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

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SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, Narrator

N **Narrator** 00:01

Coming up on Mayo Clinic Q&A, it's the listener mailbag. People want to know with COVID numbers trending down are we ever going to be safe?

D **Dr. Gregory Poland** 00:11

We are now at a point where the only way we're going to defeat this is to be fully vaccinated and were masks. And mark my words, as these data come out people will abandon mask wearing, and that will be followed by a surge in influenza cases, RSV cases, and COVID-19 cases.

N **Narrator** 00:38

Listeners also want to know how can we convince the vaccine hesitant that the vaccines are safe and effective?

D **Dr. Gregory Poland** 00:45

For the hesitant for the most part they're scared, and they're skeptical, but it gets to a point what level of data or what studies would make you comfortable? I have found that oftentimes the light goes on for people when they have the opportunity to have somebody respectfully hear their questions and concerns, and then answer.

D **Dr. Halena Gazelka** 01:15

Welcome everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka. We're recording this podcast and Monday, October the 4th, 2021. And boy, do you our listeners have great COVID-19 questions for us. I am lucky to have Dr. Greg Poland back today to help answer those for you. Dr. Poland is a virologist, vaccine, and infectious disease expert at the Mayo Clinic. Welcome back, Greg.

D Dr. Gregory Poland 01:42

Thank you. I'm a little nervous with how good the questions are from our listeners.

D Dr. Halena Gazelka 01:47

I was gonna say are you ready for this? Because have I got a mailbag for you today? All right, here we go. Great. Our first listener says I have a number of friends and family who were previously infected and now refuse to get vaccinated because they believe that their immunity is adequate having had the infection. How does immunity through previous infection compare with immunity through vaccination? Can they be compared? Should they still get vaccinated?

D Dr. Gregory Poland 01:50

Let's give it a whirl. You know, the simple answer to that one is absolutely they should get vaccinated. We've got a number of observational studies that show that people who have been infected but don't get immunized have higher rates of breakthrough disease than those who were previously infected and do get immunized. The question is, how many doses do they need? Currently, the recommendation is two doses. But a lot of the data that I have seen suggests that with one dose post vaccination, they develop really remarkable levels of antibody. Now, that would be for somebody with an otherwise normal immune system. The problem is that a lot of people who developed disease initially developed it for a reason. Not everybody, but it might be that they're elderly, have underlying medical problems or something else. So, it's really a decision to be guided by you and your caregiver. So, here's a twist on that Greg. Okay.

D Dr. Halena Gazelka 03:21

This listener, had their vaccines, their initial vaccinations, but then developed a breakthrough infection and now says, should I even bother to get the booster?

D Dr. Gregory Poland 03:32

Yeah, that's a that's a good question for which there's not much data. So, we're into the art of medicine. And like we say all the time, we want to be radically transparent with what are the data, and where do we not have data. We don't have data on that. Right now, there's no specific recommendation that speaks to that exact clinical scenario. I again, would say talk with your health care provider, because it really depends on circumstances. If you're moderately to severely immunosuppressed. That's one issue. If you're otherwise healthy, that's another issue. What did you get infected with the ancestral Wu Han strain, or more recently, with the Delta strain? That might make a difference. How old are you? All of those things are considerations, factors that would weigh into what to do in a situation like that. It's really hard though. I'd love to give a blanket answer to that.

D Dr. Halena Gazelka 04:38

Greg, I think one of the silver linings of COVID might be that I just got to hear you say the ancestral Wu Han strain, because those are words I wouldn't have ever heard strung together before COVID-19.

D Dr. Gregory Poland 04:52

Yeah, in my field, it's a common phrase.

D Dr. Halena Gazelka 04:56

All right. Okay, this is a further development on the last question. This listener asks, Is there any information for someone like me who has had COVID and then been vaccinated twice on whether or how they will react to a booster shot? Should they expect more side-effects I believe is the question. So, if they weren't, do they need the shot? I guess that was the question.

