you can correct me if I'm wrong, there was some fear about giving steroids with the COVID[-19] patient.

Carrie Beach: In higher doses, yeah, we were trying to avoid, but mostly it's for patients, we were really trying to get patients to stay on their medications, on their biologics rather than going off flaring, and having to put them on high-dose steroids. But we use them, and we're still using them. For flares we're still using Prednisone.

Cathy Patty-Resk: Some of the articles that I was reading recently about using the IO1, Anakinra in particular, was that they were having to use much more than the standard 100 mg once a day, and that some institutions, some patients actually required Anakinra infusions, which I don't even know how you would do an Anakinra infusion.

Dr. Matthew Adams: But that's been true for a very long time with bad systemic inflammatory response syndrome, for a year it's not associated with COVID[19], just post-viral.

Cathy Patty-Resk: Okay, so the Anakinra infusions isn't really anything new then, is what you're saying?

Dr. Matthew Adams: No.

Cathy Patty-Resk: That's good to know.

Dr. Matthew Adams: It's always been rare. I mean, that's like \$1,000 an hour, but no, it's been used.

Cathy Patty-Resk: Okay, that's good to know. Anyone have any questions?

Carolyn Zic: One of the questions I had when I was reading a couple of different articles, one talked a little bit about how Kawasaki has been associated with corona viruses before? The other question I had, the kids that are coming in, or that we're seeing around, they're not your typical age for Kawasaki, right? We have this typical, grouchy preschooler toddler with all of those features, this is not the typical picture, correct?

Dr. Matthew Adams: No, we're seeing them totally out of the age range.

Carolyn Zic: Right, we don't usually see older adolescents with Kawasaki disease.

Dr. Matthew Adams: No, we don't. That's a very good point.

Barb Kienzle: So it's older, older kids that you're seeing with it right now?

Dr. Matthew Adams: Yes.

Barb Kienzle: Okay.

Cathy Patty-Resk: I think I read somewhere the mean age was somewhere around, between 7 and 10.

3. *There was an article read recently that talks about different treatments for COVID-19, what are your thoughts on different treatments?*

Dr. Matthew Adams: Well, I'm not an infectious disease person, so I'm not up on that literature, you mean of the virus itself?

Cathy Patty-Resk: The virus itself, or there was something that I was looking at recently that was talking about the use of nitrous oxide.

Dr. Matthew Adams: Nitrous oxide is a vasodilator, so if you had someone who was in adult respiratory distress syndrome, and they were developing pulmonary hypertension, you might use that, but no one's spoken to me except for you about that. As I said, most people are using things like Sildenafil, which acts in exactly the same manner, it increases endothelial cell, or smooth muscle cell nitrous oxide, and induces vasodilation. I can't remember who I was talking to, but I was used to it with preemies, and the person I talked to about it says they use it from time to time but not very frequently.

Barb Kienzle: When I was reading that article I was going back to my neonatal days going, "This sounds a lot like what they have done, and I think still do from time to time for the extreme premature event." So I thought that was kind of interesting that it's circling back around, and it's being looked at in COVID[-19], and other things.

Dr. Matthew Adams: Right, I could see it, but that's nothing I would personally manage, that's a pulmonary critical care issue.

Cathy Patty-Resk: I found it quite interesting, I had never heard of it. I had never been a neonatal person, so it was all new to me, but I think it's so interesting how with COVID[-19], it seems like we're going back with a lot of our older treatments. I guess there's something to say for having seasoned professionals at a time like this. [I'm] so glad we have all the people that have been around for some of these older treatments to be able to pull them out of their magic bag.

4. *What are your thoughts about the vaccine in COVID-19?*

Dr. Matthew Adams: Can you be a little bit more specific?

Cathy Patty-Resk: Well, there are several different things, we've heard [that] this is an RNA virus, and that it could be a little harder to find a vaccine for it. They weren't sure if that would change, originally. Initially there was some uncertainty, if it would be similar to HIV where it would mutate frequently, and it would be a real problem for a vaccine.

Dr. Matthew Adams: Again, I'm not an infectious disease person, but when you have a vaccine, you can have, "the vaccine doesn't work, there is no response." HIV is classic, no matter how many different proteins that the HIV virus makes, nothing is neutralizing. Then there are the ones that it's one-and-done, you think of smallpox. You get your vaccine, and you will never get small pox again, and then the same for measles, Rubella, you need a booster from time to time. Then there are things like influenza, which you definitely, everyone should get, but at best it's a partial response. It's definitely better than nothing, but it doesn't prevent [the] disease. It does seem to reduce the risk of severity, most children who have severe disease or [are] unvaccinated, but certainly in adults, you're less likely to have a severe response, but you can still have a bad response to [the] flu. I don't think anyone can predict at this point what's going to happen with the coronavirus, and vaccinations. Just being immunogenic doesn't mean it's neutralizing.

