Mayo Clinic Q & A - Dr. Gregory Poland - YouTube Audio - COV...

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SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, Narrator

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

D **Dr. Gregory Poland** 00:03
Where did this Delta variant come from? It comes from unvaccinated people getting infected in large numbers, the virus continuing to mutate, and then causing worse disease.

N **Narrator** 00:17
Vaccine hesitancy and the Delta variant have caused a new surge in COVID-19 cases in the United States. As the number of people hospitalized continues to grow, the medical community is working hard to find ways to keep us safe. That includes the changing of masking recommendations, even for the fully vaccinated.

D **Dr. Gregory Poland** 00:36
The science is very dynamic. We keep learning more and more. One thing people shouldn't think is, " Oh, they keep changing the recommendation." Of course, they keep changing the recommendation. As new science comes, as the number of cases surge, we

go back to wearing masks, and so it's not they don't know what they're doing, they're responding to the science.

D **Dr. Halena Gazelka** 01:00

Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka, and we are recording this podcast on Monday, August the 2nd, 2021. Can you believe that it is August already? Time to think about going back to school. On this weekly COVID-19 update, we do our best to keep you updated on what's going on with the virus and with vaccinations, etc. We hear from many of you who have questions, and today we're going to do our best to answer many of those. I have with me again, our favorite COVID-19 expert, Dr. Greg Poland, virologist, vaccine expert, and infectious disease specialist at Mayo Clinic. Hi, Greg.

D **Dr. Gregory Poland** 01:39

Well, good morning Halena, and I'm recording from my laboratory here at Mayo Clinic this morning.

D **Dr. Halena Gazelka** 01:45

Wonderful. Well, welcome, Greg, good to see you on a Monday morning.

D **Dr. Gregory Poland** 01:48

Thank you, and you too.

D **Dr. Halena Gazelka** 01:50

Weather was beautiful in Minnesota over the weekend.

D **Dr. Gregory Poland** 01:53

It was but you know, I don't mind telling our listeners, I had to be in the hospital for a couple of days with fevers. And of course, this made everybody very anxious about what this could be and very prescient in terms of what we might talk about this morning in terms of COVID and vaccinated people. Fortunately, I was tested multiple, multiple times, and it turned out to just be a respiratory virus, and I recovered very quickly. But it's a reminder of just how important this is and how easily things spread.

D

Dr. Halena Gazelka 02:28

It makes you wonder how much advice an infectious disease expert might give his physicians in the hospital when they're looking for an infection.

D

Dr. Gregory Poland 02:36

They were very patient, and a shout out to my whole care team that did a brilliant job managing me.

D

Dr. Halena Gazelka 02:42

That's great. Well, I was home with a husband who had shoulder surgery last week as well. So, we are keeping the Mayo Clinic in business ourselves. And everyone thought it was great that he had a pain specialist at home to help him. So.

D

Dr. Gregory Poland 02:58

Hey, I need one of those.

D

Dr. Halena Gazelka 03:02

Well, Greg, let's hop right to it.

D

Dr. Gregory Poland 03:04

Sure.

D

Dr. Halena Gazelka 03:05

You know, we're hearing so much about the Delta variant, obviously, and we know that unvaccinated people are in danger. But the vaccinated individuals can also contract or have the infection with the Delta variant. So, tell us about that, and how we should think about that.

D

Dr. Gregory Poland 03:25

You're really very, very dead on Halena, and we're learning more and more about this. Just last week, we got the results from the Provincetown outbreak in Massachusetts. This has been very revealing. And I think it shows a couple of points. The science is very dynamic.

