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SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, Narrator

N **Narrator** 00:01
Coming up on Mayo Clinic Q&A,

D **Dr. Gregory Poland** 00:04
Every time somebody gets infected with Delta variant, there is the opportunity for that virus to further mutate, and then transmit or spread to other people. And so, we're in this constant spiral that has been happening. We can stop that spiral by getting very high rates of immunization.

D **Dr. Halena Gazelka** 00:25
Vaccine hesitancy and the COVID-19 Delta variant have caused a new wave of death and hospitalizations among the unvaccinated. Today, Dr. Gregory Poland gives us his latest information and shares his expertise on the importance of vaccinations.

D **Dr. Gregory Poland** 00:40
If we cannot get this message through to people who are unvaccinated. We are going to run into a worse and worse problem for everybody concerned. If we collectively can't find

ways to get people vaccinated, we are going to be, I'm afraid, in a world of hurt that nobody wants to be in.

D Dr. Halena Gazelka 01:03
Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka. We're recording this podcast on Monday, July the 26th, 2021. Well, just as we had gotten used to things opening up, wearing our masks less, an uptick in COVID-19 cases in some parts of the US is a significant cause for concern and particularly concerning for those who are not yet vaccinated. Here with us to discuss the latest is Dr. Greg Poland, virologist, vaccine expert, and infectious disease expert from Mayo Clinic. Welcome back, Greg.

D Dr. Gregory Poland 01:36
Good morning Halena.

D Dr. Halena Gazelka 01:38
Well, you are coming to us from a different office this morning.

D Dr. Gregory Poland 01:41
Yeah, I'm over in my research office this morning.

D Dr. Halena Gazelka 01:44
Well, it makes you look really smart. A lot, a lot, a lot of papers and journals piled up behind you there Greg.

D Dr. Gregory Poland 01:50
See, if I were really smart, I could just remember them. I wouldn't have to keep reading them.

D Dr. Halena Gazelka 01:57
It is the good thing about things being on the internet, you can find them and not have quite so many paper piles. Well, let's get right down to business today. Greg, talk to us about this Delta variant and the seriousness of this, and what's going on?

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Dr. Gregory Poland 02:12

Yeah, you know, Halena, I bumped into a lot of people this past week here at Mayo, very gratified, because and I'm sure you're getting the same feedback, listeners who come to us and say, boy, you guys called this exactly right. And it's not because we're brilliant. It's because the science here is so clear. We predicted that we would have another surge. And that's exactly what's happening. Let me give some numbers, I'm just going to take a minute or two, so our listeners fully appreciate the idea of we were really low in May and beginning of June. And we told our listeners this was going to go exponential again, and that has happened. Take June 23, there were 11,000 new cases. By July 13, we were at 24,000 new cases a day. That's a doubling. By July 26, 44,000 new cases. So, they're up 170%. Kind of, as it always does, lagging behind that is hospitalizations. Those have increased by 30% and deaths by 19%. If you take some states, and I just looked at and got some of the data for Florida, Florida is leading the US now in COVID cases, not surprising. They completely removed all of the mitigation measures that we've been talking about. And you and I have seen that and commented on it over and over again, when you relax those mitigation efforts, and you don't have high levels of immunization, this is what you get. One out of every five new infections in the US is happening in Florida. They had 67,000 new cases for the week, just a four-fold increase in the last two, three weeks. That's what exponential is. And I want to just, CDC came out with some good data that I think is worth sharing here. So, what they did is they said let's take the five- to 17-year-olds as the reference case, and then judge everybody next to that. So, if you're 30 to 39 and you get COVID, your risk of hospitalization is two-fold higher than younger people, and your risk of death four-fold higher. Let's say you're 50 to 64, your risk of hospitalization four times higher, your risk of dying of COVID, 35 times higher. If you're 85, your risk of hospitalization 15 times higher, and your risk of dying even with all we've learned on how to treat this, 600 times higher. Now this points out exactly what you were asking about and what many listeners have asked about. And that is, what are the consequences of this Delta variant? And as you and I have talked about, I guess the simplest way to say it is, if you have not gotten vaccinated and you weren't previously infected, you are going to become immune, either the easy way with vaccines or the very hard way, based on the data that I just shared, by getting infected. We have data now showing that viral titers, one paper says with Delta that the titers are as high as 1000-fold higher. Some other papers suggesting....

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Dr. Halena Gazelka 03:09

Wow. What does that mean Greg?

