TWiV 1258 Clinical Update

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Guest: Daniel Griffin

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Vincent Racaniello: *This Week in Virology*, the podcast about viruses, the kind that make you sick.

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VR: From *MicrobeTV,* this is *TWiV. This Week in Virology*, Episode 1258, recorded on October 2, 2025. I'm Vincent Racaniello, and you're listening to the podcast all about viruses. Joining me today from New York, Daniel Griffin.

Daniel Griffin: Hello, everyone.

VR: Little rectangles on your tie, hmm.

DG: You're going to have to zoom in closer to see these bugs, these ectoparasites.

VR: Maybe ectoparasites. Mm. Well, they could be anything.

DG: They really could. I think it's supposed to be bed bugs. [chuckles] We'll see when people zoom in if that, you know.

VR: OK, bed bugs.

DG: All right. Let me start off with our quotation, and then we'll get right into it. "Science is no more than an investigation of a miracle we can never explain, and art is an interpretation of that miracle." That's Ray Bradbury. What do you think, Vincent? Does it make any sense to you?

VR: I was looking at this for 20 minutes, I really mean it, to try and figure out what he's talking about. Science is all about explaining natural phenomena, right? I'm not saying that they're a miracle because a miracle can't be understood, but we can hope to explain natural phenomena through science. He was a writer. He's an artist, so he's changing, but I don't think that. Do you think there's anything that science can't explain?

DG: I was a philosophy major, Vincent, so yes.

VR: I shouldn't ask you that. [chuckles]

DG: I think yes. [laughs]

VR: Really?

DG: I think science only goes so far, right? We even talk about, I remember we used to give Dickson a hard time sometimes when he would talk about why. Science can't tell us why. It

can only tell us how, how things happen. I think that big question is really close to everyone's heart of, but why? Why is beyond.

VR: We shouldn't do why questions in science, but I think we can figure most things out.

DG: It is, what did they say, advanced science to a primitive person appears like magic. Science is a way to understand our world, to understand the how of what's going on around us. We're moving forward, two steps back, three steps forward, three steps back, four steps forward. Right now, we're maybe taking three steps back, but it's going to be OK, so maybe there's some optimism here.

VR: Where do you get some optimism from, Daniel?

DG: [laughs]

VR: I guess as a physician, you always have to be optimistic, right?

DG: I do because you go back, what was it, two or three hundred years, we're definitely better off than we were then.

VR: Oh, man, yes, big time. Just in the past six months, a lot of things have been destroyed.

DG: In the past six months, though, it's been quite a challenge. Let's march forward because my goal today, Vincent, I've got a certain goal, is to try to make sure - I'm thinking about, who's the guy who's on the podcast with Malcolm Gladwell? Dax something? He's like the husband of the woman on *The Good Place*. Anyway, he was just talking about how one of the great things about us is that we don't come on here with an agenda. The truth, the facts, the science, that that's what we're beholden to. Dax Shepard, did I get that right? I don't know. Maybe our people can email in. We're going to keep sharing that as much as the politics and everything. I'll mention a little bit about what might be happening there, but let's get into what's going on.

First, an update on Ebola, WHO. The Ebola situation report, and this is updated just a few days back. Good news here, right? A little optimism. The Ebola virus disease outbreak in the DRC continues, but with signs of a notable decline in transmission. Since their last update, they keep doing these situation reports, there have been a total of, or dare I say, only seven new cases reported. Six confirmed, one probable. The new cases were detected across different health areas. During the same reporting period seven deaths occurred. The reported deaths were distributed across a number of areas that they mentioned.

Just to bring it as a total, as of the 28th of September, that's when this report comes out, a total of 64 cases, 53 confirmed, 11 probable, 42 deaths, so really a pretty high case fatality rate, 65.6. Cumulatively, five confirmed cases have been reported among healthcare workers, including three deaths. Maybe more good news, the outbreak remains confined to the six affected health areas out of the 21 that make up this Bulape Health Zone.

VR: I wonder if vaccination has made any difference. They don't say in this article, right? You said last time that they were doing ring vaccination, right?

