TWiV 1300 Clinical Update

Host: Vincent Racaniello

Guest: Daniel Griffin

Aired 27 February 2026

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

[music]

VR: From *Microbe V*, this is *TWiV*, *This Week in Virology. Episode 1300,* recorded on February 26, 2026. Wow. 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: I've seen that tie before, but not enough, I think.

DG You haven't seen it enough. It's interesting because it depends which side you see. It can be easier or harder. It's my fungal bow tie. It's my aspergillosis bow tie.

VR: Wow. Aspergillosis.

DG: The nice thing about it is I can wear it one way, and it's this bright red and blue. You can see the conidia, or otherwise, it's more of a green.

VR: That's nice. It's a nice one. I like that.

DG: It's good for traveling because you can match it with your green vest and your green pocket square. You can pull out the red and blue.

VR: [chuckles]

DG: All right. [chuckles]

VR: Cool.

DG: Enough on bow ties. Let's start off with a quotation. I feel like maybe I put in this quotation, and then you figured out. We should be talking about certain things. People, I'm sure, are familiar with this quotation, "There are lies, damn lies, and statistics." This is interesting because it's unclear who really said this, but Samuel Clemens attributed this to Benjamin Disraeli.

VR: What's the implication here that there are lies, and then the statistics are not lies. That's the truth, right?

DG: No. Apparently, it's that whole you can prove anything with statistics. It's the worst. [chuckles] I think that's the hierarchy. There's three levels of lies. Fortunately, I feel like the respect for truth is maybe in jeopardy.

VR: Oh, it's horrible, the extent of lying, which we're going to hear in a moment. This week, the State of the Union address, all lies. The confirmation hearing of Casey Means, all lies. Everybody lies, RFK Jr., Bhattacharya Prasad. I don't understand what happened to telling the truth, Daniel.

DG: No. I was in the doctor's lounge the other day and after that. Someone was like, "What do you mean inflation's under control? I'm not blind. I go to the store, [chuckles] things are getting really expensive."

VR: No. Everything he said is a lie.

DG: Anyway.

VR: Unbelievable.

DG: First, a couple of things I think you put in, but I'm happy to talk about them. States sue the federal government over changes in the childhood vaccine schedule. Glad that that's something that people should be made aware of. Then, this is really a challenge. I think it's got my wife more riled up.

I'm almost, on a certain level, I've given up on some of these things. This is the surgeon general, which is really an interesting history about the concept of a surgeon general and what this has evolved into over time. It's really, in many ways, this is a pulpit, basically, that a person is given.

VR: That's right.

DG: I think Koop was really the most famous for using this position to speak out about the evils of smoking, really bringing people's attention to AIDS and HIV and what was going on there. Really, it's a forum. It's a public's forum to speak about things that affect the nation's health. The whole idea, it's always been this medical promotion of what actually is important to people's health.

I'm a little worried here because this seems to be more of the same. People get up there, they're not feeling like there's any obligation to honesty. We saw this with RFK, look at the stripes, the spots that they've been showing us for 30 years, and they'll get up there and say, "Oh, no. I'm not really anti-vaccine." Then, as soon as they're confirmed, we see what happens.

This individual here has a history of being anti-women's access to certain medications, not being someone who promotes the benefits of vaccine, really lack of understanding of infectious diseases. This is an individual who finished medical school, what is it? 2013. Did a little bit of an ENT surgical training, dropped out, so a drop-out,, and then basically has made her money by pawning off wellness products.

VR: Unbelievable that we're at this stage where this is going to be the surgeon general who's going to say to Americans, "You should do this," and people will respect the position because it's been occupied in the past by qualified people. This is a person who doesn't

understand anything, absolutely nothing.

DG: I guess she knows how to get herself rich [chuckles] by selling wellness stuff.

VR: Bill Cassidy asked her, "What's your opinion on the birth dose of Hep B? Is it good or not?" She said, "Well, it's very complex," and went on and never answered the question, because that's what she was coached to do. Now, Cassidy has the chance to vote no on this and prevent this from going any further. He's politically finished. He's being primaried. There's no reason for him to fear the orange man, but we'll see if he does the right thing.

DG: You are right. It's really interesting. I don't quite get this. You can say over and over again, these individuals being put in these positions are being put in there for political purposes, they have an anti-vaccine agenda. They have their own personal agenda to make themselves and their buddies rich. They're not looking out for us. Then, suddenly someone now, "Oh, this is the new surgeon general. What do they have to say?" Actually, people will pay attention.