D Dr. Gregory Poland 05:47

What that means is the actual number of viral particles is 1000 times higher in your upper respiratory tract than with the original virus. And so, that's why we're seeing a slightly greater number of what are called breakthrough cases. So, no vaccine can completely overcome a very large, what we call inoculum size. In other words, you can overwhelm the immune system with enough virus. Now fortunately, when you look at a population level, those cases tend to be mild. But at the individual level, those cases can be severe. We've got, we have documentation of people who have gotten COVID infected two times or more. So, no protection here is perfect. And that's why we repeatedly talk about get fully vaccinated, maintain social distancing. I think we're gonna see the CDC come out with new masking recommendations in the face of this exponential surge of Delta. This is a bad actor. And so, everything we can do, vaccination, distancing, hand washing, and wearing a mask. So, we used to say hands, face, and space. Now we say mask and vax.

D Dr. Halena Gazelka 07:15

That's right mask and vax. I have wondered that too, going out in public and seeing most everyone here in Minnesota, without masks, save here at the Clinic, of course, we're masking at the Clinic when we're not when we're not in our private offices as we are.

D Dr. Gregory Poland 07:31

Right.

D Dr. Halena Gazelka 07:32

But I've wondered that too. When are they going to bring that back?

D Dr. Gregory Poland 07:35

Yeah, it's going to be, I think, very shortly, because it's really, other than vaccination, and even in the face of vaccination, when you have this many people unimmunized, you have to have masking to control this. There's just no way about it. The other point, with the original Wu Han strain of this virus, we might have gotten away with immunization rates in the 70 to 80%.

D Dr. Halena Gazelka 08:04

Yeah, I remember talking about that.

D

Dr. Gregory Poland 08:05

Yeah, with the Delta variant, that affective transmission factor has significantly increased, meaning that our immunization rates to control herd immunity, are probably going to have to be in the 85 to 95% level. So, we've got no choice here, you've got to mask, and you've got to vaccinate.

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Dr. Halena Gazelka 08:30

So, Greg I think that brings a next natural question, how effective are the vaccines against the Delta variant? What's known about that now, because a while ago, it was a little unknown?

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Dr. Gregory Poland 08:43

Yeah, and you know, we're still somewhat, you and I have insisted on radical honesty and transparency here. There are a lot of data we don't have yet. Because this is a very dynamic situation. You know, Delta has really become the issue that it has just in the last six weeks or so. So, there's a lot of data to gather and learning to be had yet. What we can say is that about 97 plus percent of the hospitalizations and about 99% of the deaths are in people who have not been vaccinated. Now, that does not mean that breakthrough infections don't occur, they do. But fortunately, they are not the norm. Fortunately, the illness that results is asymptomatic, mild or at most moderate. So, it's still the right thing to do. But it leads to a fear that I have as a vaccinologist, that as we continue to let this virus pass from one person to another, we're going to get more aggressive variants that will learn how to, at least partially, evade vaccine induced immunity. So, the time is now. It's not let's think about it. The time is now to get vaccinated.

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Dr. Halena Gazelka 10:12

It's interesting that you brought that up Greg, because that is one of the arguments I've heard against getting vaccinated, so in favor of not getting vaccinated is that well, if we continue to have these variants that the vaccine won't work anyway, so why get it. How concerned are you about that happening? And is that a valid argument for not getting a vaccine?

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Dr. Gregory Poland 10:35

With the number of people we have in this country that are not vaccinated, that is a valid concern. But it's an issue of saying, you know, if I use the automobile sort of analogy, we

still have time to take our foot off the accelerator and hit the brake pedal and stop this. But if we cannot get this message through to people who are unvaccinated, we are going to run into a worse and worse problem for everybody concerned. And we just have to realize this. It is we, it's not me, it's we here. If we don't do something, if we collectively can't find ways to get people vaccinated, we are going to be, I'm afraid, in a world of hurt that nobody wants to be in. And I don't say that to be alarmist, I say it to be a realist, based on what is happening right in front of us. Getting a vaccine will prevent the development of worse and worse variants. It will prevent severe cases, hospitalization, and death, even in the face of a variant. So, that's the motivation to be immunized. It's the single best thing you can do.

D Dr. Halena Gazelka 11:58

Greg, when I talk to patients, and when many physicians talk to patients, we kind of couch things in terms of risks versus benefits. So, I will often talk to patients about procedures, or medications, and give them my opinion on whether the, you know, my scientific understanding of whether the risks of having that outweigh the benefits or whether the benefits outweigh the risks. Tell us now about the safety of these vaccines. So, there are those who are concerned about getting vaccinated because of safety issues. And how do you weigh those risks/benefits of getting vaccinated versus not?

