

# Mayo Clinic Q & A - Dr. Gregory Poland - YouTube Caption 06 ...

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## SUMMARY KEYWORDS

vaccine, variant, vaccinated, greg, questions, study, people, delta, virus, hospitalization, vaccination, dose, mayo clinic, infection, listener, reinfection, age, mask, called, mrna

## SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, Narrator

- N** Narrator 00:01  
Coming up on Mayo Clinic Q&A,
- D** Dr. Gregory Poland 00:03  
Emotionally we all are ready for this to be over and done with. But it's not. It's just not.
- N** Narrator 00:13  
Currently there was a slowdown in the vaccination rates across the country which could lead to a surge of virus activity.
- D** Dr. Gregory Poland 00:19  
Remember we saw low levels last summer, only to surge again in the Fall. The difference this Fall is we may be facing a variant over 100% more transmissible than the original virus.
- D** Dr. Halena Gazelka 00:37

Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka. We're recording this podcast on Monday, June the 21st, 2021. Vaccinations continue to be our best defense against COVID-19. And the United States is working hard to reach President Biden's goal of vaccinating 70% of adult Americans by July 4. In the meantime, we have a lot of other information to cover, some interesting things in the news, as well as some questions from our listeners. Here to help us do this today is Dr. Greg Poland, virologist, infectious disease expert and vaccine expert from Mayo Clinic. Welcome back, Greg.

**D** Dr. Gregory Poland 01:16  
Good morning and happy belated Father's Day to all our fathers and sons out there.

**D** Dr. Halena Gazelka 01:22  
Yes, Happy Father's Day to you, Greg. Did you have a nice day?

**D** Dr. Gregory Poland 01:25  
It was wonderful. Wonderful.

**D** Dr. Halena Gazelka 01:27  
Wonderful. Good. Well, I have a big list for you today. So, I think we're going to jump right in. And the first thing I want to ask you about is that Greek alphabet soup we were talking about last week. What's up with Deltas and Lambdas, etc.

**D** Dr. Gregory Poland 01:43  
Actually, somebody asked me what happens when we run out of Greek letters. What the WHO (World Health Organization) did about the first or second week in June, is to say rather than talk about these variants by the country they were first identified in, as if it they were the cause of it, let's instead use letters of the Greek alphabet, somewhat similar to the way hurricanes are given names. So, they've been given those designations. Alpha is the so-called UK variant. Beta is the South African variant. Gamma is the P1 Brazilian variant. Delta is the Indian variant. And we have a number of other ones. One of the ones we're keeping an eye out as a variant of interest is the new Lambda variant, which is coming out of and first identified in Peru. We don't know a lot about it yet. But I think the Delta variant has really galvanized the attention of scientists and those of us who study this. Even compared to a week ago, when we last spoke, we've gone from two and a half percent, to last week 10%. To this week 31% of the genomic sequences isolated from

patients with COVID in the US are now the Delta variant.

**D** Dr. Halena Gazelka 01:48  
I hope not. Wow.

**D** Dr. Gregory Poland 02:11  
So just as we have predicted, this summer and Fall is going to be a remarkably dangerous period for people who have not been vaccinated. We are seeing a surge again, in hospitalization in the UK, again, because of the Delta variant in people who have not been vaccinated or who only got one dose of vaccine. So, this is a really critical message for the public to hear. We are stalled in vaccination rates.

**D** Dr. Halena Gazelka 03:49  
How is that going, Greg. Where are we?

**D** Dr. Gregory Poland 03:51  
We will reach 70% in all, but maybe 25 to 30 states. That's still you know, half or so of them. But nothing really has worked. Even the incentives, they boosted immunization rates for a week or two, then plummeted back down. And it just it, I think it exposes that there's just a proportion of the population who is so hesitant, they won't get vaccines, even in the face of these variants. That's going to be very dangerous for them.

**D** Dr. Halena Gazelka 04:31  
Greg, is it known how many of the individuals who aren't taking this vaccine are individuals who don't take any vaccines? Or is that, that's probably not known?