DG: Yes, they have. They've stepped in with ring vaccination. They've stepped in with the monoclonal antibody therapeutics. It looks like they're doing a good job here. It looks like they're succeeding and turning the tide. What are they doing? Some education. There's the

vaccination. There's the treatment. Nice to see such a challenge being addressed. Good and bad. Now we've got some bad. The sky is falling. Screwworm. Don't you feel like, Vincent, like we're the first people that started talking about screwworm?

VR: Yes, a long time ago, actually.

DG: Yes, like what's going on with that? [chuckles]

VR: Well, we talk about something and then it appears.

DG: That's a little suspicious, Vincent. [chuckles] Drumming up business, you scientists.

VR: Oh, yes, right.

DG: We had nothing to do with this. [laughs] We're just pointing out. Yes, so we started talking about it. Actually, what got it on our radar, right, is we were hearing about it down in Panama. Hearing about it from our colleagues, Floating Doctors, they're sort of saying, hey, we're starting to see this. Something must be going wrong. Now it's really headed north our way. Mexico sees 32% jump in flesh-eating screwworm cases since August as cases move north. This is in Reuters. I'll leave a link.

VR: Reuters. Reuters.

DG: Reuters. Reuters.

VR: I've got to correct you so you don't get email. Reuters.

DG: Reuters. OK. Reuters. I'm going to work on that now. Where we read in Reuters that Mexico saw a nearly 32% increase in confirmed cases of the flesh-eating screwworm parasite. That's one way to describe it. I just want to point out, what is this? This is basically the larval form. These are maggots from a particular type of fly, right? The fly basically get maggots. That's the screwworm parasite. It's an ectoparasite, just like my bow tie.

According to the latest monthly government data, as concentration of cases move north, Mexico recorded 6,703 cases of animals infested with New World screwworm as of September 13 since the start of the outbreak in November of last year. Thousands and thousands of cases headed our way.

Right at the same time, actually, I saw this before this update, the FDA conditionally approves first drug for prevention and treatment of New World screwworm infestations in cattle. September 30, the US FDA conditionally approved Dectomax-CA1. This is basically a doramectin injection. It's an injectable solution for the prevention and treatment of New World screwworm larval infestations and prevention of New World screwworm reinfestation for 21 days.

Now, Dectomax is conditionally approved for use only in cattle. I'm hoping maybe some of our veterinarian colleagues can write in because I was trying to figure this out. This actually seems to be just doramectin. Dectomax is doramectin, which is this drug that targets the glutamate-gated chloride channels. It's made by Zoetis. I don't know if I'm pronouncing that correctly, it's an injectable. I'm not really sure. Dectomax-CA1, is this like a brand name, a particular formulation? It's good old, quote unquote, doramectin.

VR: Yes. You know what, Daniel? It's related to ivermectin.

DG: People are going to love this, Vincent.

VR: Maybe it will be good for COVID, Daniel.

DG: [chuckles] Next time you get COVID, Vincent, it's the only way.

VR: It's related to ivermectin. It hits the same channel, the glutamate-gated chloride channel, which makes me wonder whether ivermectin has been tested for screwworm. Now, in humans, Daniel, how do you treat screwworm infestations?

DG: Across the board, the way we're treating this really is mechanical. You're actually going to clean out the wound, get the maggots out of there. That's the problem with animals, is animals have trouble. If you're not watching them and able to get in, they themselves can't necessarily clean out the wound. This is an extra, an insecticidal, a maggicidal thing you can do.

VR: I would be surprised if ivermectin didn't work because it's the same target, right?

DG: Yes, and it would be nice to know because at least here in the U.S., we do a lot of treatment of our animals, right? We like to do these deworming treatments. That's why I sort of bring up like doramectin. What's so special here is, can we be protecting our own? Oh, my gosh, can you imagine your dog, your cat? I think we've shared on *This Week in Parasitism* just the horrific impact this can have on these animals.

VR: No, ivermectin is approved for treatment in horses and dogs, for treatment of screwworm.

DG: OK. Oh, so we're doing well. Excellent. All right, pertussis. This is a bit upsetting, and one of my old quotations is going to come out in a second. This is a news release from the Mississippi State Department of Health, Jackson, Mississippi. Pediatric pertussis death reported. You're going to have to talk a little bit about this, Vincent, and maybe our listeners can get why this is so upsetting.