D Dr. Gregory Poland 05:22

Yeah, yeah, if they had COVID, and subsequently had a full series of COVID, vaccine whatever that might be, right now we don't have any data to suggest that they need a booster dose. Now, again, let's say that that was somebody with a solid organ transplant, very different situation. And I would approach that clinical scenario very differently. But let's say it's somebody's otherwise healthy like you or I. At that point, I don't really see the any pressing need, now that can change. One of the things that's happening as you and I have observed during the year and a half we've been doing these, is the development of ever increasing variants that at least to a mild or moderate degree, escape immunity. So, if we were to see another one of those that further escaped immunity, that is got farther and farther, and dare I say the ancestral Wu Han strain.

D Dr. Halena Gazelka 06:29

You dare say it? So Greg, what you just said is different. It matters, the order in which you had the infection and had the vaccinations then.

D Dr. Gregory Poland 06:33

It might matter. And there's just so many clinical factors within that. We are clear that if you had previous infection, the recommendation is to get vaccine. If you got vaccine, and then in essence were super boosted by getting infection, it depends on the reason for that. The reason you got infected after vaccination suggests an underlying possible reason for poor immune response. And so, I would want to see a patient like that, try to understand what happened, and then make a decision about what to do.

D Dr. Halena Gazelka 07:25

Okay. All right. Our next listener says I've had three doses of the vaccine now, thanks to Mayo Clinic. So, I'm wondering if you could break down for individuals with autoimmune disease, what antibody production levels look like. This individual says they heard in the past that immunocompromised patients were not showing lower antibody levels. Is the third dose making a difference?

D Dr. Gregory Poland 07:50

Dr. Gregory Poland 07:30

Yes, it definitely does make a difference. And Halena, I feel like I'm gonna say this a lot today because these are very specific questions. We don't have as much data as we would like to answer a question like that. For example, I can tell you on a population level what antibody response is going to look like in the setting of a solid organ transplant. I can tell you what it's like for the patient with MS on certain therapies that they might get. When we get to autoimmune diseases, there's a vast array of them with a vast array of different treatments. So, depending on what treatment you're on, depending on the dose that you might be taking, and for more severe cases, people might be taking two or more of those in combination. So, it gets very difficult to say, well, you over here are going to have a good response, you a poor response. It's just not that that simple or that easy. And that's really, again, where you want to talk with your healthcare provider to kind of get some perspective on that. What we do not have is any kind of recommendation under the EUA for more than three doses at this point. So, I would not advise that. We know nothing about the safety. We can presume it will be fine because we we've only seen rare and uncommon safety concerns with three doses, but we don't know that yet in fairness.

D Dr. Halena Gazelka 09:31

Greg, several listeners asked if you would comment on the ivermectin studies from India.

D Dr. Gregory Poland 09:37

Sure. Well, it's a long story with ivermectin and you kind of shake your head and other times you're kind of amused that this could be the case. Studies involving 10s of 1000s of people and now over 370 million doses of vaccine given in the U.S., with abundant safety studies, and people are still hesitant and reject them. And yet, they will take a drug for which there is the barest of any conflicting evidence in generally poorly designed studies. So, what do we know about ivermectin? Somebody made the observation that in a test tube, it might help. That's as far as the evidence base went. And people went out and started buying ivermectin paste. And ivermectin meant for veterinary use that is not regulated according to human standards. You have no idea of what contaminants you might be getting, what dose you're taking, what kind of dosing should you take, the manufacturer says it's not effective. And oh, by the way, it can cause birth defects, and people flocked to it. So, what has happened is that there was one particular study done that suggested a great benefit to ivermectin. That study has subsequently been shown to be fatally flawed in it's design. And many of these are a type of observational study where people are not in any way, by definition, randomized to different treatment arms. So, you have a lot of confounding and biases that enter into the studies, making it impossible to interpret them. For that reason, and any of our listeners can go online, look up the Cochrane Collaboration and look at the meta analyses and systematic analyses of all the ivermectin studies. Conclusion is there are no data to support or entirely refute the use of it. Take out that one influential stud, and again, you have to do a little bit of internet research to find it, and it all falls apart, no benefit. Nonetheless, in the U.S., I think there are two trials in the UK and other places. There are properly designed, randomized, double blind, placebo-controlled trials going on, that are looking at a host of repurposed drugs, one of them being ivermectin. So, we will have an answer from a properly designed and executed trial. But at this point, no evidence for benefit in the literature.

