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

Tue, 6/8 8:45AM 30:50

SUMMARY KEYWORDS

vaccine, immunized, people, greg, dose, vaccinated, question, mayo clinic, mild disease, listener, year, called, protected, long, variants, population, studies, mrna, hiv, influenza

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
This is taking us a long way toward the concept, the general concept of herd immunity, and we're reaping the rewards of that. I mean, you can go shopping, you can go to a restaurant, you can fly in an airplane. I mean, that's wonderful.

N **Narrator** 00:20
That concept of herd immunity is from the millions of individuals who have received the COVID-19 vaccine. But for those who are still vaccine hesitant, waiting for herd immunity could lead to getting the disease from fast spreading variants.

D **Dr. Gregory Poland** 00:34
For you and I that have been vaccinated, life is resuming back to normal but for the unvaccinated, they now live in a phase of the pandemic, where we're seeing circulating variants that are much more transmissible maybe, cause worse disease than what

happened last year at this time.

D **Dr. Halena Gazelka** 00:56

Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena, Gazelka. We're recording this podcast on Monday, June the 7thm 2021. As of last week, more than 50% of the adult population in the United States and more than 40% of the population overall, are vaccinated fully against COVID-19. So, that's great news. We are making progress, but there's been some slowing in the numbers getting vaccinated, and that's concerning. The good news is that things are relatively safe for those of us who are vaccinated and the country is starting to open up and function normally again as the COVID-19 rates decline. Well, here to discuss with us today is Dr. Greg Poland, virologist and infectious disease expert at Mayo Clinic. Hey, Greg.

D **Dr. Gregory Poland** 01:43

Good morning.

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

Good morning. Happy Monday.

D **Dr. Gregory Poland** 01:47

Thank you know you're so you're so right Halena, by reaching these higher levels of immunization, we are seeing an opening, I mean, it's almost like a birthday celebration to have people out and about.

D **Dr. Halena Gazelka** 02:01

It is almost like a birthday celebration. So Greg, tell us about the latest numbers and what you think.

D **Dr. Gregory Poland** 02:11

Well, you're exactly right, you know, over 300 million doses of COVID vaccine have now been administered in the US. We have over 50% of the population, so I'm talking about this is including kids who are not yet eligible. So when you take the whole population, we have about 50%, who have received one dose, and about 42% that have gotten both doses. So, this is taking us a long way toward the concept, the general concept of herd

immunity, and we're reaping the rewards of that. I mean, you can go shopping, you can go to a restaurant, you can fly in an airplane. I mean, that's wonderful.

D

Dr. Halena Gazelka 02:53

It is wonderful. Say Greg, I had read somewhere, however, that teenagers weren't being vaccinated as rapidly as we would like. Is that just reflective of adults in the same areas? Or is there a difference between the two groups?

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Dr. Gregory Poland 03:08

Yeah, you know, that's the other side of the coin from what I was just talking about. We're not yet up at 70% when we look at the whole U.S. Some states are, I think 12 or 14 states now, at 70%. The issue I think, with adolescents is several fold. One, people are remembering, back a year ago when kids really did not manifest high rates of infection. That has changed with these new variants. 25% of our hospitalizations due to COVID in the US now are adolescents and kids. I think that's one issue. I think a second issue is the adolescent approval came just as we were coming out of the pause over the J&J vaccine. I think that probably scared some people. And then you're exactly right Halena, we see regional differences, I mean, profound regional differences. And where we see those differences in adults, we're seeing those same differences in adolescents.

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Dr. Halena Gazelka 04:10

That makes sense. Say, Greg, I had seen that Moderna is seeking FDA approval of their vaccine, full approval, and so I'm wondering if you can explain again, what the difference is between emergency use authorization and full approval of a vaccine is.

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Dr. Gregory Poland 04:30

Yeah, so the full approval is the full gamut. In other words, this is once it gets what's called a BLA, a biologic license application approved, and it's considered fully licensed. The company can market it direct to consumers, they could sell to private physicians, etc. EUA is a little different, as we've talked about in the past, that's the emergency use authorization. And there you have to have some conditions, such as a public health emergency, no other way to prevent or treat a disease, and then a ruling that the vaccine appears to be safe for or may be safe for the indication. Whereas with a BLA, the company or rather the FDA is saying the vaccine is safe for the indication.