VR: That's right. That's why it's so important to get the right person. Although in this administration, you're always going to get unqualified people, sadly. We have to change the administration. There's no other way about it.

DG: Yes. I was thinking of her comments about raw milk, because I know you're sort of a little sensitive. Apparently, Vincent, if you want to consume raw milk, as long as you look in the eyes of the cow and the farmer -

VR: Oh, yes. Sure.

DG: [chuckles] That's how you tell if it's safe.

VR: Where's your brain?

DG: [chuckles] All right. Well, I ran into -

VR: Everything, by the way, everything has, at its root, mitochondrial dysfunction. Ninety-three percent of people walking around have defective mitochondria. Did you know that, Daniel? All you have to do is fix that.

DG: The reason we have that is ultra-processed foods and pesticides, which apparently now RFK Jr.'s allowing more to be in our food.

VR: Yes, it doesn't make any sense. She says, "Buy my products and your mitochondria will be better." That's all it is about, her buying her products. She has a company called Levels, I think. You buy her stuff and fix your mitochondria.

DG: Are they going to support our show now, Vincent? Are they going to send us -

VR: I would never accept a penny from any of these people. Even if we were going broke, I wouldn't accept a penny from them.

DG: All right. Well, let's jump in to polio. Maybe I'll pull you away from - Actually, there was a lot in the literature this last week on polio and Chagas. I don't know, those must be hot topics. This, hopefully, you're going to jump in, because there's the article and there's a

commentary. The article is, “Clinical and Epidemiological Investigation of Vaccine-Derived Poliovirus Type 2 Outbreak in Pakistan During 2019-2021,” published in *CID*. They've got a commentary by a couple of folks we're familiar with,” Inactivated Polio Vaccine Must Be an Essential Part of Polio Eradication.”

We'll start with the major article, and then we're going to riff back and forth about this. The major article describes this investigation of the epidemiology of circulating vaccine-derived poliovirus type 2. The acronym's almost as long as that, right? [chuckles] Little c-VDPV2. The impact of type 2 immunization response in Pakistan to contain the transmission of polio type 2 after trivalent to bivalent oral polio vaccine switch in 2016. I'm going to actually read a couple of quotes.

"A total of 35,724 paralytic cases and 2,804 sewage wastewater samples collected between July 2019 and March 2022 were tested for the circulating vaccine-derived poliovirus 2." They found that circulating vaccine-derived poliovirus type 2 was identified in 0.5%, so 181, of the paralytic cases and 11% of sewage wastewater samples. The first question, we've got all these kids mainly getting paralyzed, and they're detecting the poliovirus type 2 in 0.5%. One is this question of, "What was everyone getting paralyzed from? Is there a sensitivity? Is there a failure to be able to actually catch the cause?" Now they tell us that the strains were grouped into 13 indigenous and two imported emergence groups.

Now, 14 vaccination rounds of oral poliovirus type 2, monovalent type 2 oral poliovirus. As vaccine efficacy take is markedly low in tropical countries and five rounds of inactivated poliovirus were conducted between September 2019 and December 2021, resulting in successful interruption of the transmission in about two years. While modified oral polio-- Is it mono with a little M?

VR: Monovalent.

DG: "Monovalent OPV2 was effective for stopping detectable transmission, its use simultaneously recedes the emergence of new lineage outbreaks of the C-VDPV2, especially where type 2 immunity is low as described here." You had a comment you threw in there or is that mine?

VR: Basically, the use of IPV in this outbreak stopped polio, which not a single case was diagnosed after IPV administration. Nearly 100% efficacy of IPV following two or three doses, and that's what WHO should be doing globally now, not still fooling around with OPV because every time you use OPV, you reseed. As in S-E-E-D, not go away. You reseed -

[laughter]

VR: - the environment with circulating vaccine-derived polio 2. The way to take is very clear.

DG: Yes. As we read in the commentary, this was predictable. This should have not been a surprise and was, I would say, a significant misstep as they call it. They're transitioning from the trivalent oral polio vaccine, so one, two, and three, to the bivalent, which excluded the type 2.

VR: Yes, that was back in 2016. They transitioned. They took away the type 2 because type 2 caused vaccine-derived polio.