We keep learning more and more. One thing people shouldn't think is, oh, they keep changing the recommendation. Of course, they keep changing the recommendation. As new science comes, as the number of cases surge, we go back to wearing masks. And so, it's not they don't know what they're doing, they're responding to the science. So, what did we learn this past week? Well, as has been seen in some other countries, and now in this outbreak, that people who are vaccinated are capable of being infected with this highly infectious variant called the Delta variant, something we didn't have six months ago, a year ago, that has changed everything. Where did this Delta variant come from? It comes from unvaccinated people getting infected in large numbers, the virus continuing to mutate, and then causing not only worse disease, but we have gone from what's called an R naught level of probably two to four to somewhere in the five to nine range, meaning that at its worst, in the past, if you got infected, maybe you infected two to four people. Now you're infecting nine people. The other thing is that the viral loads or titers, one small paper has shown that those viral loads are about 1000-fold higher than with the original virus. That's part of what's driving the extreme transmission and surges we're starting to see.

D Dr. Halena Gazelka 05:23

So, Greg can I interrupt you? Does that just mean that there's more virus for you to pass to someone else?

D Dr. Gregory Poland 05:28

Yeah, exactly. The amount of virus in your respiratory tract is about 1000-fold higher. Now, I'm not sure I believe that from just one study that it's 1000-fold higher, but it's apparent that it's higher. And we have four preprint studies out there now showing that it's also driving worse disease, and unfortunately, including younger and younger people who of course, are not yet vaccinated. So, we have this difficult issue where people look, and they say, well, wait a minute, people who are vaccinated are getting the disease. Well, we should talk about who that is. It tends to be people who are immunocompromised, it tends to be elderly people. And even then, they are generally developing asymptomatic or mild disease, sometimes moderate and particularly for immunocompromised people sometimes having to be hospitalized, but they're not dying, they're not getting severe disease. That's the benefit of the vaccine. It is a great disease blocker. It's not as good, as we've talked about a number of times over the past year, as an infection blocker. That's why we keep wearing these. So, the key here, if you want to be safe, if you want to protect yourself and your family, you get vaccinated with an appropriate series of vaccine, and you wear a mask. Okay, that two layers along with social distancing and washing your hands, that is the best protection you are capable of having in terms of not getting this

disease.

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Dr. Halena Gazelka 07:12

So, Greg I want to get back to the masking and the when, who, why, how, where, all of those questions in a moment. But something you said made me think of another question that perhaps our listeners would wonder as well. So, if we are saying that vaccinated, one of the reasons that we've said that more and more individuals need to become vaccinated is to decrease the chance of this virus replicating in the future to something different or worse. Now, if you can be vaccinated, carry a high viral load of this and perhaps pass it to others, how does that help prevent it mutating?

D

Dr. Gregory Poland 07:56

Yeah. So, there's two issues here. There's the severity of disease you would have if you got vaccinated. If you are an otherwise healthy person, this vaccine is going to block disease, at least hospitalization, severe disease, and death, okay. Then the issue is what about mutations? So, mutations will continue to occur, as long as people are getting infected. And this can be true in vaccinated individuals also, and that's why vaccine plus masks. So, we're trying to decrease the number of infections. So, people then say, well, why bother to get vaccine if in Provincetown, for example, 79% of the people who got infected had been vaccinated. And a very few got hospitalized, but for the most part, again, asymptomatic mild disease. Had they been wearing masks, very likely that would not have happened. And this is a very difficult concept to get across to people because they have made this something political. It's not, it's a medical mask, we wear it to prevent or decrease, it's not perfect, decrease transmission of the virus. So, what will happen, and I want to spend just a moment on this, I've previously published papers on this. What will confuse people is that as, let's say that we could move very quickly to 90% or 95% of people being vaccinated, the paradox is that we would see more of our COVID cases in vaccinated people. Let that just sink in a minute and the reason for it is this, unvaccinated we're seeing 10's of 1000's of cases of infection each day in the U.S. If we had nearly everybody vaccinated, we'd be talking about hundreds who got, or maybe low 1000's, who would get infected. They would be asymptomatic or mild, unlike the unvaccinated that are developing severe disease. It's a paradox because as you get everybody vaccinated, who gets infected, the people who didn't respond to the vaccine, because they're immunocompromised are quite elderly. So, don't let that confuse you listeners when you hear about high rates of or increasing rates of infection among vaccinated people, you have to understand that concept that there's a certain amount of vaccine failure with every vaccine. Now we're putting it to a stress test, a virus with extraordinary transmissibility at very high viral loads or viral titers. So, what's the answer to this? 1) Get

everybody vaccinated. 2) Get people to understand they have to wear a mask in addition to being vaccinated. 3) At some point, not yet, at some point, the likelihood of booster immunizations, either with the current vaccines or with an updated Delta strain-based vaccine.