**D** Dr. Gregory Poland 04:39  
I don't think we really know. I mean, naturally, there'll be some carryover from people who are hesitant about vaccines we've had for decades, to be hesitant against a vaccine we've only had a year or so. But I don't think any exact numbers are known.

**D** Dr. Halena Gazelka 04:58

Okay. Tell us little bit about reinfection rates at this point.

D

Dr. Gregory Poland 05:02

We actually do have some data on reinfection rates that were published by a clinical infectious disease journal this past week. They studied a little over 9000 subjects who had previously had COVID, had at least two negative COVID tests, so they resolve their infection, and then subsequently developed COVID. This was 62 clinical centers across the US. So, what did they find? About 0.7% of them got reinfected in a mean of about 116 days. Now, this is important because a number of studies like this have been done, including the so-called Siren study in the UK, with health care workers. And that collection of studies have shown somewhere between 0.5 and about 2.5% of people who develop COVID subsequently get reinfected. Now, they tend not to have as many symptoms, but you don't always know. In the study, we're talking about two of those patients died, even though they had previously had COVID. The risk factors are what you would expect, but in particular, patients who had asthma or who were smokers were at particularly higher risk of reinfection. So, this is I think, really important for people to understand. I should say, by the way, that the mean number of days after which they got reinfected, somewhat surprised me, it was 116 days. So, we have told people, you know, if you develop COVID, we wait about 90 days, other people are thinking, well, I'm protected for a year or two or three, I mean, I hear all kinds of things for which there are no data. Here is a collection of data now showing that, as I say, between 0.5 and 2.5% of people previously infected, are getting infected. Now, there's one proviso here, those studies were done when the Delta variant was not circulating. And it's something Halena, you and I have taken pains to explain to our listeners, the data keep moving on. So, what was known a year ago or six months ago, don't depend on that. It can change as these new variants arise. So, I expect that that rate will be even higher as we get into a higher Delta circulation.

D

Dr. Halena Gazelka 07:47

Greg, had any of these individuals have been vaccinated between the first infection and the secondary infection?

D

Dr. Gregory Poland 07:52

No, in this particular studying no, but in some of the other studies, people had gotten at least one dose. And that raises an interesting point, we know that the mRNA vaccines after one dose are only about 30% effective against the Delta variant. Two doses get you up in the high 80 plus percent protection.

D Dr. Halena Gazelka 08:16  
Wow, quite a difference.

D Dr. Gregory Poland 08:17  
So, two doses makes a big difference.

D Dr. Halena Gazelka 08:20  
That's a huge difference.

D Dr. Gregory Poland 08:22  
Indeed.

D Dr. Halena Gazelka 08:23  
Greg, I had seen something about a pill for treatment.

D Dr. Gregory Poland 08:27  
Yeah. Actually, what has happened is that the government has released I think it's \$3.2 billion to incentivize manufacturers to work on anti-viral development. And in particular, I would say probably Merck is the furthest ahead with an oral anti-viral called molnupiravir. So, they'll take it I think for five days is the idea, I'd say they're farther ahead, because they're in phase three trials. These trials are showing that if you can give them the oral antiviral soon after developing symptoms, something like 72 hours or so, much like is the case for antivirals with flu. You dramatically decrease viral load. And now what this study is attempting to determine is, do you decrease the number of people who get sick from this, who get hospitalized, etc. So, that's good news going forward.

D Dr. Halena Gazelka 09:33  
And where in the world do they come up with these names for medications?

D Dr. Gregory Poland 09:38  
It is a bit frustrating. In fact, you'll even hear physicians pronounce them differently.

D

Dr. Halena Gazelka 09:44

Last week, Greg, we had touched on the CDC meeting that was to occur about myocarditis in kids who've received the vaccine. What's an update on that?