The Mississippi State Department of Health has confirmed that an infant in the state recently died from pertussis. The infant was less than 2 months old and was not age-eligible to be vaccinated against pertussis. The MSDH, so that's the Mississippi State Department of Health, does not provide details of the gender or location of this death out of respect and privacy for the family. Now, to date, 115 pertussis cases have been reported to the MSDH since January 1, 2025, over 100 cases so far this year, sharp increase from less than 50 reported during 2024, and that included this death. There have been only three pediatric deaths reported in Mississippi since 2008.

VR: Most likely, this child got it from a family member who was not vaccinated, perhaps?

DG: That is, I think, the way they're describing this, and I think that's this important issue here, is pertussis vaccination doesn't just protect us, it protects those around us. That's our efforts, this basically a pertussis ring vaccination around newborns to say, listen, if you're going to have people around your baby, a lot of the doctors are going to encourage you to reach out. Usually, it's going to be the GYN or the obstetrician during your pregnancy saying, hey, before you have your baby, all those family members, all those friends that are going to

want to be around the baby, have them get vaccinated because we're not going to be able to vaccinate that baby for the early months of their life.

Here we see exactly what happens when that is not done, when there isn't this vaccination. We end up with a baby who can't be vaccinated, can't protect themselves, acquiring pertussis from an infected individual.

VR: What age would someone, a child, be eligible for pertussis vaccine?

DG: Let's see, what is the pertussis schedule? Should we check the ACIP pertussis schedule?

VR: No, no, no, don't check that.

DG: I don't think they've messed with that one quite yet.

VR: It's 2 months.

DG: Two months, so almost there. That's just tragic, right?

VR: Yes. The thing is that, as we have said before, this outbreak is continuing, yet the people in charge are not making statements like you should get vaccinated against pertussis and having a campaign and so forth. RFK Jr. is not saying that because it's against his beliefs.

DG: I think that's a problem, right?

VR: Yes.

DG: We've had these different quotations. When you mix science and politics, you get politics. When you mix science and medicine, you end up with dead babies. Some people feel like that's a bit of a hyperbole, but it's not. We've had babies dying from measles. Here's another baby who just died of pertussis. We know how to address this. We have the tools, but if anything, we have this anti-science, this anti-vaccine. We have this undermining of trust. It would be one thing if they were sharing truth and this was someone making an informed decision, but unfortunately, as we continue to point out, we'll keep sharing the science, but there are unfortunately other individuals who are just saying what follows their agenda without any really respect for the truth or the actual information.

VR: What did you say? When you mix anti-science with medicine, you get deaths?

DG: You get children dying.

VR: Yes. I think you said science, not anti-science.

DG: I think it's when you mix politics and medicine, then you end up with dead children.

VR: I see. OK.

DG: Yes. All right. Along those lines, here we have worst measles outbreak, worst measles numbers in, well, basically, since we really thought we had gotten on top of this. As of September 30, there have been a total of 1,544 confirmed measles cases reported in the United States. This is more measles cases than any other year since this was declared eliminated in the United States in 2000, in 25 years. Do we have the head of the HHS? Do we have all our people out there spreading the word? Do we have any kind of an

informational campaign? No. We just keep seeing this happen.

We've talked about the fact that there have already been several deaths. As we know from some really solid data, that you're going to see an increase in child mortality in the next two to three years among those that have been infected but survived the acute measles.

VR: You know, Daniel, our president said that MMR vaccine should be just split up into MMR separately because he feels that it should be done. He just feels it. Do you do things by feeling, Daniel?

DG: Unfortunately, fortunately, what a mess. The challenge here is people listen to these individuals, right? I mean, even to go after the head of HHS. That whole story about the Tylenol, now we have all these women across the country, across the world wondering, was it my fault that my child has a problem? It's irresponsible. You have to be honest. You can't just say, I have a feeling. I'm so wise that I can just intimate the truth. That's not the way it works, unfortunately.

VR: Well, the women should not feel bad because it wasn't the acetaminophen that did it.

