

# Mayo Clinic Podcast - Dr. Gregoery Poland - 03 01 21 - YouTu...






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## SUMMARY KEYWORDS

vaccine, question, greg, listener, people, vaccinated, data, develop, variant, patients, immunized, symptoms, mayo clinic, long, early, protection, immunity, receive, called, decrease

## SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, Narrator

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-  **N** Narrator 00:01  
Coming up on Mayo Clinic Q&A:
  -  **D** Dr. Gregory Poland 00:03  
The exciting news is that we have three vaccines now available to Americans. And even better is that the supply for these during March and April will dramatically increase.
  -  **N** Narrator 00:17  
Having a third vaccine brings us one step closer to protecting the American public against COVID. But, should the public wait for a single dose vaccine?
  -  **D** Dr. Gregory Poland 00:26  
If there is a vaccine, any of the three of them, if there is a vaccine available to you and you are offered that vaccine, please consider taking that vaccine.
  -  **D** Dr. Halena Gazelka 00:38

Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka. Thanks for being here today. It is March the 1st, 2021. Can you believe it is March already? Those of you who join us regularly know that on this broadcast, we are trying to give you the latest in COVID-19, both related to the virus and vaccines. So today, we're going to answer some questions from our listener mailbag. You keep us supplied. Thank you. Dr. Greg Poland is here with me again today. He is our infectious disease, vaccine and virology expert. Thanks for being here, Greg.

**D** Dr. Gregory Poland 01:13

You bet, boy, March 1st. It's hard to believe we've been doing this for over a year.

**D** Dr. Halena Gazelka 01:18

Isn't that something? That's really amazing. I think I've lost track of where we are in numbers, but our producer Jen will keep us updated at some point. Greg, tell us about last week, Johnson & Johnson news.

**D** Dr. Gregory Poland 01:36

Yeah, this was a really interesting experience for me. Johnson & Johnson, actually, they're the vaccine side, Janssen, asked me to be a consultant to them for presenting the clinical case, in regards to the risk and the benefit of the vaccine. And I did that on their behalf. Of course, they pay us for our time. But, I did that on their behalf. It was a about a nine-hour meeting to the FDA Federal Advisory Committee, but 100% of them voted, unanimous vote, to approve that vaccine by EUA. So, the exciting news is that we have three vaccines now available to Americans under EUA, and even better is that the supply for these during March and April will dramatically increase. So, we are you know, as I've often characterized it, we're in a race between virus and vaccine. And so, again, with everything in me, if there is a vaccine, any of the three of them, if there is a vaccine available to you, and you are offered that vaccine, please consider taking that vaccine. This is our way out.

**D** Dr. Halena Gazelka 02:57

I'm sorry, Greg, repeat that.

**D** Dr. Gregory Poland 03:00

This is our way out of this pandemic.

**D** Dr. Halena Gazelka 03:03  
That's wonderful Greg. Thank you for sharing that. I did want to ask you a question that comes from one of our listeners, we're going to dive right into the mailbag now. The first question is pertinent to what you just said, there are three vaccines now. If someone receives one of the vaccines, has the complete, whether it be two doses, or one that are required, can they later, when vaccines are more available, have another type of vaccine that works in a different way? And should they?

**D** Dr. Gregory Poland 03:33  
So, I suspect a number of the questions that I get from patients and from the public will fit into this, where I have to say we just don't have data. This is one of those questions. We don't have any data on efficacy or the safety of doing that. Now, what do we know from other vaccines? That's likely to be safe. Right? We don't have any data to the contrary. The question is, will it be necessary? And at least at this point, no. There's no reason to, you know, get part of your regimen from this vaccine and part from another. What about a booster dose? Again, we don't have data. And that's a really practical important question. I love our listeners, they ask the clinically practical questions, and often they are the very research ideas that we're working on. So, in fact, there are studies that will start that will give us the data to answer that definitively.