D Dr. Gregory Poland 12:37

Yeah, I mean, that is a very fair question. And honestly, I have a lot of empathy for people who are asking themselves that very same question. I mean, how do they know, how do they put that into perspective? And so, they look to experts like you and I, and others to put that into perspective. Well, let me just say that one of the most common side-effects, let's take GBS and relate Guillain barre syndrome in relation to the J&J vaccine. It is happening in 0.0008%. It's vanishingly low. If you look at blood clots, we've seen risks between four to seven per million people, when we look at the whole population. Anaphylaxis about two to five per million. Myopericarditis, more in the area of 20 per million. Now take those same risks and add a much longer risk due to actually getting COVID. And you amplify those risks considerably. Depending on age and other medical conditions, it's hard to give an exact number, because everybody is so different. But you know, as we talked about, and I didn't give the data for, let's say 65 to 74-year-olds, the risk of hospitalization about six-fold higher, the risk of death 95 times higher. Well, we're not talking about anybody dying from the vaccines, but look at the risks of dying of COVID, or being in the ICU for a week or two or being ventilated with an artificial tube down your throat. I mean, these are real risks and not even talking about the long COVID risks. And Halena, you and I see it every day here in the clinic, and it breaks my heart, is

people who were afraid of the vaccine have gotten COVID, and now they are often dealing with an irreversible problem, that if they survive, they will live with the rest of their life. And I don't know how else to get that across to people. Don't let fear dictate your response. The risks of COVID are a log order than the possible risks of a vaccine.

D Dr. Halena Gazelka 15:15

I think another thing that's unique about this decision that individuals are making for themselves about risks versus benefits, is that it doesn't just concern them. So typically, a patient might be deciding about a procedure or medication that would only affect them and their body. But a decision not to get a COVID vaccine or to get a COVID vaccine may have positive or negative impacts on those who may come in contact with us.

D Dr. Gregory Poland 15:40

You know, thank you for bringing that point up Halena. That's a very astute point. I was reading a case that's now actually in the medical journals of a nurse who was afraid to get it and her family afraid to get it. She ended up in the ICU, and I think her husband is on a ventilator, and they passed it to their kids. And this is the kind of story we hear over and over and over again. That's why you and I keep saying this is we, not me, because this is so highly contagious.

D Dr. Halena Gazelka 16:14

Now, that's just really heartbreaking. I have a question that I've heard posted by multiple individuals, healthcare workers, asking about college students. So, some individuals received the J&J vaccine. Is there a reason now that they should have a dose of an mRNA vaccine?

D Dr. Gregory Poland 16:33

Good question Halena. You know, the other adeno virus, vectored vaccine, which we don't have in this country, the AstraZeneca is two doses. Johnson & Johnson has conducted a two-dose study, I don't think we have those results yet published or available. I would not be surprised if we end up that way. But at the current time, there is no recommendation for more than two doses of an mRNA vaccine or more than one dose of J&J. Again, very dynamic situation, that may change in the near future.

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Dr. Halena Gazelka 17:13

So, the need for boosters at this point is boosters are not endorsed. And that's still data that's rolling out I imagine, right?

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Dr. Gregory Poland 17:26

The one place where it may change the soonest is in highly immunocompromised individuals. We have certainly seen that in our solid organ transplant patients that they often don't respond as well as we would like with two doses. So, a lot of work being done to look at whether they would benefit from three, and early data suggests that that is the case. But you know, as you might imagine, we're watching this like a hawk. And if we start seeing breakthrough hospitalizations, or severe disease in otherwise healthy people who got vaccinated and develop Delta COVID, then we will see a recommendation. I hope we don't have to go there because people will go and get vaccinated and prevent that situation from happening, but we're watching it.

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Dr. Halena Gazelka 18:21

Good. So, we've discussed this topic multiple times over the course of the last months, but what would you say to those who are concerned about becoming vaccinated because of concerns about fertility?

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Dr. Gregory Poland 18:35

Yeah. Again, a very fair question, right? I think when patients and the public ask questions, it's on us to answer them and to come up with the data. So, there is one decent, though somewhat small study, looking at male fertility and semen quality, sperm quality, etc. There was no ill effect. In fact, statistically, the vaccine appeared to improve it. I think that's just an aberration, but there was no effect. We have seen no effect, either in the passive or active safety surveillance systems on pregnancy or on pregnancy outcome. So, there are no data, there are zero data suggesting that a man or a woman's fertility or ability to conceive is impaired in any way by these vaccines. And that makes sense. We haven't seen that with any vaccine.