DG: Well, we're back to blaming moms again. For all the moms listening, it is not your fault. No, there's no evidence that that's true. That was irresponsible to make you feel bad. It is not because you took Tylenol. It is not because you had inadequate folate in your diet. People that lie, they lie. From here, there's no evidence that autism is mom's fault.

VR: Daniel, this whole autism and acetaminophen business, does that mean they're going to leave MMR vaccine alone now? Because that used to be the poster child of autism, right?

DG: Yes. Unfortunately, no. It would have been nice if now they had their target and they were going down that road. No, they're blaming the moms for taking Tylenol despite the fact that this has been looked at and that is not true. The others are blaming the moms for not eating enough folate and bantering around bad studies to blame the moms for that, and they're still targeting.

We talked about before, the litmus test to be on the Advisory Committee for Immunization Practices at the CDC is, are you OK with dismantling the childhood vaccine schedule? Are you OK with taking away all required vaccines? Are you OK with basically us heading down this road of more and more vaccine-preventable illnesses, disease, death, and children.

Moving on to the flu. We're still not. We'll keep watching this and I'll let people know as we enter the, what is it, a predicted early flu season this year, predicted early winter based on the *Farmers' Almanac*. It felt like suddenly we entered October and fall came all of a sudden. Last winter was bad and I don't want this to be this bad for pediatric deaths. A total of 281 children died last year from the flu, 281. Remember, 90% of these, unvaccinated, half these children, no obvious risk factors that put them at death for dying. They got the flu and within a day or two, most of these children had not survived.

Highest number of pediatric deaths reported any non-pandemic flu season. Part of this is the number of children that are getting the protection of a flu vaccine has dropped to now the minority of children, the majority of children not being protected. These vaccines, they're safe, they're effective. Doesn't matter what kind of grandstanding goes on. This is the best way to protect your child and your mom and dad and everyone, universal flu

vaccines.

All right, RSV. We have some stuff going on in the RSV section this time, Vincent. Last week, what, clesrovimab? This week, we have nirsevimab. These are the monoclonals, right? The passive, give your baby some antibodies to protect them through the season. This is bipartisan. Everyone loves monoclonal antibodies. We have the research letter, "Nirsevimab Administration and RSV Hospitalization in the 2024-2025 Season," published in *JAMA Network Open Pediatrics*.

Since 2023, so two years, the U.S. CDC has recommended nirsevimab to prevent RSV for all infants younger than 8 months entering their first RSV season, and high-risk infants aged 8 to 19 months between October and March, excluding those born to vaccinated mothers. Available nirsevimab data are from the 2023 to 2024 RSV season. This was when there was limited drug supply.

Now, here they conducted a cohort study of the 2024 to 2025 RSV season, so last winter. They hypothesized that nirsevimab would be associated with reduced RSV-associated hospitalization. These are the results of the retrospective cohort study where they use the Epic Systems Cosmos dataset created in collaboration with a community of healthcare systems using Epic Systems software representing more than 300 million patients from more than 1,700 hospitals, 40,000 clinics, all 50 states, District of Columbia, Canada, Lebanon, and Saudi Arabia.

A total of 409,723 infants at 5 to 10 months, so median age 8 months, 209,543, so about half of them were male, and about half of them, 47.5%, received nirsevimab. The adjusted hazard ratio for RSV-associated hospitalization, 0.23, so about a 77% reduction. They say 73% reduction in ending up in the hospital if you get nirsevimab.

VR: That's very good.

DG: Really impressive. This is great for everyone. This is like Democrat, Republican, undivided, member of the Democratic Socialists of America. This is good for you.

VR: Working for everyone.

DG: Working families, everyone. There's no political issue here.

VR: Maybe that's a miracle, Daniel.

DG: Just protect your babies. Now we get into the political. Vaccines, Vincent. Active vaccination, not just passive. All right. We have some RSV vaccinations. We have GSKs, we have the Modernas, we have the Pfizer's. Here we have a nice Cochrane review, efficacy and safety of respiratory syncytial virus vaccines. They do the standard Cochrane comprehensive literature review of CENTRAL, MEDLINE, Embase, ClinicalTrials.gov, WHO, ICTRP, they do their standard systemic review methodology from 2000, April 2024.