D Dr. Halena Gazelka 12:45

Interesting. Thank you. So, stick with what has been studied, and that's vaccines.

D Dr. Gregory Poland 12:50

Yes. I mean, why would you reject what has been studied and amply shown to be safe and effective for a therapy

that has not shown either?

D Dr. Halena Gazelka 13:02

Here's an interesting question for you, Greg. A friend told me some vaccinated moms are feeding their weaned toddlers breast milk, in hopes that the antibodies will pass to their children. Any truth to this?

D Dr. Gregory Poland 13:13

You know, they're probably on a pretty good track of reasoning. Why do I say that? There have been now several studies showing that mothers who are vaccinated, pass that protective antibody through cord blood to the baby, and via breast milk to the baby. And what I like about the breast milk scenario is that it also passes on secretory antibodies that may actually help ward off infection at the portal of entry, the respiratory tract. So, there's a double benefit, really a triple benefit. You protect the mother's life, the baby's life, and you're passing immunity on to the baby. So, what about after the baby is born? Well, you're not obviously going to get any umbilical cord antibodies that last more than a couple of months. And might you be able to pass on antibodies through breast milk in a weaned child? It depends, I would say on the timeframe since you got vaccinated, and how long that has been in terms of using breast milk in the child. But the general idea is a good one. Several people over 65 in my family who have been fully vaccinated are questioning whether they really need a booster because their health is really good. What do you think? Yeah, we've heard that not only from people 65 and older, but from younger people. It is true that the less healthy you are, the more likely that you'll end up with moderate to severe disease, or end up in the hospital, or dying but it does not preclude those things from happening. There is ample evidence and data to show otherwise healthy people who develop severe disease, who do end up in the hospital, who do end up with complications. And who do end up with long COVID type symptomatology. So, for all of those reasons, data driven, the recommendation is to get a booster in that age group in that scenario.

D Dr. Halena Gazelka 15:33

How long after a booster dose will an individual who is not immune compromised, will their immune response take to get back to a favorable level again? Is it 14 days to be considered fully vaccinated again?

D Dr. Gregory Poland 15:48

Yeah, it's not a matter of being considered fully vaccinated. It's a matter of augmenting or reinforcing that antibody and T cell immunity. So, probably in that, I'm going to say a little longer than seven days, in that 10 ish plus days, you start seeing a rapid rise in antibody. And over the next month, you see an increasing rise in levels of T cell immunity. One question will be, how long will that boost in immunity last? We don't know yet. How effective will it be in the face of ever developing variants? We don't know yet. And one question that our listeners didn't ask, but I think it's worth saying is they're going to read tonight about data that showed that cases and hospitalizations have fallen by about 30% over the last several weeks. We do expect that that probably will continue. We are now in our fourth surge. What has happened every time is that people read that news and say, we're done, we're free, it's over. And that is not likely to be the case. This has gone generally in cycles of two to three months, something like that. So, the caseload starts falling, people say you know what, I don't need that booster. I don't need to wear a mask, we can travel again, there's no need for distancing. And then what happens within a couple of months of that? We have another surge. Anytime you allow this virus to keep replicating, it will mutate. Every time it mutates, it is a chance, it's an opportunity for worse variants to arise. And so, as you read these headlines, I would encourage you, we are now at a point where

the only way we're going to defeat this is to be fully vaccinated and wear masks. And mark my words, as these data come out, people will abandon mask wearing, and that will be followed by a surge in influenza cases, RSV cases and COVID-19 cases. And then we will have our fifth surge.

D Dr. Halena Gazelka 18:26

Uff-da.

D Dr. Gregory Poland 18:28

Uff-da is a good Minnesota word for that.

D Dr. Halena Gazelka 18:32

Our next listener wonders if an individual has COVID, receives monoclonal antibody infusions, and then feels much better, for how long are they considered contagious?