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Dr. Halena Gazelka 05:27

And Greg, do you think that that full approval would have a big impact on how people feel about receiving the vaccine?

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Dr. Gregory Poland 05:34

That's gonna be a very interesting and as yet open question. My sense is that it will push some people forward. More importantly, once it's licensed, then I think it's a lot easier for companies, hospitals, and other entities, maybe even schools to mandate the vaccine. I think it's very difficult to do that within the EUA. Now, the EEOC has ruled that companies can do that even under EUA. But I think once you have a BLA, I think it makes much more sense and is easier to do.

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Dr. Halena Gazelka 06:12

Sounds like all those initials people get after their names, and sometimes I don't know what they are. Greg, tell us what's going on in the world of COVID-19 research, vaccine research, etc.

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Dr. Gregory Poland 06:26

A lot of interesting things. One is that Regeneron got approval to give their combination monoclonal antibody by sub q injections, subcutaneous injection, rather than requiring intravenous infusion, and at half the dose. So, that's going to be helpful. I think the second thing is we've talked about, is we're actually entering in for the unvaccinated a dangerous phase of the pandemic. For you and I that have been vaccinated, life is resuming back to normal, but for the unvaccinated, they now live in a phase of the pandemic, where we're seeing circulating variants that are much more transmissible, maybe cause worse disease than what happened last year at this time. And I think the people who are unvaccinated may not realize that. I think another trend that we're seeing is with so many adults immunized COVID is becoming as predicted a younger people's disease. And so it really is going to be important to immunize them. The next studies are being done down to age nine, and they'll continue to march down to about six months of age. And one issue, and I should reiterate this, everything that you and I discuss is at one level provisional, in other words, you know, we're not even at two years yet with this virus. So, there's still a lot to learn. Nonetheless, we have to take the results of our studies and our science to date, and make policy. We don't want to do what India and other countries have done where it's just been out of control. We've seen that in some of our own cities. So, we have to make policy. We have to give people advice on what to do. I think one area of research is do they

benefit from a dose or two of vaccine or not? Or are they going to be basically the same level of us and over time, perhaps see a lessening of immunity and require boosters. That's still an active area of investigation.

D Dr. Halena Gazelka 08:50

So Greg, when you are thinking about boosters, and you're thinking about efficacy of vaccines, do you have to consider the very mild cases of COVID-19 as well? Or is it mostly that we want to prevent people from getting very ill and being hospitalized?

D Dr. Gregory Poland 09:08

That's a really good question Halena. And I think of it sort of as a priority. Priority one is we want to prevent people from dying. Priority two, is we want to prevent them from having significant complications that impact the quality of their life. Priority three is we want to prevent surge demands on the medical system. Now when you get to things like asymptomatic and mild disease, to me here's what that question turns on. If it's mild disease, like influenza, you recover and move on with your life, no problem. But one thing that's different about COVID that we've begun to learn, is that we have surprisingly high rates of people who developed so-called long haul COVID. That can occur it turns out, even with mild disease. So, as we do the research, if we find out that that is indeed a big problem, even among people with mild disease, that would be an important group to try to prevent disease in so that they don't have these long-haul symptoms.

D Dr. Halena Gazelka 10:26

Yeah, that makes sense, because there's a lot of morbidity associated with the long haulers.

D Dr. Gregory Poland 10:32

And particularly, you know, when you're talking about, how do we think about immunizing children when we get down to very young ages? Well, again, if they're going to suffer long-term complications, even though the likelihood of dying from COVID, based on what we know right now, that could be different with newer variants that come along. But based on what we know now, children rarely die, I think we've had about 300 to 400 deaths in the U.S. Those are terrible, but it's 300 to 400, not 600,000, as we had in in adults. So, those are sort of the considerations that you think about.

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Dr. Halena Gazelka 11:17

So Greg, continuing on the research topic, I believe that Johnson & Johnson is doing a study where they give a second vaccine eight weeks after the first one or so. Why, if one of their vaccines is enough? And what do you think about that?