They include randomized control trials, RCTs, non-randomized studies of interventions, NSRIs, not to be confused with SSRIs, involving all human populations, comparing RSV vaccines with placebo, no interventions, vaccines for other respiratory infections, other RSV vaccines, monoclonal antibodies and just some of the highlights.

RSV pre-fusion vaccine versus placebo in older adults. Really think of that as these different

vaccines that we've mentioned but in older adults, we're also going to mention maternal RSV vaccination protecting infants. These vaccines, so adults getting RSV vaccines, reduced RSV-associated lower respiratory tract illness with vaccine efficacy of 77%. RSV-associated acute respiratory illness, vaccine efficacy of 67%. Pretty significant impact and little to no difference in serious adverse events related to vaccination.

I think that's really important. We admit, and we've said this several times, I sometimes look at the comments on YouTube and I feel like they don't actually listen. There's bots just saying stuff, that vaccines are active biological agents. There is a certain incidence where you can see an adverse event. Fortunately here, we're really not seeing much signal for that.

Maternal RSV F protein-based vaccine, so this is getting that RSV vaccine as recommended. Really, that's going to be our Pfizer's Abrysvo, recommended 30 to 36 weeks gestational age if your child is going to be born and exposed during that season. These vaccines reduce medically-attended RSV-associated lower respiratory tract illness with vaccine efficacy of 54%. Medically-attended RSV-associated severe lower respiratory tract illness, vaccine efficacy of 74%. Hospitalization due to RSV disease with efficacy 54%.

VR: These are all one-shot vaccines in adults, right?

DG: Yes. At this point, one shot.

VR: I got mine a couple of years ago, Daniel.

DG: OK. You're still going strong.

VR: As far as I know, I haven't had RSV. I would know it, right?

DG: Not necessarily, right? You got the vaccine. It may have been that time you had the snuffles. It's really going to reduce your risk dramatically of medically-attended RSV. Basically getting RSV bad enough that you're going to go see the doctor. People don't like to go see the doctor, varying degrees. I was talking to my wife about this. She's one of those ones like, why would someone go to the ER because they have a fever? I'd have to be basically dead before I'd go to the ER. I'm like, no, Jessica, some people just go to the ER.

VR: Yes, they do. It's hard to get an appointment, Daniel.

DG: That's unfortunately a problem, yes. Then a lot of people end up in the ER because they can't get that appointment.

VR: You have to go in the middle of the day. If you're working, it's a problem for working people, right?

DG: Yes.

VR: You sit and wait a long time. Often they're late because they're busy. It's a problem.

DG: No, it is. It is. Then people end up in the emergency rooms, and that is not a great way to get primary care.

VR: ER is not supposed to be primary care, right?

DG: It is not. It's supposed to be emergency room. It's not the urgent care center. It's not the primary care practice. It's supposed to be-

VR: However, there are walk-in things now that are proliferating, these CityMD things, right?

DG: Yes, CityMD, a lot of these urgent care centers.

VR: Those are useful because you don't need an appointment. You can walk in and you can get some kind of medical care. I think that's useful, but not everybody can afford that.

DG: Yes, yes. Some of those providers are excellent, so not a bad option. All right, some good news. Maybe this is where my optimism is coming from. Look at the COVID wastewater curves, Vincent.

VR: This is very interesting. Daniel, we never got into the very high category, which we did at the last summer, late summer peak in 2024, right?

DG: It's really true. Yes, the national average, it got into high, but the only place was the South was the only area of our country that got into the very high. Everyone else came down.

VR: This is basically a late August, September surge, right?

DG: Yes. Yes.

VR: Which may be people going back to college.

DG: Kind of interesting, yes. It is part of this August, yes.

VR: Yes, it's down. Presumably, in late November, early December, it's going to go up again, right?

DG: That's what I'm predicting.

VR: OK. Here, I'm making a prediction. It's going to go up again. We're going to have a surge. Because I'm predicting, it's not going to happen.