D Dr. Halena Gazelka 11:28

Okay, good. I want to get back to the booster vaccines later. But let's stop and focus on the masking that you just mentioned, Greg. So here at Mayo Clinic, for a period of time, we were not requiring masking as long as people were properly distanced and were in buildings where there was no patient care. This was consistent with what was going on in the rest of the country and in the states where we operate. Now today, we are going back to universal masking here out of respect for the fact that we are seeing some significant increases in hospitalizations, etc. from COVID-19. CDC has also released some new recommendations, and they seem to keep changing, as you said earlier, why not, because that's where we are with this disease. Who should mask when?

D Dr. Gregory Poland 12:14

Yeah. So, you know, what the CDC did is, they said, and it's a little bit complicated, they suggested masking for everybody, regardless of vaccination status in communities that had "substantial", and "high rates of transmission". The problem with that is the arbitrary nature of the definition. People who are even in those communities don't necessarily know what the case rates or rate of transmission is. And as you and I know, because we're here practicing at Mayo Clinic, people are moving all over the country. People come from all over the country and the world to us for medical care. So...

D Dr. Halena Gazelka 13:00

And people are traveling right now too during summer vacation.

D Dr. Gregory Poland 13:03

Yeah, I mean, you're right TSA, and that's a good point, keeps recording record levels of screening through airports. So, for all of those reasons, my own recommendation, and I really applaud Mayo for taking the same stance is under all circumstances indoors, we are vaccinated. People who are unvaccinated do not have the opportunity to take their masks off in break rooms. Anytime they're on campus, they have to be masked. And I think that is the right approach in the face of this unprecedented variant. And the real concern, and I think there'll be news reports out about it today, but over the weekend, a group of

experts in England released their own report, saying they are virtually certain that we are going to see variants that will escape our current vaccine induced immunity, and we will start all over. And this is solely, this is solely a function of people not masking and not getting vaccinated.

D Dr. Halena Gazelka 14:17
Greg, I just want to clarify one of the things that you said is that indoors we are masking whether or not we are vaccinated, correct?

D Dr. Gregory Poland 14:26
In groups yes. You know, obviously not within your family setting or something.

D Dr. Halena Gazelka 14:31
But indoors at Mayo Clinic.

D Dr. Gregory Poland 14:33
Yes, absolutely. Yes. And the other point would be masking outdoors in crowded venues. And part of what has driven this latest surge is the 4th, as anticipated, the 4th of July gatherings that took place, and the parties, and you know as we've said, this is the fourth surge in the U.S. We know how this turns out if we can't make ourselves do the right things.

D Dr. Halena Gazelka 15:01
If we are so, such a proponent of having people vaccinated, why has the FDA not given full approval to these vaccines yet? And why are they still under emergency use authorization? Would that make some individuals feel better about accepting them?

D Dr. Gregory Poland 15:18
It's a really good question Halena, and I think the answer is that for a small minority of people, full licensure may help them in their decision making. But we already know based on the latest poll, that about 20% of the unvaccinated say that under no circumstances would they get a vaccine. That means we are not capable of reaching herd immunity with vaccines in the U.S. And this will go on and on. I want to make that clear. At those rates of vaccine refusal, we cannot solve this problem. And this will be with us for the duration until we keep developing and chasing our tail with worse and worse variants. So, this is a

function of convincing or requiring people who are not vaccinated and who do not understand the science that they are at this point, and I'm not trying to point fingers as much as follow the science here, they are driving the pandemic at this point.