Cathy Patty-Resk: That's a good point. As far as them making the vaccine, do you know if they're looking at using an attenuated virus? Are they looking at using live viruses?

Dr. Matthew Adams: I've read nothing. I have no idea. I assumed that most people were talking about using, not virus particles, but immunogenic proteins, but I really have zero idea. I don't know anything about it.

Cathy Patty-Resk: Okay. I was just wondering if with all the different vaccine manufacturers, and trials that are going on right now, I was just wondering how many were, if they were all using the same pathway.

Dr. Matthew Adams: No, no, not what I've read. I'm not going to lie, mostly what I read is probably in the newspaper. It's not something I follow in the literature.

Cathy Patty-Resk: We did invite Dr. Secord with us, who is our immunologist from Children's Hospital, and we're sorry that she couldn't be with us tonight. She had a last minute emergency there, but Dr. Adams is very knowledgeable about immunology so we're glad that we have him to answer some of these questions for us too. So thanks for bearing with us with some of our immunology-type questions.

5. What do you think about the testing, and measuring the antibodies that's happening right now?

Dr. Matthew Adams: Well, epidemics are sort of like that old adage, a tree best measured when it's down, we're really not going to truly understand the shape of this until it's done. It's very hard to make predictions. It's not like a hundred years of influenza epidemics, so even though 1918 was terrible, we generally know what they look like. It starts in the fall, it ends in the spring, old people and vulnerable people die, and most people are miserable and live. We

don't know what's going to happen with this. Are we one-and-done? Are we going to see a recurrence in the fall? We know you recover from it. There must be something in your body that controls it, because people aren't dying. I mean people are dying, but everyone isn't dying. But to circle back to your question, I understand that there are issues with the false positive, and false negative rate, and these are technical issues that just take time to work themselves out. It's not possible that in due time we won't be very good at this, testing. That's my opinion, I don't know, without good antibody testing, and good surveillance data, it's going to be very hard to know if there's a reinfection rate, again like [the] flu. We have a million antibodies to [the] flu, and we get sick every year, and it may help us some, but it doesn't help us totally. I think a lot of things just aren't going to be understood until it's over. People should be tested. Someone, somewhere must be saving serum, even saving secretions and swabs instead of throwing them out. Someone's going to develop a better test and want to go back to old swabs, see what the negatives were. We'll have to see, but in terms of testing, yeah, it's central. You can't manage an epidemic whose size, and shape you don't really know.

Cathy Patty-Resk: It is like fighting the invisible enemy, it's hard to fight something you can't see.

6. If a patient had a childhood flare (around age 5), presented similar to Kawasaki Syndrome but was ultimately discharged with the diagnosis of Scarlet Fever due to the lack of criteria for Kawasaki, could this patient qualify to be a possible serum donor?

Dr. Matthew Adams: If you're antibody positive, the answer is yes.

Carolyn Zic: Right, the test is part of the, from my understanding from what I've read, and from what I heard, and of course there are probably two different antibody testing type things, as there is with some other things. But from my understanding it's not so easy just to go get antibody testing that's validated.

Carrie Beach: We're not having it here. There's not a lot of antibody testing being done in Ohio at this point. Our testing, I think, is far behind other states in general, but I don't think I've had any patients that have been tested.

Barb Kienzie: Our regular COVID[-19] testing across the state has ramped up, but just in the last couple of days. They're coming out now with just a few places that will do antibody tests, but they're limiting even who that's going to be at this point in time. Now, at least in Georgia, even if you don't have symptoms you can get a basic COVID[-19] test, but there is a criteria that they're developing to get the antibody tests.

Cathy Patty-Resk: That's about the same here, I think too. Here in Michigan you can get it, but you really have to make a lot of phone calls, and search it out. In a lot of places, just anybody can walk in and get it, but you really have to search those places out. Now, Carrie, the question was her daughter was five years old then had this?

Carrie Beach: Yes, this was 20 years ago because she's 25 now.