DG: It's going to happen. You're going to be right. Unfortunately, you're going to be right this time. I wish it was like that. There's certain people like just, how do you know that they're saying something that's not going to happen? They're talking. You're one of those people that might be right, Vincent.

[laughter]

VR: OK.

DG: All right. Not a lot of new until we get to Long COVID. This is an interesting study, right? This is the article, “Olfactory Dysfunction After SARS-CoV-2 Infection in the RECOVER Adult Cohort,” published in *JAMA Network Open*. This is a lot of people, right? They say, oh, I got COVID, and now I just can't smell, I can't taste things. What about people that don't notice? What about people who say, oh, no, I'm fine. I haven't noticed any problems.

Here, we have a prospective cohort study that included adults enrolled in the Researching COVID to Enhance Recovery, that's RECOVER Adult Study. All those with and a random sample of those without self-reported change or loss in smell or taste were offered olfactory testing. It was performed at 83 sites in 35 U.S. states and territories. Participants included 2,956 enrollees with prior infection, 1,393 with and 1,563 without self-reported change or loss, and 569 without prior infection.

Where did they find those people? Nine with and 560 without self-reported change or loss in taste. They undergo olfactory testing a mean of 671.6 days after the index date. Among 1,393 infected participants with self-reported change or loss, 79.8%, that's about 80%, had hyposmia, so a decrease in their ability to smell things reported on the UPSIT. We're going to go into what is the UPSIT, including 23% with severe microcosmia or anosmia. Among 1,563 infected participants without self-reported change, I'm fine, no issues. 66% had hyposmia. The majority of people said, oh, I was fine, not an issue. The majority of people had issues. 8.2 actually had really severe, and they didn't even notice it, which is kind of weird.

VR: I don't know. Unless there's a long-term problem with that. If you feel fine, what's the difference?

DG: It is a little weird, right? You can't smell stuff. I mean, smell is like a good thing.

VR: Yes, but if it doesn't impact their life, right?

DG: They may not know.

VR: Well, you're saying maybe they eat bad food, right? [chuckles]

DG: Or maybe it's good, right? Maybe they're like, you know. [chuckles] Because there are certain people who have hyperosmia. They can't stay in certain places. Oh, that smell, it's such a strong smell. Maybe they would benefit.

VR: This is just, in my opinion, an indictment of self-reporting.

DG: You really got to test people because it's almost like some people are like, I'm just fine. Other people really notice, right?

VR: Yes.

DG: We're seeing a lot of people who said, I'm just fine, not an issue. They're like, hey, you're not smelling stuff so well. I do want to point out, and maybe people will Google this. This is sort of fun. Some guy, there is actually a guy you can Google, he invented the UPSIT, the University of Pennsylvania Smell Identification Test. This is funny, right? What is it? It's a scratch and sniff test. The guy basically put this together, right? He created this test to assess smell function. Basically, there are 40 scratch and sniffs, and the participants get this. It comes in an envelope. You scratch, and then you sniff, and then you select what odor do you smell from four multiple-choice options. This is the gold standard, Vincent.

VR: I didn't know there were 40 different smells.

DG: [chuckles] I have to get one of these.

VR: I don't know that I could identify 40 different things, but maybe.

DG: Apparently, most people can.

VR: I could do oregano and basil, rosemary, fennel.

DG: Onion, mint.

VR: I guess there are 40.

DG: [chuckles] Anyway, this cohort study, basically self-reported change or loss in smell or taste was actually an accurate signal, but there was a high rate of issues in people that thought they were just fine. Basically, they're saying you may want to consider formal testing. As you point out, Vincent, people are not particularly reliable in telling us about the impact here.

VR: In some cases, this can be chronic, right, and they don't even know it.

DG: It can be chronic and they don't even know it, yes.

VR: Yes.

DG: All right. No one is safe until everyone is safe. Here we are. We're in October, right? This is the last month of our American Society of Tropical Medicine and Hygiene fundraiser. Got some good donations this last week, so thank you for those who stepped up. I'm hoping everyone will take a moment, go to parasiteswithoutborders.com, click on that Donate button because we don't - No ads here. We only can do this because of your support. I think coming up in November, we're going to be in Toronto at the American Society of Tropical Medicine and Hygiene meeting. There are going to be a number of early career women scientists who are going to be able to be there at that conference and network and have all these great opportunities thanks to your donations.