DG: They say, "While type 2 is gone, we don't have to worry about it."

VR: They said it was gone. They said, "Our computer modeling said this is going to be OK." Guess what? It wasn't OK because there was still wild-type circulating. They had some outbreaks, and they went in again with OPV2. Now that there's no more type 2 immunity or it's very low, you have thousands and thousands of cases of paralysis caused by the type 2 vaccine circulating in these populations. A huge misstep, and it just shows you, don't depend on computer models to make epidemiological decisions.

DG: Yes. They point out there, six cases in 2016, and now thousands of paralyzed children. This is a misstep. Thousands.

VR: Roland Sutter, who is one of the architects of the switch, had an article in *Science,* and we'll link to it. The switch was an unqualified failure. They still haven't learned their lesson. They're still trying to promote OPV, and this is just not going to work.

DG: Yes. More than not working, right? We have thousands of paralyzed kids.

VR: These are human-manufactured cases, because they wouldn't have happened if we had not withdrawn type 2 and if we had switched to IPV. Any excuse you have for not using IPV is not correct. It can be done. I spent my life working on polio, this bothers me so much that the lessons that have been learned are always ignored in the case of polio.

DG: Yes, and they talk about, "Oh, but we're going to save money." Now, tell me taking care of these thousands of paralyzed children is going to somehow save anyone money.

VR: Saving money is BS. That's nonsense.

DG: Yes, we're not saving money. We're just -

VR: What's most important is people's health. OK?

DG: All right. OK. I was intrigued. I've now started to notice that *Candida auris* is in the wastewater monitoring.

VR: They renamed it, Daniel.

DG Well, *Candidozyma auris.* I'm resisting. [chuckles]

VR: I don't like that at all.

DG: I don't like that at all.

VR: Why did they do this? It's really that different that it needs a new genus?

DG: The taxonomists are trying to keep themselves employed, right?

VR: [chuckles]

DG: It is a problem, right? I'll say doctors, particularly as we get older, are harder to teach us stuff. When they rename certain things, those little memory tricks that we remember are like, "Oh, strep bovis, you should be screening for colon cancer, but now you call it something different." We're like, "I don't know."

[laughter]

DG: "I don't know what to do." All right. Measles. Measles, maybe we're starting to get a little bit of a leveling off, right? We're 979 total confirmed cases. Let's just compare that to where we were in the whole country last year at this time. In Utah, we've got a lot of cases going on in Utah. The Johns Hopkins measles tracker, you can see where we are.

Hopkins has us over 1,000 so far this year. I had 300 and I had almost 1,000. I'm over 1,000 there. You can see where the hotspots are. There's some hotspots out in Utah. There's a bunch in the Salt Lake City area. There's down in the Southwest, the St. George area. A bunch of cases in Arizona. Down in Florida. The CDC gives us 982, but as mentioned, 979 in South Carolina. I'm not sure how they only get three above that.

VR: We can't trust them anymore.

DG: It's unfortunate. I will say, there's been a lot of stuff about how current practicing physicians haven't seen measles. A lot of stories about kid shows up with measles, and they're hanging out for hours before finally someone realizes, "Oh, the kid's got measles." Now there's dozens of people exposed, probably in emergency rooms, clinics, universities. Yes, get vaccinated. Anyone that tells you having measles is better than getting vaccinated is just trying to sell you their wellness products.

All right. Flu. Flu, depending on where you are in the country. We've got some areas where it's still growing. Basically, what ended up happening, and we talked about this, is this is very similar to what we saw back in the '23-2024 season, where it comes down, gets to this half mast, and then stays on a plateau for a while. That's what we're doing. Some parts of the country, like down in Texas, maybe out West, it's declining. The whole Ohio River Valley is actually growing. Pennsylvania, down in North Carolina.

VR: New Jersey, Massachusetts.

DG: Yes, still some areas where we've got a lot of activity going on. We're not through this yet. Unfortunately, we're up to 71 confirmed children dying from flu. Yes, a surgeon general who's not going to encourage vaccination. They asked her, "Are you going to encourage vaccination?" She refused to -

VR: This is totally crazy. This is just out of the world. I don't understand what she's thinking. She's thought this way all her life. It's nothing new for her.

DG: Why is she going to change? I don't even know why they bother asking questions. It's sloppy.