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Dr. Gregory Poland 11:33

Yeah, so they're doing what's called their Ensemble II study. So, it's a phase three study. And you're exactly right, they're giving two doses of their vaccine rather than one. They are following those people over a two-year time period, half will get a second dose of the vaccine, half will get a second dose that's placebo. So, they'll measure the safety of doing that, and they'll measure the efficacy. So, obviously, the reason that you do that is when you look at prevention of mild to moderate disease, the Johnson & Johnson vaccine has a little lower efficacy than you see with the mRNA vaccines. Now, when you're looking at hospitalization, prevention of death, equally as good. I think the other thing that they're doing is they're looking forward as the mRNA manufacturers are, to what if we need boosters? What if you need an enhancement of immunity to protect against any of these variants? So. that's the reason for their two-dose study.

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Dr. Halena Gazelka 12:35

Greg, Dr. Fauci made a statement regarding how the HIV has helped contribute to the COVID-19 vaccine research and how that might work in converse, as well. Can you explain that a little bit?

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Dr. Gregory Poland 12:51

Yeah, his comments over the weekend were really more, I would call them a little more indirect. In other words, we did not develop mRNA vaccines because they had been developed for HIV. There's nothing that direct. Now it does turn out that the adeno virus vectored vaccines are being tested for HIV. But I think what he primarily meant was this, we have realized that if you put research money out there, and you mobilize the army of brilliant scientists and physicians that have been involved in this, and you engage the manufacturers, we were able to produce spectacularly effective vaccines in less than a year. You know, it's worth pointing out that's what was it, Saturday was the 40th anniversary of the first HIV case. So, it's 40 years versus one year for COVID. So, what have we learned that we learned from HIV? We learned that when you put networks of investigators together, we've learned a lot about what are called structure function studies. In other words, how do we look at the structure of a virus and from that develop a

vaccine platform. We've learned, and this was directly applicable to the mRNA vaccines, we've learned how to choose the viral antigen and stabilize it, so that it can actually work to produce immunity. We've learned how to assemble an international network of investigators from HIV studies that directly helped us with COVID studies. So, there are a lot of issues like that, that kind of in combination, were facilitatory, I guess I would call it that, of that same application to COVID. Now, of course, the reverse needs to happen. What we've learned about COVID and rapidly doing international trials, and how you roll out multiple vaccines, how you motivate a population to take vaccines now has to be applied to HIV. We need to be past the HIV scourge.

D **Dr. Halena Gazelka** 15:20

That's great. Greg, I have a couple of direct questions from some of our listeners that I wanted to pose to you. The first is an individual who tells us that their friend has received the COVID-19 vaccine and developed a headache after the first Pfizer immunization and still has a headache a month later and is concerned about getting a second dose. What do you think about that?

D **Dr. Gregory Poland** 15:47

Yeah, I mean, understandably, when you have a side-effect soon after a vaccine, the temptation is to blame it on that vaccine. So point one I'd like to make is that temporality is not always causality, as we have found out over and over again. For this particular listener, if you have a headache that's gone on for a month, and you're not somebody who's had an issue like that, I would urge that listener to go in and be evaluated. There are a number of things, diagnostic possibilities that go through my head, hearing that story. And I would not just say, well, it was the vaccine and leave it at that I would investigate further. The other thing, I think, Halena is that, you know, having had a side-effect after one dose does not guarantee that you're going to have that side-effect, or even have that side-effect in a worse way, after a second dose. That does happen, but there's no guarantee that that's going to happen. And when you look at an issue like headache, and you know, I don't wish a month-long headache on anybody, but when you look at the incidence of headache, and complications after getting COVID, that is a far worse proposition. So, there are people that are put in the unfortunate position, and many of us, myself included, will be in this group when it comes to the possibility of a booster dose, after you've had a side-effect, evaluating whether or not you should take a booster dose in light of that side-effect will be a very individualized sort of decision that you make in association with your health care provider.

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Dr. Halena Gazelka 17:37

I have a similar question from a listener who states that their niece had a sore arm for about a week after the first dose. It then went away but recurred after a week. Her arm was sore again. So, should this individual get their second dose?

