

# Mayo Clinic Q&A - Dr. Gregory Poland - COVID-19 Update Audio...

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## SUMMARY KEYWORDS


vaccines, people, omicron, greg, dose, infection, vaccinated, long, cases, masks, risk factors, mayo clinic, variant, allergic reaction, pandemic, endemic, question, called, listener, understand


## SPEAKERS


Dr. Halena Gazelka, Dr. Gregory Poland, Narrator


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 **Narrator** 00:00  
Coming up on Mayo Clinic Q&A,


 **Dr. Halena Gazelka** 00:03  
What's important is that the number of new cases, remember we were as high as a million, we are down to 75,000 new cases a week. So, those are definitely improvements.

 **Narrator** 00:16  
New COVID hospitalizations have declined significantly again this past week as the Omicron wave fades. But does this mean that the pandemic is finally coming to an end?


 **Dr. Gregory Poland** 00:26  
I would urge caution. We don't know yet what's going to happen as we go through the next weeks. Prematurely discarding masks, prematurely deciding, well you know what, I never got my vaccine I'm not going to bother now, or I didn't get my booster. That will be a decision that in some proportion of people who make that decision will lead to them getting ill, or having to be hospitalized, or having a complication.


 **Dr. Halena Gazelka** 00:56  
Welcome, everyone to Mayo Clinic Q&A. I'm your host, Dr. Halena Gazelka. We're recording this podcast on Monday, February the 28th, 2022. Are you ready for updates with Dr. Greg Poland today? Well, I am. So, here we go. Hi, Greg.


 Dr. Gregory Poland 01:12  
Hi, Halena. How are you today?


 Dr. Halena Gazelka 01:14  
Are you ready to give us some updates?

 Dr. Gregory Poland 01:16  
You know, I'm excited to give some updates. And you mentioned that we've got a bunch of listener questions. So, I'm excited about that.

 Dr. Halena Gazelka 01:23  
We have so many questions today that we'll just see what we can get through.

 Dr. Gregory Poland 01:28  
Okay.

 Dr. Halena Gazelka 01:28  
So, let's start with the latest in the numbers. What's going on?

 Dr. Gregory Poland 01:31  
Yeah, so you know, this is good news. When you look at what's happening in the U.S. and a lot of the world, let's just talk about the U.S. We are down to about 120,000 deaths since Omicron started. That's no cause for celebration. We still have about 1,900 deaths a day. But that's a trailing figure. What's important is that the number of new cases, remember we were as high as a million, we are down to 75,000 new cases a week. And so, and about 58,000 current COVID hospitalizations around the U.S. So, those are definitely improvements. I mean, the number of cases, and that's about a 90% decrease. The concern is what to do with that. People are weary of COVID. And I understand they want to pretend it's over. But I want to caution everybody. We did this just a summer ago, right before Delta emerged. And we took masks off, and we pretended it was over. And we had a major surge. So, we need to be careful. We need to be cautious.

 Dr. Halena Gazelka 02:53

Okay, you brought it up Greg. So, I'm going with it. CDC put out some new recommendations about masking. Can you go through those a little bit and tell us how do you think they apply?

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Dr. Gregory Poland 03:06

Yeah, so what they did is they're trying to get away from community transmission. Because there are a number of people immunized, a number of people previously infected, and as they keep saying, fatigue over precautions. I don't think fatigue over precautions is a good motivating factor in the midst of a pandemic. But what they are focusing on is numbers of new hospitalizations and also hospital capacity. And then they are rating those low, medium, and high. They're suggesting that if you are otherwise a normal immune system, that you only need to wear a mask if you're in a county that is ranked as high. Then why have a medium category? Furthermore, how are people going to know? Are they really going to go to a website? And also for me, and this is the motivation for why I will not be taking my mask off. We have a large group of people in the U.S. under the age of five who are not yet immunized. We have a rapidly changing situation. We have large numbers of immunocompromised people. This is focused on more of the severe hospitalized cases, how many beds are being used by people who have COVID. It ignores all of the consequences of COVID that don't end up in the hospital, such as long COVID as one example. And you have to remember that only about 30% of America is fully vaccinated and boosted. So, to me while we're seeing really encouraging signs, what we have seen globally five times in a row now is a peak in cases, a sharp reduction in those cases, a short interval of suppression, and then another surge. So, at a minimum we have to be ready for the idea that we may have another surge with another variant.