D Dr. Gregory Poland 18:44

Oh, okay. I thought you were gonna ask me are they then protected? You fooled me there. So, you know, generally speaking they're going to resolve that infection inside that if they're otherwise healthy, inside that 5-7-10 days, something like that. So, that can be determined by the lack of fever, the lack of symptoms, and a negative PCR test. Now, the other part of the question is, after you get monoclonal antibodies for treatment, and we generally only use those in people who have not been vaccinated, you still need to be vaccinated. In other words, being infected and receiving monoclonal antibodies prevents you from developing a protective immune response. In a sense, we are artificially giving you antibodies to resolve that infection, and somewhere around the 90 day point then, we would recommend that people initiate their vaccine series after getting monoclonal.

D Dr. Halena Gazelka 19:56

Greg, how do you know that cases are actually declining if we know that the sale of at home tests is going up, and perhaps people just aren't going into get PCR testing done?

D Dr. Gregory Poland 20:09

That's a very good question, a very thoughtful question. And the answer is we wouldn't know that as we don't currently for asymptomatic disease, and probably wouldn't know it for mild disease. Now, there are some situations where we do get data in the moderate to severe. So, we know that if we're seeing a drop in those cases, then we are correspondingly seeing a drop in others. There are people in certain scenarios like health care providers, patients coming in for elective procedures where we routinely screen, and when the number of positives drops, and drops and drops. Again, it's reflecting what's happening in the community. So, it's not that we don't have any data, it's just that we don't have the kind of data we would like to have. And actually, the country that I have to say has done the best with that has been in the UK where they do round after round of testing, where they'll take 100,000 people at a time in a community and have them swab themselves every week for multiple weeks in a row. And they actually get

community-based data that is agnostic to whether they're symptomatic or not. And then you know, the other point behind that, as I'm thinking about it is, estimates of community burden of transmission I think are helpful to people, except when they're very low. For the paradoxical reason we talked about before, when they're high I think most reasonable people realize I better wear masks and be sure that I'm vaccinated. When they're low, people are so emotionally fatigued of this that they abandon it. Now I wonder about that? Are you emotionally fatigued of wearing a seatbelt and staying in your own lane and driving carefully in the bad weather that we can get in the Midwest, for example? No, you may be tired of the gray and cold, but you're still going to take those safety precautions. The same with another threat to your life and well-being like COVID

D Dr. Halena Gazelka 22:29

Interesting perspective. Greg, Any word on Novavax?

D Dr. Gregory Poland 22:35

Yes. The thought is, and you know I feel like I've said this a couple of times, and then it gets pushed back. But the thought is that they will be coming up probably in the November timeframe. There's also something else that we can say Halena, and this, I think is good news. The middle of October this month, there are two days set aside for meetings at the FDA for looking at kids and boosters. There's also another day set aside at the end of October to address that issue. So, they're going to be addressing two different issues. I didn't say it very clearly. They're going to be looking at boosters for Moderna and J&J. And they're going to be looking at extending the EUA for Pfizer vaccine for kids down to age five.

D Dr. Halena Gazelka 23:32

And what is the Novavax, Greg?

D Dr. Gregory Poland 23:35

Novavax is, if you will, a third vaccine platform. We have andenovirus vector like J&J, and we have the mRNA, like Moderna and Pfizer. Novavax represents a different platform, one that everybody will be familiar with. This is an inactivated vaccine. So, they're just giving the spike protein, inactivated protein in combination with an adjuvant. And adjuvant is a drug, a substance that stimulates the immune system to recognize and respond to that antigen. Thus far in clinical trials, it has done very well, very high levels of antibody. And I will say what appears to be much less reactogenicity compared to the other two platforms. So, it will be a welcome addition. The more vaccine platforms we have, I think the better because it allows us to sort of choose the right vaccine in the right scenario for the right patient. If you will, a more individualized or personalized approach to vaccinology, which my group and the thrust of my own research work has been in that direction. So, we'll be happy to see that. We want to see the full data set, of course, and that's what day is set aside for with the FDA.

D Dr. Halena Gazelka 25:05

Greg, our last listener question says you've been very gracious in your responses and attitudes to the division around COVID-19, the issues very straightforward about them. Do you have any suggestions on how to hold discussions with friends and family members regarding social gatherings particularly as the holidays are approaching?