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Dr. Gregory Poland 17:55

Absolutely. And the reason I say that so quickly is you know, a sore arm is something one can deal with something that one will recover from whether the sore arm a month later was due to vaccine is impossible to know. And they may well have a sore arm after a second dose. That's a common thing to have happen. But that pales in consideration to the side-effect profile that we see in people who actually go on to develop COVID. So, a sore arm in service of preventing COVID is I think, for me, that balance of risks and benefits would clearly be in favor of getting the vaccine.

D

Dr. Halena Gazelka 18:42

Makes sense. Our next listener Greg is undergoing chemotherapy for breast cancer and has had a first dose of Moderna during the chemotherapy treatment, wonders if she is really protected, because she is immune compromised from chemotherapy and wants to know how protected she is and she should be tested for antibodies.

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Dr. Gregory Poland 19:08

You know, Halena, my heart breaks for many, many patients, my own patients who are in that kind of position or have had organ transplants, or are on immunosuppressive drugs. These are people motivated to protect themselves, to protect their communities. They've done what we've asked, which is to get a dose of vaccine. I would encourage them in several ways. Number one, there are emerging data that I heard about over the weekend, showing that even in people such as solid organ transplants, people on chemotherapy, who got two doses and did not have markers of antibody, nonetheless very high rates of them had high levels of T cell markers. So we have the B cell, which is antibody, and the T cell which is cellular immunity. And low and behold many of them, now It depends on what chemotherapy, what immunosuppressive drug there they're taking, many of them do develop evidence of T cell immunity, and likely would be protected against the more severe manifestations like death, hospitalization, ventilation, etc. So, I think that's one ongoing area of research, but where we have some really encouraging early preliminary data. The second thing is, this the listener you're talking about, I gather, has not yet gotten a second dose. So, what she wants to do is work with her physician to determine when will her level of immunosuppression be the lowest and get her dose of vaccine there. Now, a

third controversial area is the topic, and we may as well address it, of antibody testing. I get asked 100 times a day about it. It is a legitimate question in my mind. Of course, the surge demand if everybody did that is unmeetable right now. But for patients like the patient that you're talking about, this is my personal opinion as a clinician. This varies somewhat from FDA guidance, but my personal opinion, is there are some individuals who are in situations where it's critical to know, did they have an immune response. For that sliver of patients out of the population, it is possible to test those antibody levels, we're left with the dilemma of we don't know what level is protective. But when we see high levels of antibody that are similar to otherwise healthy people, we can be reassured. The problem is if they have lower levels, we don't know what to say, because we don't have a correlative protection. But that is a way, let's call that the art rather than the science of medicine. That is a way in which we can sometimes be helpful, as I say to patients who fit into, you know, an unusual sliver of the population.

D Dr. Halena Gazelka 22:31

We certainly don't need to be ordering antibody testing routinely.

D Dr. Gregory Poland 22:35

And that is the FDA position. And I would agree with that. In general, there's no particular reason to do that, because the efficacy is so high. And as I said, we don't know a correlate of protection. So give me a number and I can't really tell you, does that mean you're protected or not? Unless it's very high.

D Dr. Halena Gazelka 22:57

Greg, the woman in our last question also is wondering if she should have friends and family wear masks and social distance around her and for how long?

D Dr. Gregory Poland 23:09

Yeah, very good question. I would say at a minimum, yes, until she's 14 days past her second dose, that's when we would expect that if she's going to be immune, it would occur at that time point. And you know, to tell you the truth, that's no different a recommendation than three years ago, during influenza season for a patient like that. We would do this, we would say the same thing. It'd be a good idea to mask when you're outside, wash your hands well, etc. We don't want you to get influenza. Well, of course, we don't want you to get COVID either.

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Dr. Halena Gazelka 23:47

Greg, I have a similar next question from another listener for you. They received the Pfizer vaccine, but when they received the second dose, they were in the middle of a two-week course of prednisone and wonder how covered are they? They know that in their county, there's a low rate of vaccination and are wondering should they get another booster because of the prednisone?