D

Dr. Gregory Poland 09:54

So, that meeting got cancelled, because on Thursday, I guess it was, President Biden had signed the Juneteenth holiday, and that took place on Friday. So, the CDC meeting now is going to occur this coming week. But we do have some data that's important, and I think, worthy of talking about. So, in the US, and we explained this once, but it's worth saying again, we know about 789 cases of myopericarditis that have been reported. Now, not all of those will be even associated with vaccine. When you go and study those, you'll find somebody reported it two weeks before they ever got a dose of vaccine. So, you have to do a lot of study of that. Nonetheless, in fact, I just checked on the data. Most of these are occurring in males, mostly young males, they tend to occur predominantly after the second dose, there are cases that have occurred after the first dose. My guess is that this is again, going to represent a so-called off target inflammatory condition. But there are other hypotheses out there. About 470 of these cases have been below the age of 30. Now, in 285 of these cases, we have a known outcome. So, 285 that occurred after getting vaccine, we know what happened. Of those 285, 270 resolved spontaneously very quickly, in a few days, 15 were still in the hospital and three in the ICU. None have died. There's a case report that involves Mayo Clinic, in fact, where we've had a case, and among those seven or eight subjects, all of them recovered very quickly. And so, you know, this is an ongoing research study to understand what exactly is the relationship? Are there risk factors for it? Having said all of that, one thing we do know is that the risk of myocarditis is higher in people who get COVID infection. So very likely, this will turn out to be one of those decisions we've talked about throughout the year, where you're balancing risk and benefit. There's not a no risk option here. It's which is less risky and offers the most benefit. And I'm virtually certain, even in younger people that this will turn out to be get the vaccine, but we have to stay tuned for that.

D

Dr. Halena Gazelka 12:47

Yes, stay tuned more to hear about that coming up. Greg, I had seen an interesting article about sperm quality. Now in the past, we had talked quite a bit about whether it was safe for women who are pregnant or hoping to become pregnant to receive COVID-19 vaccines. And you stated that that it is safe. And I'm wondering about sperm quality. There's been some question about that.

D

Dr. Gregory Poland 13:12

So, a very interesting study in JAMA. And you're right that there have been questions raised about that. There have been menstrual irregularities associated with vaccination in women. They resolve after one or two cycles. In men, the question was raised, could the vaccine be altering sperm quality? We know that it does and dramatically so with COVID infection, but what about vaccination? So, they reported a fairly small study of 45 men at University of Miami between the ages of 18 and 50. They did a sperm count and quality indicators before the first dose and about 70 days after the second dose. Ironically, what they found was a statistically significant improvement in sperm counts and semen quality. So, in fact, no detriment and if anything, a betterment. Now, do I think that's real or coincidental? I'm guessing it's coincidental, but it did not show any adverse effect, which is important for those that are doing family planning.

D

Dr. Halena Gazelka 14:32

That is really interesting. Greg, I want to get on to a couple of questions from our listener mailbag. They always give you some very thoughtful questions. I kind of put you on the spot.

D

Dr. Gregory Poland 14:44

Yeah.

D

Dr. Halena Gazelka 14:45

So, this first individual states that her husband is going to be expected to return to the office to work in the coming weeks. Their children are not old enough to receive the COVID-19 vaccination, and the husband and wife are both vaccinated, but concerned about the possibility of him bringing infection home from the office and perhaps potentially exposing their children. What would you say about that?

D

Dr. Gregory Poland 15:09

Yeah, so you know, there is no black and white answer here. If he and his wife are healthy, and got both doses of their vaccine, the chance of them spreading it to a child is really, really low. It's not zero. It's never zero. We don't know precisely with the Delta variant, but I would say that it's safe for them to be around their children, assuming they were healthy, and that they got two doses of vaccine. I would not feel like I had to wear masks at home. Now, I think you said the way the questioner asked is that the husband was going to work

and that some were not vaccinated. You know, if he felt more comfortable, he could certainly wear a mask at work when he's indoors with other people. He might not have to if he's in a private office. But if they're having committee meetings or something like that, that would be a consideration.