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Dr. Halena Gazelka 19:35

Oh, that's interesting. That's a good tidbit to store in here.

D Dr. Gregory Poland 19:38
Yeah.

D Dr. Halena Gazelka 19:40
Greg, I think one of the fascinating things about the age that we live in with the internet, is the incredible speed with which information is shared. However, that also means that misinformation can be shared rapidly and disseminated widely as well. Are there any particular vaccine myths or misinformation that you have run into that you'd like to dispel?

D Dr. Gregory Poland 20:04
Yeah. And you know, there was a very nicely written article, it's on the internet by National Public Radio, looking at how this spreads. And in particular, they were looking at this fertility misinformation. Somebody comes up with the idea. It's a dramatic headline, it gets incorporated by misinformation trolls, they call them, and they keep putting it out there, people see it, they get scared. And if they see it enough times, they think, well, it must be true. Why would it keep being put out there in the media, and that's very unfortunate. So, the idea that vaccines don't work, the idea that COVID is, "just the flu", the idea that you are genetically modified, the idea that you're somehow shedding the vaccine, the idea that it would affect either male or female fertility. These are all myths. This is disinformation, misinformation. I wish we had a way to hold people responsible for the harm, they're actually doing harm by this. And I think when you when you propose something like that you should be held to the same scientific rigor that we are. We don't give any piece of data or a recommendation, absent the best available data. I think the same should be true on the other side.

D Dr. Halena Gazelka 21:36
So, go to sites that you know are reputable.

D Dr. Gregory Poland 21:39
Yeah. And listen to credible people, go to credible institutions, and read for yourself.

D Dr. Halena Gazelka 21:48
Great advice. Should vaccinated individuals be wearing masks again, Greg?

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Dr. Gregory Poland 21:52

In my humble opinion, absolutely. Yes, I do not go indoors, like a grocery store, church, anything like that, I do not go indoors without wearing a mask. I go without a mask outdoors, unless it's a crowded outdoor event, in which case, I wear a mask. And I think you're going to see that recommendation as a way of cutting down on the number of people exposed to Delta. And again, I want to emphasize this, every time somebody gets infected with Delta variant, there is the opportunity for that virus to further mutate, and then transmit or spread to other people. And so, we're in this constant spiral that has been happening, we can stop that spiral by getting very high rates of immunization. The alternative is, you know, we have lost one out of every 524 Americans due to this disease. The alternative is to lose another 600,000 plus Americans, only this time, it will start to involve, unfortunately, younger people.

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Dr. Halena Gazelka 23:07

That's a staggering number.

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Dr. Gregory Poland 23:09

It is a staggering number. Yeah.

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Dr. Halena Gazelka 23:12

Wow. That's amazing. Anything else you'd like to share with our listeners today, Greg?

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Dr. Gregory Poland 23:17

I think the other thing, Halena, that really concerns a lot of us that study this, is unlike the original virus, which really was not so infectious that it infected children who then tended not to transmit it. That is no longer true with the Delta variant. And I am very, very concerned about school starting in many states in the next couple of weeks, where they have indeed, mandated that masks can't be used or required. This is mind boggling. How can anything be so anti-science when the data are clear, wearing a mask, while imperfect, but a proper mask worn properly, absolutely decreases the risk of transmission of Delta variant. You and I wear them 10-12 hours a day here at the clinic, and we have done extremely well among our staff as a result. Multiple studies showing what happens in schools that use masks, schools that don't; counties that use masks, and counties that don't. Believe the data and wear a mask.

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Dr. Halena Gazelka 24:37

Thank you for being here to share the truth with us today, Greg,

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Dr. Gregory Poland 24:40

My pleasure.

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Dr. Halena Gazelka 24:42

Our thanks to Dr. Greg Poland, our resident COVID-19 expert, for being here today to talk to us about the most current updates on the Delta variant and vaccines. I hope that you learned something. I know that I did. We wish each of you a wonderful day. Mask up and vaccinate. Mayo Clinic Q&A is a production of the Mayo Clinic News Network and is available wherever you get and subscribe to your favorite podcasts. To see a list of all Mayo Clinic podcasts, visit newsnetwork.mayoclinic.org. Then click on podcasts. Thanks for listening and be well. We hope you'll offer a review of this and other episodes when the option is available. Comments and questions can also be sent to mayoclinicnewsnetwork@mayo.edu.