D Dr. Halena Gazelka 16:28

The next question from a wise listener who wonders whether our immunity is waning for those of us who have been vaccinated. So, I was thinking about I was vaccinated in January or February, I completed I think, in February. And so, now I'm going to be getting out to six months vaccinated. When you and I had discussed this in the past, there was some question about how long the immunity from the vaccinations lasts. What do we know about that now? And does that mean we need booster shots?

D Dr. Gregory Poland 17:01

Yeah, again, a difficult concept to get across, there's a biphasic, that is two phases of immunity after immunization in terms of antibody, and you have a nice high rise in antibody that always in every vaccine falls down. We're just at that point of seeing that fall down. Now the question is, does that mean people become susceptible again? We don't have that evidence at this point, and that's why no recommendation for a booster. But it ties in Halena to your question that I didn't quite finish, I'm sorry, about FDA approval. So, what happens is once the company submits all of the data, under normal conditions, it takes FDA about 12 months to go through all that data. And let me, I've been on that FDA committee, so I know the process inside and out. It is millions of pages of documents. It would more than fill an elevator to move it from one floor to another. And every single one of those pages is gone through by hand. Every laboratory result is verified. The labs that do it are standardized and verified. They go to every manufacturing plant and verify everything. It is a massive undertaking that FDA is trying to truncate from 12 months to six months. They're right at getting at that point now. I believe that we are going to see a full license approval for the Pfizer vaccine at the end of this month, September timeframe, with Moderna to follow. What the companies are doing to try to accelerate that is what's called a rolling submission. As they get data, they submit it, get new data submit it. The FDA, as I said, goes through every one of these documents, they always have queries about it, and it's hard to describe to you. You're seeing the room that I'm sitting in, when I joined that committee, the children's chickenpox vaccine had just been approved, and the notebooks, back then it was paper based, filled an entire room this size.

D Dr. Halena Gazelka 18:35

Right. Wow.

D

Dr. Gregory Poland 19:30

It is a massive undertaking. It's also in a key point that I want to make because people, they're on both ends of the spectrum, well it's only EUA and not licensed. I don't want to take it. What's taking so long? And then on the other side, people saying well, we don't know enough, they're rushing it. Well, it can't be both, right? It can't be both.

D

Dr. Halena Gazelka 19:52

Right.

D

Dr. Gregory Poland 19:52

What this is, and I'm sorry that it does take this long. What this is, is a demonstration of the extreme care, and I would say FDA is more conservative than any other licensing agency in the world, they are super careful. And they go through in detail this, it is evidence of the care that they are taking in granting a full license to a vaccine.

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Dr. Halena Gazelka 20:23

I wanted to go back to the topic of booster shots for just a minute, but from a different angle.

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Dr. Gregory Poland 20:31

Okay.

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Dr. Halena Gazelka 20:32

You had you had mentioned something before about how booster shots may be made with the new Delta variant in them or not just a booster of the original vaccine. And so, I'm curious about that. Would each of the vaccine manufacturers come up with their own booster shot? Which also leads me to ask you, have those who have been vaccinated already, are there different rates of development of the Delta variant infection with the different types of vaccines? And so, would the booster make a difference?

D

Dr. Gregory Poland 21:07

Yeah, there are some, in fact, some data about that. So, with the Delta variant, for example, two doses of Pfizer are at about 88% efficacy against symptomatic disease. The AstraZeneca vaccine in the face of Delta dropped to about 67%. I don't have those data on Moderna. I expect they're identical to Pfizer. I don't have those data on Johnson & Johnson yet. So, we definitely do see a small drop off in the face of each of these worsening variants. With no data yet, as you are asking about, are we seeing specific vaccines associated with differential vaccine failure or breakthrough? No, not yet. And I think that's a little early to know.

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Dr. Halena Gazelka 22:05

Here's a question from another listener, Greg. Can vaccinated people who have had breakthrough infections develop long COVID syndrome?