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Dr. Halena Gazelka 05:23

Speaking of other variants, what can you tell me about the BA.2 variant that doesn't have a Greek letter yet?

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Dr. Gregory Poland 05:29

Yeah, it doesn't have a Greek letter assigned to it. It's a variant of interest. You know, Omicron is BA.1. This one is BA.2. It's about 20 to 30% more transmissible than Omicron. It is the vast majority of cases, now our BA.2 in Republic of South Africa, in Denmark. About 10 countries have had significantly increased rates of BA.2. In the U.S. we have 10 states where BA.2 is 6% or more of the sequences. What will be interesting is the experiment we're doing. We have new variants emerging. We're taking masks off, and we've just come through Omicron. Will that be sufficient immunity to prevent BA.2 from surging or not? And it may be geographically dependent. We have some areas in the U.S. that have just refused vaccines and masking, and unfortunately are still suffering high rates of hospitalization and death compared to vaccinated people. But those are locations where BA.2 could take off again.

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Dr. Halena Gazelka 06:51

Greg, do you have any idea where we are kind of on the pandemic endemic timeline at this point?

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Dr. Gregory Poland 07:00

No one really knows. What we're observing is a pretty dramatic suppression of cases. And it's speculation that that means we're moving into the endemic phase. Again, remember that people speculated that as each variant peaked and then kind of weighed down into a more suppressed level. So, I think we have a lot more to learn about Omicron. I think, and I'm as weary of it as everybody else, but that doesn't mean, you know, take your guard down. When you're driving a long distance and you are tired, do you just keep driving or do you take precautions and pull over and rest? And that's a crude analogy to what's happening here. We need to pull over, pause, look based on the science and the data what is happening over time. You know, remember that with Omicron, for example, the emergence of Omicron basically significantly hampered our immunity or our protection against infection. It significantly negated the value of some of our monoclonal antibodies. So, you know, we need to take this seriously and not pretend because we're tired of it that it's magically over.

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Dr. Halena Gazelka 08:25

Greg, what does it really mean for this to be endemic? I mean, the analogy that comes to me is like a common cold, and they are kind of amongst us all the time, and sometimes people get sick from them. But I don't know if that's really what an endemic is.

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Dr. Gregory Poland 08:41

It's a little different than that. Endemic really says that we've got a circulating pathogen that's causing a baseline number of infections. You can have periodic epidemics. That's a good analogy for influenza and periodic pandemics, which means it exceeds the base rate, you know, globally across the globe. Whereas epidemic is more geographically located. So, you know, if Omicron stayed at the level it is right now, if it just stayed at this level we would very quickly get to the point where we would call that endemic.

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Dr. Halena Gazelka 09:22

Okay.

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Dr. Gregory Poland 09:22

So, it's not the number of infections so much as it is the baseline of infections and how that varies with time.

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Dr. Halena Gazelka 09:33

Interesting. All right. There are some new vaccines out there seeking approval. What can you tell us about those?

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Dr. Gregory Poland 09:40

Yeah, we've got three that are likely to come to the FDA this year, one of them pretty quickly made by Novavax. All three of them, and this is exciting because this is a new platform for a COVID vaccine. They are recombinant protein vaccines. We know a lot about that. That's what we get when we get hepatitis B vaccine or human papilloma virus vaccine. We're getting a part of a protein when we get a flu vaccine. So, people are comfortable with that platform. We know a lot about the safety of that platform, and then each of them are presented slightly different and have slightly different adjuvants. So, I'm excited to see another platform come on board.

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Dr. Halena Gazelka 10:30

Greg, why did it take so long to develop recombinant vaccines if they're the type of vaccines that we have for other organisms?

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Dr. Gregory Poland 10:38

Yeah, you know, I think people forget that there's a long history behind all of these vaccines, the mRNA and adenovirus vectored vaccines included. So, the big pharmaceutical companies got a lot of money from Operation Warp Speed and were able to produce vaccines very quickly. These companies that are coming along, with the exception of the Sanofi GSK vaccine, Novavax and Medicargo are relatively small new manufacturers in the vaccine space. And so, it takes time to devise those protocols. Remember that they, by coming in as second wave vaccines, had a much more difficult task of finding areas in the world where people had not been vaccinated and yet where there were still cases occurring in order to carry out their clinical trial. So, that has now happened. And so, we will see vaccines coming to the FDA made by Novavax, Medicargo, and a collaboration between Sanofi and GSK.