VR: This is not the right person. Then, again, none of these positions have been filled by the right people, as we say over and over again. I'm sorry we say it over and over, but I am so stunned by it every day. I still cannot believe it's going on.

DG: Let's make it to the midterms. All right. RSV is still high. I've been commenting on this. It's an odd pattern this year, is it's actually growing in most states in the country. Just some really strange pattern with our RSV here. COVID, oh my gosh.

VR: What's COVID doing?

DG: As a nation, it's actually going up. In the Midwest, it was really high. It started to come down, came back up again. It's still in the very high. Here in the Northeast, we're hovering in the moderate. It's not really going down. It's on this plateau there. South, it's spiking back up. We're still seeing a fair amount of COVID activity.

VR: I hate to say this, but it's trending downwards. There are these little irregularities-

DG: Bouncing around in the -

VR: Yes, it's bouncing around on the way down.

DG: We'll keep an eye on that. Nationally, it's still at a moderate level. In the Midwest, it's still very high. All right. Now, here's a good one because we're going to talk a little bit about this, is, this whole decision, is it safer to get vaccinated or to get an infection? This comes up quickly.

VR: What did you say? The whole discussion?

DG: Yes, this is a discussion because a lot of people have this idea, particularly around pregnancy, where, "Well, I don't really want to get vaccinated during pregnancy because that immune activation that comes with a vaccine, that could lead to problems." I always try to frame it, like the choice to get vaccinated is between the choice to get vaccinated and get that protection, or to live in a world where you can get an infection without that protection. In a perfect world, if you're pregnant, you're just going to not get exposed to any germs for 10 months, and then your baby's not going to get exposed to germs for their entire life.

VR: Yes, it's a great plan.

DG: It's a great plan.

VR: That's a great plan.

DG: That's not realistic. The realistic is that you're going to get exposed to stuff. You're going to breathe, you're going to eat stuff, you're going to touch things. During pregnancy, people get infections. Then the question is, "Do infections cause these problems? Do infections without vaccination? What's the net better choice? To be vaccinated or to go out there unprotected and get infected?" For us, I think it seems pretty straightforward, but let's bring some science to this question.

We have this article, “COVID-19 Vaccination Status During Pregnancy and Preeclampsia Risk: The Pandemic Area Cohort of the INTERCOVID Consortium.” This was published in *eClinical Medicine*. We've got pregnant women prospectively enrolled from 18 countries in two consecutive cohorts between 2020 and 2022 during the COVID-19 pandemic. Of 6,527 pregnant women, 33% were diagnosed with COVID-19. Then 3,753, so 57.5% were unvaccinated. Of the 2,774 vaccinated women, 64.7% received mRNA vaccines.; 30.6% received the initial regimen plus a booster dose of whom 66.6% received a booster with an mRNA vaccine.

We've got unvaccinated, we've got vaccinated, just got one dose, we've got vaccinated, they got a booster dose. Now, here's going to be what we're going to see. They're going to look at these different groups, and they're going to find an independent association between COVID-19 and pulmonary embolism. If you get COVID-19-- I think we've talked about this.

VR: Preeclampsia. Isn't it preeclampsia? That's what they're looking at here, right?

DG: Yes, preeclampsia. It's so funny, like P is so going into my head. Preeclampsia. COVID-19, pre-eclampsia, it goes up about 45%. The real increase is particularly in the unvaccinated women where the preeclampsia adjusted odds ratio 1.78, so like a 78% rise.

VR: Wow.

DG: Overall, after they adjust for the confounders, any vaccination gave a protective effect against preeclampsia, so about a 15% reduction, but it was even stronger if you got a booster dose. If you got that booster dose, it was 0.67. About a 33% reduction. If there were women that had pre-existing morbidities, so things that put them at higher risk, it was reduced by 58%.

Really, basically, here we're seeing that vaccination reduced your risk of preeclampsia, but it also was associated with a decreased odds of maternal and perinatal morbidity and mortality and preterm birth. Across the board, getting vaccinated was safer than not getting vaccinated. I don't know if you know, but there's some OBs out there, like during pregnancy, we don't want to do anything, hands in the pocket approach. We're seeing here that hands in the pocket approach is going to reduce the woman's chance of having a good outcome.

VR: A pregnant woman should not get influenza, right?