D Dr. Gregory Poland 25:27

Let's start with something you might not be expecting. Mark Twain said that kindness is a language the deaf can hear, and the blind can see. So, I think starting with kindness, I know sometimes we might come across as exasperated, because you know, after 20 months of watching people die and get sick, it gets hard to bear sometimes. But I think, you know, for the hesitant for the most part they're scared, and they're skeptical. Nothing wrong with being skeptical, nothing wrong about being skeptical. But it gets to a point where I think the way you ask the question is to say, what level of data, or what studies would make you comfortable in doing that? Most of the time, they're unaware of the data, they're simply afraid, or maybe they have a contra-indication or something else that could be answered for them. So, I would invite that discussion. My daughter, myself, and a designer at Mayo Clinic published an article that involves something new, we called it the human empathy tool. And it basically is a tool to help patient and provider sort of visually chart their journey together in talking about any healthcare procedure, but in this case COVID-19. So, I ask them about the data, and then ask them to compare and contrast the data they're using to make the decision not to get the vaccine in view of the data that suggests overwhelmingly the value of getting the vaccine. And sometimes talking about risks of commission and omission, I have found that oftentimes the light goes on, for people when they have the opportunity to have somebody respectfully hear their questions and concerns, and then answer them. What's harder is the people who just outright reject vaccines, no amount of data is going to change their mind. They have hardened into a concrete position where they, in fact, it has a psychological term associated with it called "belief dependent realism". And they believe their belief to be realistic, even in the face of overwhelming data that suggests otherwise. So, you start with kindness, you recognize the spectrum from questions, to skeptic, to hesitant, to outright rejection of science. And you model your discussion and your journey based on understanding those categories and on how the patient in front of you actually thinks. What is their interpretive lens for the world? And how do they make decisions?

D Dr. Halena Gazelka 28:46

To play the devil's advocate, Greg, I think it's really difficult in this time of information on the internet, misinformation, disinformation for individuals to properly sort data at times.

D Dr. Gregory Poland 28:59

It's hard. I mean, let me, again, in the interest of transparency, I've been a vaccinologist for 40 years, okay. I read, often anywhere from eight to 12 or more hours a day, and often 14 to 16 hour days in total, working almost exclusively on COVID. It takes that level to begin to even make a dent in the amount of science and literature coming out and to synthesize and integrate it with what we know what might be a faulty study design, what's a good study design, and you develop a scientific consensus out of that. So, it takes an extraordinary amount of effort for me as somebody expert in the area to do it. So, you know, it would be like asking me to, the example I would use, is ask me about, you know, car transmissions. I don't know, I put it in D and it goes forward. I'm not the one to repair it or to understand what the problem is.

D Dr. Halena Gazelka 30:08

And if it doesn't, you find someone who knows something about it.

D Dr. Gregory Poland 30:11

There you go, and I listened to them.

D Dr. Halena Gazelka 30:13

That's right. Well, what a great discussion and great questions today, Greg. Any last words for our listeners?

D Dr. Gregory Poland 30:22

You know, there's one other thing. We may have touched upon it, but CDC took the actually extraordinary step of upping their level of concern for pregnant women here in the U.S., and they have really gone to pains to say pregnant women should get immunized. We have had over 125,000 pregnant women get infected, and I'm just looking at the numbers. Over 22,000 of them have actually been hospitalized. They sometimes end up on ventilators. They have premature delivery of their child or a stillborn child. Many, many sad stories of mother and child dying of a vaccine preventable disease. And so far, over 160 known otherwise pregnant women who have died of COVID. So, they're really making a plea, that the risk of death in pregnant women is about 70% greater than in women of the same age who are not pregnant. So, if you're pregnant and you have not been immunized, please, please talk to your doctor about getting immunized and preserving the health and well-being not only of yourself, but of your unborn child.

D Dr. Halena Gazelka 31:46

Well, thank you for interrupting your reading today to be here with us, Greg.

D Dr. Gregory Poland 31:50

Of course, always.

D Dr. Halena Gazelka 31:53

Our thanks to Dr. Greg Poland for being here today to share insights about COVID 19, and to answer the listener mailbag. I hope that you learned something, I know that I did. We welcome your questions and comments, and we wish each of you a wonderful day.

N Narrator 32:10

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