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Dr. Halena Gazelka 11:48

Until those come out, what is the current recommendation? I think it's changed a bit on the vaccines that we already have available and the dosing intervals for them.

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Dr. Gregory Poland 11:57

Yeah. So, you're right Halena, that the dosing interval recommendation was just made this this past week or so. And basically what it's saying is, there is a risk of myocarditis particularly in younger men. In that category of younger people, we can increase the efficacy of the vaccine and decrease the risk of myocarditis by extending the interval between the first and second dose to as long as eight weeks. No demonstrated value at this point of extending the interval greater than that. You recognize the tension in that recommendation. You're on the one hand decreasing the very, very small risk of myocarditis, but you're not protected fully until you've

had that second dose and then a booster dose with time. So, it's a, you know, teeter totter of risk/benefit. It would not be recommended for younger people who don't really suffer that incidence of myocarditis, nor older Americans, or immunocompromised people.

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Dr. Halena Gazelka 13:11

All right. Okay, this is a totally different topic, but it's still about COVID. I understand that they've been testing for COVID in wastewater and that there was some interesting findings in New York City. Can you tell us about that?

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Dr. Gregory Poland 13:25

You are exactly right. And honestly, right now, this kind of fits into the category of mystery. So, they've been doing surveillance in New York City wastewater, as they are around the country. And particularly in New York City they're finding what they're calling cryptic sequences. These are sequences from the Coronavirus that do not fit with any of the sequences that we understand from Coronavirus. So, where are these coming from? What do they mean? Honestly, nobody knows at this point. The speculation is that these are coming from rats who are being exposed to humans either through human waste, or by digging through human garbage and things like that, then circulating in the rat population, changing and mutating. The question is, could there then be a reverse zoonosis with infection of humans or other, you know, dogs, cats, and that be a mechanism to convey it to humans? That's one possibility. But no one really understands the significance of this or the origin at this point.

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Dr. Halena Gazelka 14:39

All right. There's been a lot of news also about long COVID, Greg. Even I was walking through the airport, and I saw People magazine with articles about individuals who are suffering from long COVID.

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Dr. Gregory Poland 14:52

Yeah.

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Dr. Halena Gazelka 14:52

What are the updates on that?

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Dr. Gregory Poland 14:54

Well, so you know, so first of all we should say that the risk of long COVID is reduced 30-50%, in one study 50 plus percent. So, being vaccinated is a definite benefit in reducing that risk. There's begun to be the development of some risk factors that can be associated with developing long COVID. This includes reactivation of the virus that causes infectious

mononucleosis, the EBV virus, type two diabetes, high viral loads, and the presence of auto antibodies. One of the consequences of COVID infection is the development of auto antibodies. We don't yet quite know what that might mean long-term. And it doesn't happen with vaccine, only with the infection. But those are risk factors for longer COVID. What's causing longer COVID? Well, there's again speculation. In some cases, it may be these auto antibodies that are generated. In other cases it probably reflects end organ damage from the viral infection. In other cases, maybe it's the consequence of activating another latent virus. So, a lot to learn here. A lot to learn about treatment. But if there's a silver lining to it, I think it is really opening up a whole new area of research, because, you know, we have seen so-called long syndromes of Lyme disease, of EBV, or infectious mono occasionally with influenza though not too often. And what is the consequence of this? What is the mechanism for it? And how might we treat this? This will be forced upon us by this pandemic of subsequently caused long COVID cases. So, stay tuned for more information on that.

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Dr. Halena Gazelka 17:00

And in the meantime, we do love a silver lining, Greg.

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Dr. Gregory Poland 17:03

Yes, of course.

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Dr. Halena Gazelka 17:05

Now Greg, I would like to think that this podcast is very special. But I know that you do lots and lots of interviews, and you have a lot of, an incredible amount of media inquiries and involvement, and you recently published a commentary about the need for investment in vaccine safety research. Tell us a little about that.