DG: You want to avoid getting influenza, and getting infections during pregnancy can increase your chance of all kinds of bad outcomes. The vaccines, no. The vaccines only confer this benefit. I think that's pretty straightforward.

VR: That's RSV. We give vaccines, and the baby's benefit as well.

DG: Not only do you protect mom, not only do you protect the baby in utero, but then you also protect the baby once they come out because there's that passive protection.

VR: This idea that vaccination during pregnancy is not good is incorrect.

DG: True. True. All right. I think we're going to spend a lot of time on emails today because I'm going to wrap us up with, no one is safe until everyone is safe. We're in the middle of our floating doctor's fundraiser, so we're trying to get to that $20,000. What are we running this through? Let's see, February through April. All right.

VR: It's time for your questions for Daniel. You can send yours to daniel@microbe.tv. Kang writes, "What is the Hep B Vax recommendation for older patients?"

Daniel: OK. This is a good one because it used to be we could go to the CDC and, "Here's what ACIP says." What is the evidence-based recommendations for hepatitis B? We'll just talk a little bit about what's going on. We've all talked about starting off at birth. It's now part of the routine vaccination series for people. Then we get to the 19 to 59. Basically, it's still, if you didn't get it, you're in that age group, you should go ahead and get it.

Then there's this breakdown at 60. They say this thing like, "OK. At 60, we recommend it to people who have risk factors." I'm going to go ahead and say everyone should just, if you haven't gotten your hepatitis B vaccine, just go ahead and get it. Let's talk about this. What are considered risk factors? One, if you're over the age of 60 and you're sexually active. All

right. I think we've probably got a lot of people already. Number two, if you travel to areas where there's hepatitis B.

I don't really feel like you have to even leave the U.S. You leave your house. Hepatitis B, and now we're seeing these issues. There are parts of the world, particularly Asia, where we have a higher hepatitis B, parts of Africa. People always talk about like, "Oh, but you only have to do that if you're going to have sex in these areas."

The issue is, what if you end up in a motor vehicle accident? Which you're not going to plan on doing, and then you end up getting access to healthcare there, and maybe getting it from exposure there in a healthcare setting. Then, healthcare workers, dialysis, a few other risk factors. Really, I'm going to say everyone at this point, if you just really think about the risk factors, you should go ahead and get your hepatitis B series if you haven't gotten it already.

VR: All right. If you didn't get it at the birth dose and so forth, you should get it. Even if you're not leaving the U.S., you're saying just get it.

DG: Yes. I think at this point, as people see, our access to vaccines is under attack. Yes, it might be time.

VR: Will your physician give it to you if you're 65 and you ask it?

DG: Yes. You could just say, "I may be over 60, but I was listening to *TWiV*, and I'm sexually active. [chuckles] I have some risk factors. I don't know if I -" You're not going to have to go that deep into them. I don't think there's a problem.

VR: OK. All right. Bradon writes, "I've been listening to *TWiV* since 2020, and *ID Puscast* since it started. I've been following the updates on obstetric and prenatal vaccination. I've also read enough autism literature to know that immune system challenges during pregnancy, especially in the first trimester, increase the incidence of autism spectrum conditions in the babies resulting from those pregnancies." I don't know. Daniel, is that true?

DG: It is true. Just to look at that a little closely. There is this Maternal Immune Activation, so MIA. I just want to point out, when you say immune system challenges, this is immune system challenges resulting from infections, not vaccinations. It's really important. This is true. This is true. It's estimated about a 15% increase, sort of thereabouts, depending upon the seriousness of the infection that you might get, particularly during first trimester.

VR: OK. It's an infection. That's important. All right. Back to Bradon. "I'm hoping to achieve a pregnancy in the next year. What would you recommend as a vaccination schedule for optimal immune system function? Is it a good idea to get flu and COVID shots before conceiving?"

DG: A lot of this is going to be timing, right? If you get your flu and COVID shot before you get pregnant, then you're going to protect yourself. Now, what we've seen is getting vaccinations during the beginning of that last trimester. That's for the RSV, that's for the COVID, but that's for the flu, because then what you're doing is you're potentially protecting the baby going forward. You've got to think about timing. Yes, I am talking about a pre-pregnancy vaccination, and then I'm talking about right at the beginning of that third trimester vaccination timing.