VR: It's time for your questions for Daniel. You can send yours to Daniel@microbe.tv. Toni writes, "Long-time listener, big-time fan of weekly updates. I'm a 68-year-old symptomatic, first symptoms less than three days ago, COVID-positive individual who went to an urgent care today. They refused to prescribe me Paxlovid because they claim, 'This variant is milder and therefore does not require antiviral treatment.' Beyond the question of how they would know which variant I have," good point, Toni. That's great.

DG: I love that. Toni, you got to ask. You got to ask. You got to say, oh, which variant do I have? Then when they look at you -

VR: "What are your thoughts on the medical care I received today? I'm calling my personal physician for a recommendation on my next course of action." Thanks, Toni, in mildly COVID-infected Georgia. Oh, gosh.

DG: Oh, gosh. It's interesting. I think about this issue a lot. There's something different about COVID. Maybe it's something about the price of Paxlovid. Maybe it's something about drug-to-drug interactions. If you went to the doctor and, "Oh, I've got a urinary tract infection." We wouldn't say, "Yes, 90% of those are going to get better on their own. Most urinary tract infections are mild. I'm not going to treat you." Or, "I've got flu and I've been sick for 24 hours. Can I get some Tamiflu?" "No, no, no. Most people with flu are going to be

just fine."

There's something about COVID where here we have an effective antiviral that's going to make you feel better quicker. That's going to reduce your risk of a bad outcome, ending up in the hospital. You're over 65, right? You're one of the folks that ends up there. We've talked about the fact that the severity, the symptoms you're currently having don't predict the future. You can't go back in time and give the Paxlovid if you didn't give it. I think you're right, first, to ask that question. I love that. Well, which variant do I have? Go ahead, ask the doctor next time and say, oh, which variant is this? Is one of the mild ones, supposedly?

Then the other, I do think call your personal physician. Again, maybe this is one of the issues of going to urgent care and not actually getting in with your personal physician. You can give them a call now. That could always be, you got urgent care, you get your test, now you know what it is. A little bit of a challenge, and the timing on this is perfect. With the government shutdown, we're concerned about telehealth access for seniors. That could present an even bigger challenge going forward.

VR: This idea about milder doesn't matter. Paxlovid still works, right?

DG: It still works. Works on the current variants. We've seen, over time, the same reduction in the base level that you start off with.

VR: Aren't people still dying of COVID, Daniel?

DG: Tens of thousands of people are still dying, hundreds of thousands of hospitalizations. We're going to see that again this winter, and Paxlovid can reduce that.

VR: All right. John writes, "They followed these kids for 26 years, no difference in autism rates, whether mom took acetaminophen or not," and John sends an article. It's a summary of an article from the Karolinska Institute in Sweden, published a year ago. No link between paracetamol use during pregnancy and autism or ADHD in children. Really cool study. 2.4 million children, and they followed them for 26 years.

DG: Yes, but he won't, and that's the really tough thing because it's out there. Unfortunately, now, and it is, it's irresponsible. It's cruel. Just to be honest, it's cruel. There's a lot of women out there who are now beating themselves up. Mothers of kids who have autism who are saying, is this my fault? That's just wrong.

VR: The thing is, the press will not cover these positive stories. It's no longer news. I give them partial blame because they cover the original statements by RFK and Trump, but they will not cover the literature which says it's not an issue.

DG: It's not an issue, yes, but we will, and thank you for writing in.

VR: Yes, we will. Caroline writes, "Any guidance on flu shot timing to maximize coverage for the whole season? I know from a public health perspective, we want to encourage folks to go ahead and get it now so they don't forget. I always have my family wait until mid-October in hopes it will last more of the flu season. Last year, we got it in mid-October, and then we all got the flu in March. It was brutal. My guess is our immunity had waned by then, so we got wild instead of mild." Some people remember that, Daniel.

DG: I love that. That was a great campaign. I don't think we're going to see that again, but

that was fantastic.

VR: “Any thoughts on timing to keep coverage through as much of the peak as possible?”