D

Dr. Halena Gazelka 16:11

All right. Our next question is from a private music tutor who sees about 45 students per week. The children are in grades K through 12. Most have switched back to having in person lessons in his home studio. This person is vaccinated and so are the eligible students. But how long should they continue to mask? Of course, not all of the children are able to get vaccinated now. And so, what would you advise about the safety of not using masks in this situation versus other public situations?

D

Dr. Gregory Poland 16:45

So, I would certainly be sure that the piano teacher, I think you said him, that he is vaccinated fully with two doses of vaccine, and assuming he's otherwise healthy, he doesn't really run much of any risks. Now, we are waiting for new CDC guidance in regard to classrooms. We have some guidance on summer camps where the recommendation is continue using masking if they're not vaccinated. So, I would say probably what he should do is when the students are coming into his home, if he wants to just you know, be sure about protection, have the student wear a mask. He could wear one too, but more important is the student wearing a mask so that they don't, you know, exhale or cough or sneeze virus out if they happen to be infected.

D

Dr. Halena Gazelka 17:43

Okay. The next listener thanks you for continuing the sessions on COVID-19, they are much appreciated. They're wondering if overall hospital hospitalizations are decreasing. Does the 25% of hospitalizations being pediatrics, represent an increase in the number of pediatric cases? So, how are the pediatric cases trending since vaccines have been initiated?

D

Dr. Gregory Poland 18:12

That's a great question. So, they were trending upwards. And now, like all of the caseload in the US, they're trending downward. Nonetheless, because so many adults have gotten vaccinated, what we see is a smaller, you know, there's a smaller proportion of susceptible adults, but a large population of susceptible kids. So, we're seeing more kids end up being



hospitalized. Now the concern is, what will happen as Delta variant really starts to take off in the US. CDC did publish a study looking at adolescence anyway. And what they found; they were looking at people aged 12 to 17. So, we don't know a lot yet about younger than that age. And what they found was about one and a half to two per 100,000 were being hospitalized. Now that's a rate that's still higher than flu, in fact, it's about three times higher. It's about 12 and a half times lower than adults, adults truly do have higher risk. But again, even in 12 to 17-year-olds, that risk of hospitalization was about three-fold higher than with flu. I mentioned that because I hear people say, oh, it's just the flu. It's nothing more than that. Well, that's just not true. Kids do get hospitalized, and they do develop complications from COVID. Fortunately, not at the same rate as adults, but still at a concerning rate, particularly for a disease you can prevent.

**D** Dr. Halena Gazelka 19:57

So, be looking forward to that age for vaccines to continue to decrease and hopefully decrease this concern as well.

**D** Dr. Gregory Poland 20:04

And I think by Fall time, we will see that Halena if those vaccines get emergency use authorization to use in younger than age 12 and picking up the pace of vaccination in kids 12 and older.

**D** Dr. Halena Gazelka 20:20

All right, Greg, our next listener, received the Johnson & Johnson vaccine and has a question about variants. Do we know about the efficacy of each individual vaccine regarding the variants?

**D** Dr. Gregory Poland 20:34

We do, we have a pretty good idea of that, both from studies in the US and studies abroad. We know that the Johnson & Johnson vaccine and the AstraZeneca vaccine do not have quite the same level of protection against symptomatic disease, against the South African and against so-called Beta and the Delta variants. However, their efficacy in protecting against death and hospitalization are excellent. So, I know this sounds confusing, but when we talk about efficacy, we talk about efficacy against what death hospitalization symptomatic, mild asymptomatic, and we talk we talk about against which variant. So, what we can say is the mRNA vaccine, in one of the best studies done, provided about 88% protection against symptomatic illness against these variants. Now,

if you look at the Alpha variant, and the original variant, it was about 95%. So, you see a little bit of a decrement, a little larger decrement for the adeno virus vectored vaccines.

**D** Dr. Halena Gazelka 21:56

Is it possible that this individual who received a Johnson & Johnson vaccine will be advised to have a booster with an mRNA vaccine in the future?