7. *Is there any data showing how many kids have been diagnosed with pediatric multisystem inflammatory syndrome, who don't have COVID-19 antibodies?*

Barb Kienzle: We'll take this back to, "Is anybody getting the antibody test at the time of the illness?"

Dr. Matthew Adams: That's a trick question. Many viruses cause a similar syndrome, so yes, it's definitely possible to have a similar syndrome that looks exactly the same, and not be positive for COVID[-19].

Cathy Patty-Resk: I remember when we first started testing for COVID[-19], Dr. Adams, we were doing the viral PCRs too, do you know if that's standard protocol with kids that are getting tested for COVID[-19] where they do the viral PCR, plus the COVID[-19], or is it just one or the other?

Dr. Matthew Adams: I thought it was all PCR, but I'm not keeping up on the techniques of testing. It would have been nice to have someone from an infectious disease perspective here, because they know all those details in a way I don't.

Cathy Patty-Resk: That will be an upcoming town hall.

8. *What is the treatment for this type of Kawasaki disease, and are there any clues as to which child would get it?*

Dr. Matthew Adams: The truth of the matter is that's a little controversial. What people have been doing is if the child, even if they're COVID-19 positive, looks like Kawasaki's, a lot of people have been giving IVIG, followed by Remicade. For those children who look more like a systemic inflammatory response syndrome it's been more divided, some people giving Tocilizumab, anti-IL-6, some people giving Anakinra, and some people still treating like Kawasaki's with Remicade, and IVIG, and almost everybody, or many co-treating with

high-dose steroids with any of those regimens. A lot of it is depending on how classic Kawasakis you look.

Carolyn Zic: Does any cardiac manifestations, do you think Dr. Adams, play any part in what you think what people might be choosing?

Dr. Matthew Adams: Absolutely. What I've been seeing, and again it's limited, is that people who have coronary artery dilation have tended to be treated with IVIG first. The thing you have to understand is that I get consulted on people who failed that. So from my perspective it looks like a bad treatment, but it's very selected. I'm the one who people are saying, "Our usual things didn't work, what can you help this child with?" So I'm seeing the failures, I'm not seeing the successes.

Carolyn Zic: For the most part, is rheumatology being consulted once they want to start using, for instance, some of the IO1 or IL-6?

Dr. Matthew Adams: That's my understanding, that's what I'm being consulted for, although everyone's responded to steroids, or just gotten better on their own. We've seen a lot of patients just get better with no intervention.

Cathy Patty-Resk: So these kids that have the cardiac involvement, the aortic distention, do we know anything about how long that's lasting?

Dr. Matthew Adams: No, it's too soon.

Cathy Patty-Resk: What is it typically for a child with Kawasaki that presents like that?

Dr. Matthew Adams: I'm trying to remember the protocol, and I can't remember it off the top of my head. It's like two weeks after you get out, and then four weeks, and then maybe six months, but I can't imagine that things aren't changing, that they're not adjusting it on a patient basis, because there have been reports of relapse.

Cathy Patty-Resk: Okay. I think it will be really interesting to see how this plays out. Like you said, it's going to take time to really see. The reports that we've heard of with kids having thrombotic events, other than the COVID[19] toes, the microvascular issues, what are your thoughts on those? Do you know if those kids are having positive tests?

Dr. Matthew Adams: I haven't seen any data on that. My guess is that it's all micro, it's microvascular, DIC, but I haven't seen anything or heard anything on the bulletin board, which is probably a more effective anecdotal sampling where people talk about it.

Cathy Patty-Resk: That would pretty much go along with what I've read in the adult literature as well, because some of the hospitals were actually running out of heparin because they were treating the DIC.

9. *What is your opinion about schools opening in the fall?*

Dr. Matthew Adams: I wouldn't comment at all. It's way too early, and I would not want to go on record at something that could be disastrously wrong. I don't want to tell people to go to school, and feed the epidemic, and I don't want to tell people to stay home, and have their kids miss a year of school. I think that we're really going to have a better sense by mid-July whether that's an attainable goal.

Barb Kienzie: Do you think antibody testing will help determine? I've been reading about antibody testing [as] maybe a way to help determine if school should happen in the fall. I guess testing everybody, so do you have thoughts on that in terms of opening up schools and other places.

Dr. Matthew Adams: So again that's assuming antibodies are neutralizing, and it's what saved you, because we know with other viruses you develop vigorous antibody responses, HIV being top of the list in which it has no control over disease. I think the real issue for antibody testing is to know the true community exposure rate, and to know if there's reinfection, that's with antibody testing. I don't think antibody testing has any predictive value immediately, although that may change in the future, but I would say there's no scientific evidence that it's of predictive value.