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Dr. Gregory Poland 22:14

Oh, that's a really good question. And two points there: 1) A vaccinated person with a breakthrough infection can transmit that to somebody else. Again, that's why we wear these, and they can develop long COVID syndrome. Now, we don't have a lot of data on that yet, since these are just recently happening. They don't seem, this is an impression, not data, they don't seem to have as many symptoms that are as severe for as long as unvaccinated people of course who develop really often severe symptoms of long-term COVID. One paper came out this weekend demonstrating over 200 different symptoms, many of which were severe enough to prevent people from working and doing their activities of daily living in the unvaccinated. As you know, death rate wise, essentially all of the deaths are occurring in unvaccinated people, and about 97 plus percent of the hospitalizations are in unvaccinated people. So again, when we're talking about breakthrough infection in vaccinated people, at the population level, we are primarily talking about asymptomatic or mild disease. Nonetheless, back to the masks because you could still transmit that to somebody who is not vaccinated. And you know, it's worth talking a little bit about some data that the NIH released over the weekend, and I jotted it down here. For the unvaccinated in the US, they are three times more likely to get infected, eight times more likely to have symptoms, and 25 times more likely to be hospitalized. So, when people say, well, I don't want to get it because it's new and it hasn't been studied. These are the most studied vaccines in the history of the world. There have never been this many people who have gotten this many doses of these vaccines in this amount of time period with as much scrutiny as these have had.

D Dr. Halena Gazelka 24:33

Well, speaking of vaccines, Greg, our next listener wonders, will it affect their development of immunity if they donate blood or plasma after being vaccinated, which is an interesting question to me, because I had wondered the converse, is it safe for the person receiving the blood if you've just had the vaccine?

D Dr. Gregory Poland 24:54

Well, it turns out both ways are safe. So, it's safe to donate. It's for somebody to receive that blood, but the original question may have a bit of a misperception in it. It is not the case that by donating a unit of blood, you're giving away all your antibody. The body is constantly making and maintaining that antibody, and you develop B and T cells that retain memory and continue to make antibody. So, there is no concern about being vaccinated, donating blood, and are you in any way compromising your own immunity? No.

D Dr. Halena Gazelka 25:37

You're not giving your own immunity away by doing that.

D Dr. Gregory Poland 25:39

Right. You're safe in doing that.

D Dr. Halena Gazelka 25:41

So, no concern about timing, as far as vaccinations?

D Dr. Gregory Poland 25:44

I don't believe that the blood banks have any recommendation. I may be off on that since I've not given blood since I was vaccinated. They might want you to wait a short period of time to be sure you have no fever or something.

D Dr. Halena Gazelka 26:00

Sure. So, donors can check with the blood bank.

D Dr. Gregory Poland 26:03
Yeah. And they may differ locally, so check on that.

D Dr. Halena Gazelka 26:07
But encourage individuals to give blood if they're thinking about it, because there is a shortage of some blood types.

D Dr. Gregory Poland 26:12
Yeah, there are, and it relates to, and you know, I know it sounds difficult in some quarters, but for the people who have not been vaccinated and are in the hospital, and we have some 25,000 people in the U.S. hospitalized right now with COVID.

D Dr. Halena Gazelka 26:35
Wow.

D Dr. Gregory Poland 26:36
Oftentimes, they do need blood, they need ventilators, they need extraordinary amounts of medical care. And, you know, I know we could all say, Yeah, well, it's their own fault, they didn't get vaccinated. But that's not how we operate in medicine. We take care of whoever comes to us, at the same time that we plead with them get vaccinated. Once you're infected, once you're in the hospital, once you're on a ventilator, it's too late. We cannot give you vaccine at that point.

D Dr. Halena Gazelka 27:08
A member of our patient community, Mayo Clinic Connect, has a question for you, Greg, they reported that they were determined to be iron depleted or anemic after vaccination. Could this have been related to the COVID-19 vaccination?