VR: All right. Next question. "I was last vaccinated against rabies and tetanus following a collection of dog bites 18 months ago. I tend to try to help distressed animals if I see them. Should I get my, if not friend, why friend-shaped vaccines refreshed before trying to conceive? Rabies vaccine felt awful when I had it. Left me exhausted for two months. I'm thinking of maybe preempting that one to reduce the risk of a giant immune system challenge if a dog decides to bite me."

DG: Yes, this is interesting. I'm trying to figure out how many times you get bit by dogs. Veterinarians, and I was out in Fort Collins for a while, and a number of my patients were veterinarians. A number of those, particularly the ones working around small animals that might bite them, or working around other animals, they'd get their rabies shots, which are really not a big thing anymore. It's not like some big 18-inch needle going in your stomach like you see in some of these prequels to *Yellowstone* or something. It really is just to get some shots.

Now, if you are having similar exposure, it sounds like if you're getting bitten all the time by potentially rabid dogs, then it would be think about an approach of getting your titers checked and thinking about that. Maybe while you're pregnant, maybe not getting bit by rabid dogs. I'm giving out advice that I don't take because I had to get my rabies shots because I can't not pet a lonely rabid dog.

VR: "I was given OPV as a baby. I want to give my kid IPV, but what if I accidentally give them type 2 polio before they age to the qualifying age for IPV? If I get an IPV shot in the third trimester with flu, COVID, and RSV shots, does that confer some immunity to the fetus?"

DG: This is interesting. I was a little confused, and then I read a little forward, and I was like, "Oh, OK." Maybe this person grew up in Zimbabwe.

VR: Yes.

DG: They may have had a different approach to vaccination, so they may have only gotten OPV as a kid. I guess what you're raising is this, "What if I got OPV as a baby? What if I'm not really immune? What if I actually am one of those rare long-term carriers of poliovirus?" Is that the scenario I guess they're putting forward?

VR: I don't know. I wonder if she's thinking that she's still shedding OPV2, which you're not going to shed for that many years unless you're immunocompromised. I don't think you're going to give your kid OPV. Now, if you got OPV, you shouldn't be a carrier of vaccine-derived poliovirus. I don't know. It could happen. So would getting IPV confer immunity to the fetus? I think it would, right?

DG: I would think the same logic we talked about. It's the beginning of that third trimester because you want to give it enough time for you to have that robust immune response, which as we talked about, people used to think, "Oh, it's just antibodies." It's more. There's also a cellular component of the maternal transmission to the child that gives protection for a period of time. Same logic as the other vaccinations during the third trimester.

VR: "I live in Zimbabwe. To give a bit of advice to your Canadian listener who asked last time, what do I do for my kids going to Zimbabwe?" Cholera has a good oral vaccine. Deltaprim is the best malaria prophylaxis for our strain of malaria. Definitely use all three of

mosquito repellent, bed nets, and mozzie coils. You can get in the supermarket."

"Definitely get measles and polio vaccines before you come because unfortunately, we have a lot of disinformation about those two diseases along with outbreaks. Drink purified water available from water dispensers and supermarkets, and let your gag reflex guide restaurant choices."

DG: [chuckles]

VR: "Get a dose of Biltricide for each family member before you fly home and wait three months before administering it. We have so much bilharzia, you can catch it from walking through wetlands. Iron all clothes after washing or hang them indoors with the windows closed. Our putzi and tsetse flies lay eggs in laundry and the larvae nest in human flesh."

"If they buy dairy products from farmers markets, ask if they've been pasteurized. The plague enthusiast disinformation campaign includes RFK Jr. fandom and a disdain for Louis Pasteur's legacy. Pasteurized and UHT milk is available from supermarkets, and European cheeses are available from Sue's Bakery and Delicatessen in Harare."

[laughter]

VR: Wow.

DG: We're getting all kinds of really good advice here. I think a lot of people don't know about the laundry issue, right? They hang their clothes out and then the eggs lay, and then the eggs actually hatch when you put them on because the warmth. The next thing you know, you've got this cutaneous myiasis, which is just horrific.

VR: Oh my gosh. What's the bilharzia then?

DG: Schistosomiasis.

VR: All right. Then there's an asterisk at the bottom. Remember, this person got 18 dog bites.

DG: [chuckles]

VR: No, a collection of dog bites 18 months ago. She writes, "The dogs were good boys. It's not their fault that their human, my neighbor at the time, kept them in awful conditions, used violence as a behavior management strategy, and underfed them to the point that I could predict their attacks based on my menstrual cycle."