10. *What have you been hearing or reading about the viral load, with exposure?*

Dr. Matthew Adams: Nothing, I haven't heard anything about it. Are people tracking that?

Cathy Patty-Resk: Well, they were looking at the data on why healthcare providers seem to have more severe disease, and it being more deadly for them, so they were talking about maybe with their being exposed so closely, that they're having a much higher viral load exposure than someone that just has a less viral load exposure.

Dr. Matthew Adams: That's an interesting thought, I don't know. Again, I haven't seen anything about that either.

Cathy Patty-Resk: Dr. Adams, when we were talking about getting kids back to school I was thinking even more basic than transmission of disease. When we go to the grocery, or to Costco, or in Sam's Club, and we're looking for cleaning products, I don't know about you guys, but it's hard to find something, so once school starts how is this going to work? I think

we need to think about a lot of things if we're talking about kids going back to school, it's not just bodies in a building.

Dr. Matthew Adams: No, not at all. It's keeping kids safe and clean. How are you going to do social distancing when you have 15 to 20 kids in a room? It's not possible.

11. Have you seen toes turning blue from the tip on the first and second digit when talking about multisystem inflammatory syndrome?

Dr. Matthew Adams: Yes.

12. How about platelet count with multisystem inflammatory syndrome?

Dr. Matthew Adams: So platelet counts can stay the same, go up or down. It depends on the degree of bone marrow production, and the degree of consumption in the blood vessels. So there isn't a set response.

Cathy Patty-Resk: So those are kids that they can actually have a decrease in their platelet count, and then as things are resolving the platelets will bounce right back up on their own?

Dr. Matthew Adams: Exactly, that's what I tend to be seeing.

Carolyn Zic: When you see a picture, for instance, with somebody who has lower platelets, or an MAS type picture, because from what it sounds like not all the kids are looking like that, that also could potentially as well guide what line of treatment you're using.

Dr. Matthew Adams: Right, the more ill they look. But these are all synonyms for the same disease, the same pathological process.

Cathy Patty-Resk: So it looks like pediatrics may have had a nice little holiday, right? A nice little honeymoon in this disease, but that may be coming to an end, who knows.

Barb Kienzle: Even pediatrics in general, because we were having a discussion several weeks ago. About this time, our PICU and our floors are usually full of kids with multiple injuries and illnesses, and since school has been out, and everybody's home, even the kids are healthier. It's basically what the determination was. So it's like, "Okay, so we're okay right now in pediatric land," but you're right, it will come to an end.

13. Have you heard anything about COVID-19 and psoriatic arthritis (PsA)?

Carrie Beach: We have not. I have not had one COVID[-19] positive patient. I tend to see more that have had symptoms, but are testing negative which, I think, we've talked about the reliability of testing, but I haven't seen any of our psoriatic patients more affected than anyone.

Dr. Matthew Adams: No, but on other hand, it's hard to get testing still.

Cathy Patty-Resk: Yeah, I haven't looked at the data from the rheumatology registry. I probably need to get into it at some point, but it didn't seem like they were having as many rheumatology patients affected as they really thought maybe initially would happen, which is good.

14. Do you see any connection with rheumatic fever and COVID-19?

Carrie Beach: Yesterday, I had a patient who had been running fevers of like a 100-103 [degrees] since last Friday. She felt so bad, she went to the ER, COVID[-19] test was negative, so they told her they thought that it was the flare for RA.

Dr. Matthew Adams: Well, I don't know about that, right?

Carrie Beach: She has flared before. She's had low grade fevers when she's flared, but never a 100-103, so I urged her to call her PCP. The ER docs were the ones who told her they thought that it was her RA flaring, and to call us.

15. Would it be safe to say that if one family member tested negative for the antibody test that all family members would be negative?

Dr. Matthew Adams: Absolutely not.

16. Dr. Adams, have you heard anything about the decreased numbers of COVID-19 infections in areas where they give the BCG vaccine?

Dr. Matthew Adams: No, but BCG is universal in India, and they're having a horrible outbreak. Again, these kinds of questions aren't going to be known until there's widespread

surveillance. That's a project for somebody to do, looking at symptoms, and serologies in a place like India.