D Dr. Gregory Poland 27:23
No. No, there's no evidence of that at all. Now, what it does illustrate is an important point of temporality and causality. So, if we go back three years ago, or two years ago, way before any COVID, if we looked on any given day of all the new diagnoses that people got, or hospitalizations, or complications that they had, and we say, okay, now what

happens two years later, if you give vaccines, do we see any difference in those background rates? And the answer is no, none at all, except for the very rare association of mRNA vaccines with myopericarditis and the J&J vaccine with the blood clot issue called TTS.

D Dr. Halena Gazelka 28:16

Okay. Greg, it just occurred to me to wonder, if individuals who have been vaccinated may contract the Delta variant or carry it be asymptomatic, how would they know if they had it? So, if they've been around someone who was infected with COVID, how would they know?

D Dr. Gregory Poland 28:41

In all likelihood Halena, they would not know. If they had asymptomatic infection, by definition, they're not going to know unless for some reason they happen to get a PCR test and be screened. And that's again, back to the masks, because they don't know they have it. They don't know that they could pass it on to their children. They don't know that they could pass it on to their workmates or people at church. And again, the reason the for the masks. Now, if they develop symptoms, that might be a reason by which they would go in to get screened and would find out, and then they have to isolate and quarantine, just as if they had not been vaccinated.

D Dr. Halena Gazelka 29:23

Are there recommendations on testing for an individual who is asymptomatic but has been around someone with an infection?

D Dr. Gregory Poland 29:32

Yeah, I mean, certainly, if you know that you were around somebody that was infected, you can report that and be screened, but there's no, you know, mandate that you be screened.

D Dr. Halena Gazelka 29:43

Right. And you might not know that you're around someone who was infected either.

D

Dr. Gregory Poland 29:47

Right. You know, I mean, just to go back to the beginning of this section, I am fastidious about hand hygiene and wearing a mask, etc., etc. I got a respiratory virus of some sort. Did I touch a doorknob and touch my face? You know, what happened? I don't know. And masks are not perfect, but they contribute substantial protection.

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Dr. Halena Gazelka 30:14

Any last words of wisdom you'd like to share with our listeners today, Greg?

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Dr. Gregory Poland 30:18

You know, we're really at a point Halena, and it breaks my heart. I got calls this weekend from clinicians in Florida. What do we do? What do we do? They are overrun in Florida. We're seeing the same thing in Missouri. We're seeing hot spots all the way through the U.S. with the exception of kind of a corridor through the Dakotas and Minnesota which I think is a result of two factors. In the Dakotas more the spread-out nature of people, the more rural environment. To some degree true in Minnesota, but Minnesota has had very high immunization rates. And so, you see those communities and states that have very high immunization rates, they have next to no COVID cases. The communities that have low rates, like Arkansas, Mississippi, we've seen them all in the news, very high rates. We see businesses and counties that have mask mandates, very low rates of infection. Counties right next door to them, where they've lifted the mask mandates, surging rates of infection. So, you know, listeners, what can I do but plead with you, look at the science, listen to credible individuals, go to the website of any credible medical institution. You're going to see the same recommendations there. For your protection and your family's protection, get vaccinated, and wear a mask. These are extraordinarily effective. Don't be fooled by hearing information about, well vaccinated people are getting infected. They are. Very small numbers, and they're getting a symptomatic infection for the most part. They're not ending up in the hospital. They're not dying.

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Dr. Halena Gazelka 32:18

Well, thank you, Greg, for being here again today and giving us our update.

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Dr. Gregory Poland 32:22

My pleasure.

D

Dr. Halena Gazelka 32:24

And we wish you the best on your recovery as well. Thank you for sharing that.

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Dr. Gregory Poland 32:27

Thank you. I'm back in the saddle fully at work.

D

Dr. Halena Gazelka 32:30

Wonderful. Thanks to you too, for listening in today. I hope that you learned something. I know that I did. If you haven't been vaccinated, vaccinate and mask up. We wish each of you a wonderful day.

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Narrator 32:43

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