**D** Dr. Halena Gazelka 04:35  
I have a feeling we're going to be getting a lot of expert opinion from you today, Greg.

**D** Dr. Gregory Poland 04:40  
Yeah, that's the right way to put it. You know, there's the science of medicine, where we have data that tells us this is the best thing to do. And there's the art of medicine, which is where we don't have data. We extrapolate from what we know and it's very fair to put it that way, "expert opinion".

**D** Dr. Halena Gazelka 05:00  
There's been a lot of talk about the fact that most adults will be able to be vaccinated maybe by summertime. Can we get herd immunity if we aren't vaccinating children?

**D** Dr. Gregory Poland 05:10

Another really good question, my guess is no. Now, it depends on what we mean by children. We know that with these variants, these variant viruses, they're infecting children at younger and younger age groups, and increasing the viral load. So, that is probably true, at least on what little data we have down to about age 9-10-12, somewhere around there. So, it's important that they get immunized. What the vaccine manufacturers are working on, is reducing that age all the way to a few months of age. So, I suspect what this is going to take, is for nearly all of us, literally all of us, to get these vaccines before we are at a level where masks are off, and we resume life.

**D** Dr. Halena Gazelka 06:07

Another of our listeners wants to know if it will be safe to hug their grandchildren.

**D** Dr. Gregory Poland 06:12

Yeah, I know. I know how you want to do that, and my heart goes out. I want to hug my own kids. But we can't yet. Now, it does depend on what you mean by grandchild. If you're saying a healthy adult who has gotten both doses of vaccine properly, and a very young child who's predominantly been at home, hug away. You're talking about a junior high, high school college age grandchild who has not been immunized, you need to be in a mask even though you've been immunized and ideally, they should be in a mask too.

**D** Dr. Halena Gazelka 06:56

That brings us to our next question from a listener Greg. If the vaccine works, why do I still have to wear a mask? People are boycotting the vaccine because they're upset that they still have to wear a mask, or believe that perhaps that means that the vaccines don't really work. What is your response?

**D** Dr. Gregory Poland 07:13

Really good question Halena, and a really practical one that is easy to be misinformed about, and that is happening in the public. No vaccine is perfect. I'd be the first one as a vaccinologist is to say that there's no such thing as a vaccine that always induces 100% protection. It's not possible. The question is, does it induce high levels of protection in otherwise healthy people? And the answer to that is yes. But until probably in the order of 90%, and it's questionable whether we can reach that with people rejecting it. But until we have that level of high rate of immunization, we have to keep wearing masks. Otherwise, for those people who don't have full, but have partial protection, who come in contact with somebody who has not been immunized, rejected the vaccine and gets infected?

We'll just keep spreading it. It's like a chain that goes out. And so, the more of us that get immunized, the better. There's one piece of important data for this in the city of Manaus, Brazil. They had 80% immunity and still cases were accumulating. So, it is apparent that herd immunity for a virus as transmissible as this is going to be somewhere north of 80%.

**D** Dr. Halena Gazelka 08:48

Well, I can tell that this vaccine situation is a little bit complex, because we have lots and lots of questions about vaccines for you today. So, we'll keep going. The next question is, if an individual has already had COVID, do they need to get the vaccine? And how long should they wait after their illness, before they receive it, if they should?

**D** Dr. Gregory Poland 09:11

Wow, these are such tough questions because there is no black and white answer. In other words, Halena, you're young and healthy.

**D** Dr. Halena Gazelka 09:22

Oh young, I love that Greg. Thank you.