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Dr. Gregory Poland 17:25

Yeah, we published it in one of the most prominent science journals in the world called Nature Immunology. And what this editorial was, was a call as you put it, and it's a good way to put it, a call for more research infrastructure, for more research funding in order to maintain public confidence in vaccines. Vaccines will always have some small risk of a side-effect. But that doesn't mean we sweep that under the rug. We acknowledge it transparently, we try to understand who's at risk for any kind of a side-effect, and then we use that information to understand why that side-effect was caused, and re-engineer or reverse engineer the next generation of vaccines to make them safer, and safer, and safer. And I think that burden is on us as physician scientists, and again not only do we learn more science and advance the science, but we maintain the confidence of the public in the safety of those vaccines.

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Dr. Halena Gazelka 18:37

Greg, the mailbag is full to almost bursting. So, I'm going to get into a few questions with you this morning. We'll see how far we get. This first individual says that at the beginning of the

this morning, we'll see how far we get. This first individual says that at the beginning of the pandemic there was talk that certain blood types were more likely to have severe COVID. Have there been any further studies on that subject?

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Dr. Gregory Poland 18:56

That's an interesting question because it has not come up much for about a year. Yeah, the listener is exactly right. There was a small flurry of studies suggesting that people with blood group A had the highest risk of infection and severe disease, blood group O the lowest, and B and AB sort of in between. There have subsequently been, the end of 2021, there was a study out of Harvard and one out of Columbia that did not find those to be risk factors. So, people may say, well don't the scientists know? The problem is the power of studies. You need ideally 10's of 1000's to hundreds of 1000's of cases to really be precise in your estimate. And what you don't know is, is that blood group not the risk factor itself but a marker for another kind of risk factor. I wouldn't be surprised if it does add some small amount of risk. We've seen that with blood group A and pneumococcal infection. So, I think it is possible, but I think it is not the major risk factor. It's a teeny, small risk factor in a sea of risk factors, some of which are much more prominent and important than others.

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Dr. Halena Gazelka 20:21

Our next listener would like to know, can new variants evolve to the point where they are not detectable by our current testing methods?

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Dr. Gregory Poland 20:31

I suppose that's theoretically possible. But, you know, even the laboratory and pathology, I'm trying to say lab medicine scientists here at Mayo Clinic who really invented some of the earliest and best PCR assays for this, they're constantly on the lookout for that. And it's not a difficult thing to tweak the assay, even if that be by sequencing to understand what new variants might be arising. But, you know, the Omicron was a more difficult one to detect, but they did detect it as an example. So, I think the chance that there would be mutations such that we wouldn't even understand that it's a COVID infection is, you never want to say impossible, but near impossible because of the amount of vigilance, because of the amount of sequencing that's now taking place that would detect that.

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Dr. Halena Gazelka 21:32

This next individual asks, am I fully vaccinated and boosted if I had a single J&J shot March of 2021, and a half Moderna dose November of 2021?

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Dr. Gregory Poland 21:44

Yes, that is a definite yes. You are vaccinated and boosted if you have a normal underlying immune system. If you were considered moderately or severely immunocompromised, you would need yet again another dose. But at this point with a normal immune system, two doses



with the primary being J&J, you are up-to-date.

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Dr. Halena Gazelka 22:09

All right, our next listener wants to know, if we work toward a combined vaccine for COVID and flu that is given in the fall, are there an increased risk of allergic reactions due to the binders that will be used in that vaccine? And are there alternatives if that's true?