Cathy Patty-Resk: I know Dr. Calabrese had mentioned a program that I was listening to not too long ago about the number of articles that are being written on COVID[-19], that are coming out daily, and how it's just overwhelming. The amount of information that is coming out, and it's not all good research, a lot of it is just anecdotal, so at this point it's just really hard.

17. How do COVID[-19] toes differ from Raynaud's in appearance?

Dr. Matthew Adams: Well, that's easy. I would recommend that you look up pernio, it looks more like pernio, but there is no blanching in COVID[-19] toes. They don't look anything at all like Raynaud's.

18. Are you guys seeing a lot of COVID-19 patients?

Carolyn Zic: I have not. We really haven't. I'm still working from home doing telemedicine, seeing patients, and stuff, but it's just like everyone else, basically, in the pediatric community. We really haven't, the pediatrics in general, haven't displayed the same type of stuff that adults and staff have, just to piggyback on what Barb was saying earlier.

Barb Kienzle: I think we've had one pediatric patient admitted to the hospital for maybe two or three days a couple of weeks ago, and at least in our hospital that's really all I've heard. We have one of our study patients right now that was tested yesterday, because he's very symptomatic, and we haven't gotten that test result back yet. We're really not seeing it. They might be asymptomatic, like we said before, and being chalked up to a cold, or especially in regards to allergies, and they're not really sick.

Cathy Patty-Resk: With so many adults being infected with COVID[-19], you know there has to be a large population of those adults that have children.

Barb Kienzle: Now, we had a patient on Friday who, it's a big family [and] they have lots of children, two of the older sisters, one [recovered] from COVID[-19], one currently has it, we tested her Friday, she was negative. Then they tested the rest of the family, and the rest of the family was testing negative. They're doing their best to be quarantining, and isolating from the two that have it, but still we would have thought everybody in the family would have tested positive.

Cathy Patty-Resk: Yeah, that would be an interesting one to see, will they get it? Will it trickle down one at a time, like sometimes you see with flu in the family?

Barb Kienzie: Right, she's an infusion patient, we didn't give the infusion, and so we're working with the family to understand why we're not going to do it until we're 14 days at least or more out from making sure that no symptoms pop up later on.

Cathy Patty-Resk: I wonder if you could get antibody testing for them, and see what happens with that.

Barb Kienzie: Maybe now, on Friday we wouldn't have been able to. We might now.

19. How have you been managing school work with younger kids?

Carrie Beach: It's been hard, I think my youngest especially, she will be nine, and they're about ready to kill each other if I'm being honest. They are tired of being around each other, and they need their friends. Technology is great so they're able to FaceTime and Zoom, and text, and all that, but it's not the same. I do worry I have [a] pre-teen, she'll be 12 next month, and I already worry about her a little bit mentally. This has been a great reason for her to just hole up in her room. That's been kind of a challenge for me to get her out, and try to get her to be social with her friends, but not actually get out of the house. It's a tough age.

Cathy Patty-Resk: When is Ohio supposed to open?

Carrie Beach: The governor just announced today retail is already open, gyms, salons, everything is opening within the next couple of weeks.

Cathy Patty-Resk: So, you guys are really like us then, you're waiting for the weather to get nicer so people can be outside, and together that way.

Carolyn Zic: We just need to get outside, that's what we need to do. We need to be outside. It's interesting too, because how this is really impacting, kind of piggybacking on what Carrie was talking about with the kids, there's also such a huge difference in the spectrum between the way each and every school is doing things. That's been, I think, an interesting part in talking to our families. What one kid is getting is different than what another kid is getting. I think that's really hard. I think that's been a hard part, I think, for a lot of kids too. The accessibility of everything, of what they have available at home. If you think the parents are essential workers or are going to work, and the kids maybe are at home, then your parents who are also coming home from working all day, and then schooling on top of that, it's been really difficult to manage it too.

Cathy Patty-Resk: Don't forget to ask your patients about food and securities, and threatening loss of shelter, all of these important things to make sure, especially in times like this. Making sure that the parents are still able to work, and what kinds of solutions for childcare, they really need to know that, that we're really caring about them, and really doing whatever we can for them.

Conclusion: *The guest this week, Matthew Adams, MD of Detroit Medical Center covered various topics from differentiating Kawasaki disease versus COVID-19 symptoms, vasculitis, antibody testing, COVID-19 vaccines, and multisystem inflammatory syndrome. For the pre-recorded broadcast that accompanies this report please be sure to go our website at <http://rnsnurse.org/covid-19/task-force/>*