D

Dr. Gregory Poland 24:13

These are the really good, really practical, in the field questions that we face every day. And I mentioned it earlier, we are sometimes in the position of the art of medicine, meaning we don't have direct data to guide us, so, we extrapolate from what we know. It's always a little hard to answer so specific a question about the details. But it depends on the dose of prednisone they were on, depends on how long they were on it, and it depends on the timing of those two doses in relation to receiving the prednisone. So. it's really hard for me to answer directly that question but, but if that listener wanted to write in with those details, we could certainly, you know, offer some guidance, as could their local health care provider.

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Dr. Halena Gazelka 25:05

And Greg, are we recommending the third dose of the mRNA vaccines or a booster dose to anyone at this point?

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Dr. Gregory Poland 25:12

So at this point, there are no data showing either safety or benefit from that. Now, those studies are ongoing. There are studies right now of booster doses that are occurring. The early preliminary data suggests that it does bump up immunity, and that you pay a small price in terms of reactogenicity for it, but those are really small and really preliminary data. So, we await further trials. And again, this is part of, you know, flying the airplane while you're building it. We're less than two years into this. So, it's, by definition, not possible to know a lot of the answers to these questions, we're having to discover them as we go along with an eye toward the best possible protection of the population.

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Dr. Halena Gazelka 26:07

But our listeners continue to challenge you Greg.

D Dr. Gregory Poland 26:10
They do. They ask very good questions.

D Dr. Halena Gazelka 26:12
Very good questions.

D Dr. Gregory Poland 26:13
As they should. You know, I personally find it motivating and encouraging that we have people who look at the data, who want to know, who are trying to do the right things. And, you know, I wish sometimes I had very black and white clearer answers, but we just don't have the data in a lot of cases. And so, we appeal to what we know in the art of medicine.

D Dr. Halena Gazelka 26:41
Anything else to share today, Greg? That's the end of my mailbag.

D Dr. Gregory Poland 26:45
I think we did a good job answering the question. I think, you know, I still want to encourage people to be immunized. We are now at over 600,000 deaths in the U.S. We are now at one out of every 535 Americans has died from COVID and its complications. So, I do worry Halena, I worry a lot actually, that as we are at historically low levels, we now have, you know, compared to this past winter, when we were having 3000 COVID deaths a day, we're now down to about 360 deaths a day. That's remarkable progress.

D Dr. Halena Gazelka 27:30
Sounds like a lot though.

D Dr. Gregory Poland 27:31
Yeah, I know. And people see everything open, and they see you know, us celebrating etc. But if you are on immunized, you run quantifiable risks. Who wants to be the last one to die in a war is what keeps going through my head. So, if you're not immunized, please consider getting immunization. We have now given over 300 million doses of these vaccines, we know their safety profile, we know their efficacy profile. And we are now in a

phase, as I said, where what's circulating are variants that didn't circulate a year ago. So, don't depend on your knowledge of six months ago, or a year ago, that has changed with these new variants. So, please talk with your health care provider about getting immunized. And the same goes for adolescents, and as we get there, children.

D Dr. Halena Gazelka 28:31

Say, Greg, what you just said about encouraging people to get vaccinated, brought something to mind. A friend recently told me that they did not plan to get vaccinated because so many people were getting vaccinated, that then they wouldn't need to. What do you say to that?

D Dr. Gregory Poland 28:48

So, there's actually a term for that it's not a very nice term, but it is descriptive. It's called freeloaders. So, in other words, you all bear the, there's no expense in this case, but the expense, the side-effects, etc., of getting the vaccine and I'll be protected. Well, that works when you have 70 to 80% of the people around you immunize, but you don't know who's immunized and who isn't when you go into the grocery store, at work, at school, at church or any of the activities that you do, and as I say you run the risk of getting infected with one of these variants, and it's nasty. It is nasty, to get this disease and to depend on the immunity of others. The other thing, of course, is that there will be some people who are immunized who are not protected. That's true with every vaccine. So, just because somebody tells you they're immunized doesn't necessarily mean that they're 100% protected. So you run risks, and you're running a calculated risk that I think the math does not bear Makes sense. Thank you, Greg for being here today.

D Dr. Halena Gazelka 30:02

Of course.

D Dr. Gregory Poland 30:03

Words of wisdom from Dr. Greg Poland from the Mayo Clinic. Thanks for being here today. I hope that you'll learned something I know that I did. We wish each of you a very wonderful day.

N Narrator 30:14

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