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Dr. Gregory Poland 22:30

I am not aware, again our listeners are spectacular. That is a really, really good question. I am not aware of any data suggesting an increased risk. Now, when you combine the two, could there be an increased risk? I would say we don't know. And the reason for that is that combination has been tested in a relatively limited number of people. But I did bring some data with me, and I've written it down here because some of it's a little bit difficult. But let me just quickly go through this. So, this was a meta-analysis. They took all 22 published studies about allergic reactions after a COVID vaccine. There were 1,366 people who had an immediate allergic reaction after the first dose. Then what they did is under protocol with all the safety precautions they gave these individuals their second dose, I mean, bravo to the individuals who help us advance the science like that. Six, only 6.16% developed any sort of severe allergic reaction, 13.5% had a very mild reaction that didn't require treatment, and 99.8% overall tolerated that second dose. Among the 78 out of that larger number who had an immediate severe reaction after the first dose, so the 78 that had the worst reactions, when they re-immunized them 4, that is 5% of them, developed an immediate secondary allergic reaction to that second dose. So, the theory had been that these allergic reactions are mediated by an antibody in our body called IgE, which is now being called into question, and it does not necessarily follow that because you've had an allergic reaction to an mRNA vaccine that you cannot get a second dose. We don't know yet about a third dose, but a second dose. Regardless, I'm not saying go out and do that, you know, willy nilly. It would need to be done, I think, under the care of an allergist and being prepared to treat any reaction. Even the people that had severe reactions here were easily treated with epinephrine. Nobody died or, you know, had severe critical illness or anything like that. So, a piece of new science in relation to that question.

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Dr. Halena Gazelka 25:17

That is really interesting.

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Dr. Gregory Poland 25:18

Yeah. No one suspected that really.

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Dr. Halena Gazelka 25:22

The last question for you today is a bit of a challenge, Greg. So, we'll see what you say. This

individual says that in the spring, and it is now what's going to be March 1, tomorrow, can you believe it? That they developed allergies. How will they know if the symptoms that they're having are COVID, flu, or allergies, or some other virus?

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Dr. Gregory Poland 25:46

Yeah, very, very good question again. And, you know, the easiest answer to give is, you don't know. And the reason for that is you can have mild symptoms or very trivial symptoms. When you're exposed to different variants they have sometimes presented with different clinical signs. So, for example with Omicron it was much more upper respiratory, whereas Delta was more lung and lower respiratory. So, if you were just going on symptoms alone you might miss that somebody had a case. So, I would say in general, if you have an itchy, watery nose, itchy, watery eyes in the springtime during low levels of COVID, typical of what happens to you every spring time, that's probably a very good indication of allergies and nothing else. Could I be positive of that? No. Because especially if you've been vaccinated, and then you get infected with Omicron, again you can have trivial to minimal symptoms that you might otherwise just kind of write off as nothing.

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Dr. Halena Gazelka 26:58

So Greg, thank goodness maybe for home antigen testing which makes testing more available to people if they have situations like that, that are a bit confusing. Is that a good use of a home antigen test?

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Dr. Gregory Poland 27:09

Right. So that's what, if somebody is concerned, I think a home antigen test would be a good way to go. You can make an appointment at most pharmacies or most clinics to get a test. The question would be what's the meaning of it? So, if you're vaccinated and boosted, and you have a normal immune system, the chances are that you are not excreting high transmissible levels of virus for more than a few days, if at all. Is it good to know that? Certainly, based on what kind of work you do, who you're going to be around, are you going to be traveling, etc. In that case, wearing a KN95 mask is probably all you need to do if you're otherwise asymptomatic. So, we're going to be in many of these dilemmas as we see more and more mild disease due to people getting vaccinated and boosted and yet having slight escape from infection. The vaccines are superb in protecting against disease, but infection is a different thing altogether.

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Dr. Halena Gazelka 28:20

What a wonderful conversation today, Greg. What else do you want to share with our listeners that they didn't think to ask you?

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Dr. Gregory Poland 28:26

I would urge caution. We don't know yet what's going to happen as we go through the next week. Prematurely discarding masks, prematurely deciding, well you know what, I never got my

week. Prematurely discarding masks, prematurely deciding, well you know what, I never got my vaccine, I'm not going to bother now, or I didn't get my booster so I'm not going to worry about that. That will be a decision that in some proportion of people who make that decision will lead to them getting ill, or having to be hospitalized, or having a complication. You know, we don't see much of it on the media, but long COVID is nothing trivial. These individuals are suffering, and they would do anything to not have long COVID. So, as we have consistently done, you know, hands, face, and space are still good recommendations. We can be a lot freer outside, but I urge caution indoors in crowded settings.

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Dr. Halena Gazelka 29:31

Thank you, Greg, for being here today. Our thanks to Dr. Greg Poland, virologist and vaccine expert for Mayo Clinic for being here to give us our COVID-19 updates today. I hope that you learned something. I know that I did. We wish each of you a wonderful day.

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Narrator 29:47

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