**D** Dr. Gregory Poland 22:05

Yeah, that's an interesting question Halena, and in fact, so-called mix and match studies are underway. We have preliminary data from one of those studies done in the UK, where they started with an adenovirus vectored vaccine, then boosted with mRNA. It worked beautifully at the price of a little more reactogenicity, you know fever, sore arm, not feeling well for a day. And I suspect we'll see that as time goes on. And as the Delta variant catches hold, but there is no such recommendation at the current time.

**D** Dr. Halena Gazelka 22:42

All right, here's my last listener question of the day for you today, Greg. Children who have not received vaccinations in the past, for various reasons, if they were to receive the COVID vaccine, would they have a higher risk of having a reaction to the vaccine then would a child who has been getting their regular series of vaccinations?

**D** Dr. Gregory Poland 23:05

We don't have any data to suggest that. I personally would not have any concern over that. I wouldn't hesitate to get a COVID vaccine because of that, you know, unfortunate situation. I would say in addition to COVID, you want to catch up on those vaccines. We're seeing small resurgences of some of these diseases as we open up. And because of the last year, a lot of children fell behind on their childhood immunization. So, there's a lot of catch up to be done. You certainly don't want to have a kid go to school this year, not protected against pneumococcal disease, influenza, measles, and now COVID, that could be a very deadly combination. So, we work very hard on trying to get that message out. I know that pediatricians and family doctors are working hard to catch kids back up on their immunizations.

**D** Dr. Halena Gazelka 24:04

Well, that is all the questions that I have for you. Do you have any last words of wisdom

for us today, Greg?

**D** Dr. Gregory Poland 24:09

I really think this exponential rise in the number of sequences that are Delta, must be taken seriously. We do not want to get into the situation that we're now seeing in the UK, where they're having a third surge. And I'm very worried about that, because I think emotionally, we all are ready for this to be over and done with, but it's not. It's just not. We're seeing very low levels of circulation right now. But as we move through the summer, remember we saw low levels last summer, only to surge again in the Fall. The difference this fall is we may be facing a variant over 100% more transmissible than the original virus.

**D** Dr. Halena Gazelka 25:07

I was thinking, Greg, how difficult it would be if we had to go back to everyone masking and to all of the precautions, because I feel like the world has sort of opened up and people are now traveling at higher numbers and you're out and about and you see that people aren't wearing masks in areas where they're no longer mandated.

**D** Dr. Gregory Poland 25:28

And, you know, I think that's appropriate for people who have been fully vaccinated, at least right now based on the caseload. The risk for all of us is this very large group of people who have not yet been vaccinated and who represent a risk of getting infected and further mutations into a more and more dangerous virus. This is the kind of thing that prolongs these pandemics. So, just a word to again, encourage and you know Halena, you and I talk offline, and we share these beautiful, beautiful messages that we get. And I'm going to show, I'm going to cover up the name, but I'm going to show one of them that brought tears to my eyes. This is a postcard I got from a 10-year-old.

**D** Dr. Halena Gazelka 26:25

Oh, that's wonderful. Hi there, did you find a vaccine yet?

**D** Dr. Gregory Poland 26:33

I mean, this is a little girl who wants to live the normal life that every little girl and little boys should lead. And so, for any of you that are hesitant out there, there's a lot of little girls and a lot of little boys that are depending on you and me to make good decisions.

And I hope you will.

**D** Dr. Halena Gazelka 26:56  
Thank you, Greg, that was wonderful. Thanks for being here today.

**D** Dr. Gregory Poland 26:59  
Sure. Thank you.

**D** Dr. Halena Gazelka 27:00  
Our thanks to Dr. Greg Poland for being with us again today to update us on COVID-19 and answer some listener questions. You still have time to get vaccinated before July 4. So, get out there and do it. And thanks to each of you who send us your questions and your comments, it is so much appreciated. I hope that you learned something today. I know that I did, and we wish each of you have a very wonderful day.

**N** Narrator 27:26  
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