DG: Wow. That's really -

VR: That's terrible.

DG: Yes, that's really tough.

VR: You should not mishandle animals of any sort. It's terrible. Dogs are very, very nice. They love humans. Right, Daniel?

DG: They really do. It's inexcusable.

VR: Laurie writes, "Good morning. I'm a pediatrician in San Francisco. We are considering ordering Flublok for our '26-'27 influenza season. What are your thoughts? To me, more antigen translates to more possible side effects, which wouldn't sit well with our teens who have their big game that night. Have you had any experience with it? Would you recommend it?" All right. Let's take that one first.

DG: Yes. Flublok is actually approved for age 9 and then move that on all the way up. It's actually it's a good vaccine, head-to-head with standard flu. It looks like it's non-inferior. With some studies, maybe it looks even a little bit better. Yes, we've put that in our list of things to order. Yes, I think it's reasonable.

VR: OK. Now, second question. What is it with the egg allergy thing and flu vaccine? Sanofi is advertising Flublok as egg-free, but I thought the egg allergy and flu vaccine was no longer relevant. This seems to be giving a mixed message. Fluzone is OK, but this is better?

DG: It's just marketing. [chuckles] It is funny. They actually have like, "Egg-free." It's like, "Well, yes, but the egg allergy was never a thing."

VR: That's right.

DG: For those people who don't know. [chuckles]

VR: Yes. Finally, "I don't know if this news has made it to your side of the woods, but we are having a significant TB outbreak at a high school in San Francisco. Three active cases and over 200 LTBIs found so far." That's latent tuberculosis, right, Daniel?

DG: Yes.

VR: "It is still early. Two of the three active cases were seriously ill. We are so appreciative to the voices of sanity out there. Please keep it up."

DG: OK. Yes, I had heard about this. Good luck with that, Ugg.

VR: Daina writes, "Given its impact on memory T and B cells, might mild measles infection benefit patients with auto-reactive T and B cell autoimmune diseases? Do you observe immune amnesia after mild infections in individuals previously vaccinated against measles?"

DG: Yes. We talked a little about this immune amnesia before. Depending upon the severity of your infection, you get different amounts of your immune repertoire destroyed. Your mild case, maybe 30%, you're more severe, I end up in the hospital, it might be 70%, 80% of your immune repertoire wiped out. Then there's issues that you don't necessarily just replace that. There can be holes in it even going forward trying to re-establish.

You say, "Oh my gosh, but what if some of those T and B cells are auto-reactive? Could a measles infection wipe them out, and now I don't have autoimmune disease?" It's definitely an interesting idea, but sort of like using a nuclear option to treat one of these diseases. We do actually have nuclear options, right? We use special antibodies that wipe out all your B cells. We have other therapies that can target T cells. I think it's sort of an interesting research idea, but I wouldn't encourage people to go basically decimate their immune systems.

VR: If you happen to get measles, that's one thing, but you shouldn't intentionally get

measles to do that, right?

DG: Correct. Correct.

VR: That's not a treatment.

DG: No, it's not. [chuckles]

VR: Lindsey writes, "Greetings from wet and foggy Michigan. I've been a devoted listener since 2020. Thanks for keeping this hypochondriac sane. I'm writing to say thank you for sharing the studies about Xofluza and the coupon. My 9-year-old with asthma always has such a hard time with respiratory viruses." "On Tuesday, he got up to go to the bathroom and collapsed in the hall on the way back to bed. He spent the day on the couch with aches, fever, fatigue, sore throat, cough, headache. The next day, it finally occurred to me to use one of our combo tests. Sure enough, the culprit was influenza A. I called his pediatrician's office, took the first available video appointment, asked for Zofluza."

"The doctor said they hardly ever prescribe that, and she couldn't find it under the brand name. Luckily, I had been listening to *TWiV*, and I knew it was called baloxavir. I called ahead to our pharmacy to make sure they had it in stock. Paid $35 with the coupon. I was able to get it for my son within the 48-hour effectiveness window. The next morning, he was up and walking around and asking to eat. Thank you for keeping us informed with evidence-based medicine."

DG: I love these stories, Lindsey. It's great to hear that what we're doing actually makes a difference in the lives of real human beings out there.

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

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

[music]

[00:41:33] [END OF AUDIO]