DG: Yes. Caroline, you bring up an important challenge we have with the timing of the flu vaccines. Even if we say, oh, it's going to come early, we're going to see a peak, there's still going to be people that get the flu in March, and they get their vaccine in October. There's about a 10% to 15% drop in the protection over time. You start with 50%, 60% protection, and then you're going to lose 10% or 15% November, December, January, February, by the time you get to March. We've never really embraced, I think, as a public health, getting a second vaccination, late winter, but I usually try to time mine mid-October.

VR: Katie writes, "Firstly, thank you for being such a wonderful communicator of science. You offer a heady mix of facts, insight, and good cheer. Now my question. I'm a reasonably healthy 52-year-old woman, lives in Washington, DC. I recently requested and received a prescription for the COVID vaccine. I was also able to sweet-talk my doctor into prescribing me the RSV vaccine. In this environment, who knows how readily available it will be in the future? My plan was to wait until early October to get them, along with the influenza vaccine. I didn't want to jump the gun.

Unfortunately, last week I got COVID. I'm recovering well. I'm still waiting the return of my sense of taste and smell. My question is how soon should I proceed with the three vaccines? I don't know if I should give my immune system some undistracted time before the shots. I also don't know the current thinking around timing the COVID vaccine post-infection. Any advice would be much appreciated. Thanks to you and Vincent for all you do. Angels on earth, you both." Daniel, can we get some wings?

DG: [chuckles] Thank you. Yes, the COVID, I think that we've talked about several times, it's a recommendation of waiting three months before you get the COVID vaccine after an infection. Then for the other vaccines, wait a couple weeks, give yourself a chance to start feeling better, no longer be contagious, and then you can be good to go ahead with those.

VR: If your COVID is mild, you should still wait three months?

DG: Whatever. There's no severity that tells us about that level of a boost. You want to give it three months, you want to let those germinal centers do their maturation thing, and then you can go ahead and get your vaccine.

VR: David writes, "I imagine you have received more than a few emails asking for updates regarding this article in *The New York Times*, which reports a possible case of chikungunya on Long Island, Daniel."

DG: Yes, yes. Not far from where I live. It's still under investigation. Chikungunya, right? It's a mosquito-borne viral malady. It appears that maybe there's an individual who didn't travel, the reported travel history. At this point, we don't have any more information. It's still waiting for confirmation. If it did happen, what may have happened is someone comes into the country, they're viremic with the chikungunya virus, get bit by a mosquito, and then that 1% of female double biters bite someone else. That may have been what happened. I don't think we're thinking chikungunya suddenly became endemic in Long Island. I hope not.

VR: Joel writes, "I'm an occupational health nurse practitioner from Portland, Oregon. If

MAHA leader Jr. is so worried about how many pediatric shots are given, why did his carefully assembled ACIP take away access to the combo MMRV, causing extra pokes? Also, could you weigh in on the regular hep B vaccine versus the newer recombinant version, Heplisav-B. Should I only be giving my adult patients Heplisav-B? It's fewer pokes, two instead of three, and improves compliance in my experience since it's given over one month instead of six months, so worth the extra cost. I've seen studies that it's not inferior, but wondering if we know yet whether it's a better choice for its immunologic response.

I work with public safety workers who are recommended to get antibody titers after vaccination, and it would be great to use whichever vaccine is more likely to demonstrate immunity. Wouldn't it have been nice for ACIP to discuss something helpful like this instead of just trying to limit vaccine access?"

DG: Yes. Yes. I was on the national vaccine review for UnitedHealth Group for quite a while there. We actually, this came up on the slate to discuss the new Heplisav-B versus the regular hepatitis B vaccine that we've been using. It looks like an excellent choice. I appreciate the two pokes instead of three. No, I think it's an excellent choice. It is interesting. We measure these antibody responses. Yes, I don't think there would be any disadvantage to picking something that maybe costs a little more, but a lot easier when it comes to compliance.

VR: That's *TWiV* weekly clinical update with Dr. Daniel Griffin. Thank you, Daniel.

DG: Oh, thank you. Everyone, be safe.

[00:44:15] [END OF AUDIO]