**D** Dr. Gregory Poland 09:25

Well, if you, god forbid, were to develop COVID, you would have an excellent immune response that would be long lasting. We don't know how long, but long lasting. Now, take an 85-year-old person who might be more frail, has a number of medical conditions, as we get past our 60's and 70's and 80's, the ability of the disease and of the vaccine to induce long lived protection decreases. So, you know, what one piece of data do we know about this? Well, it involves the AstraZeneca vaccine, which is not yet available in the US. But a brand-new study shows that if you had COVID, and it depends on whether you were symptomatic or asymptomatic, if you had COVID, and you got a dose of vaccine, it could increase your antibody levels by 400 to 600-fold. On occasion, even 1000-fold. So, you ask yourself the question, could we delay past what our current recommendation is, if you've had COVID, wait 90 days or more, this is a supply issue, not a safety issue, and then get your vaccines. The question that's been raised is, maybe some people could wait a lot longer than 90 days, increasing our ability to protect other members of the population. And, maybe they only need one dose of vaccine when that time comes that their immunity falls. These are still open questions. But at least one study using the AstraZeneca vaccine has suggested a definitive yes to a proposition like that. So, right now in the US, the recommendation is wait 90 days, and then whatever vaccine and its

associated regimen you're going to get, that's what you should do.

**D** Dr. Halena Gazelka 11:29

And, I could imagine that recommendation to wait 90 days being somewhat anxiety provoking. I think some individuals feel if I don't take my opportunity, when I'm called up to get my vaccine are notified, that I may miss out.

**D** Dr. Gregory Poland 11:43

Yeah, and I do understand that, but I think I can be very reassuring here. The vaccine supply chain is dramatically increasing, not decreasing. We now have three vaccines. Very soon here, toward the end of spring, early summer, I predict we'll have a fourth one. And the two big manufacturers right now Moderna and Pfizer are talking about another 100 million doses. So, I honestly at this point, I honestly do not see an issue with that going forward.

**D** Dr. Halena Gazelka 12:22

Well, I'm still smiling, Greg, because you called me young earlier. So, that's great. Just keep that coming.

**D** Dr. Gregory Poland 12:29

Grey hair like me. Ha ha.

**D** Dr. Halena Gazelka 12:31

Oh, you know, there are ways to cover gray hair. Greg, the next question, how likely is it that the COVID vaccine or vaccines will be seasonal like a flu vaccine is?

**D** Dr. Gregory Poland 12:45

Yeah, I think many of us that work in this field, feel that it is very likely. That is, it will become endemic, something more akin to influenza, where we'll be getting booster doses. Now, like influenza, the really interesting scientific question for us, will be do I get a booster of the same vaccine I got? Or will it be with a variant? To answer that question, there are studies already started. Moderna has started it, has sent a variant vaccine to the NIH to begin testing and answering that very question.

- D** Dr. Halena Gazelka 13:28  
Greg, I'm going to ask you to clarify for me, when you say variants, do you mean vaccine specifically for these variants of COVID? Or a different type of vaccine?
- D** Dr. Gregory Poland 13:38  
No, no. Same technology, but using the S protein of the variant virus, rather than the original virus.
- D** Dr. Halena Gazelka 13:48  
Okay, so the booster would be a slightly different vaccine than was received originally in that case?
- D** Dr. Gregory Poland 13:55  
Yeah, and that could well be, again, I'll compare it to what we do with influenza vaccine, where every year we shuffle what's in the vaccine. My guess is that could happen with COVID-19 vaccines.
- D** Dr. Halena Gazelka 14:12  
In the last week, Greg here at Mayo Clinic, I've gotten two emails about the need for O positive blood. I'm sure that blood banks around the country are in need of various blood types. And so, this question from a listener is, is it safe to donate blood after being vaccinated?
- D** Dr. Gregory Poland 14:30  
Yes, absolutely. In other words, and I've gotten questions like this, would somehow taking a unit of blood from me decrease my immunity? No. Remember that in fact, we do that in patients who have recovered from COVID infection and harvest their plasma to use for other patients. So, no concerns or fears there.
- D** Dr. Halena Gazelka 14:53  
And safe for the recipient as well?

**D** Dr. Gregory Poland 14:55  
Yes.

**D** Dr. Halena Gazelka 14:56  
Okay. This next question, the listener would like to know what the relationship is between getting the vaccine and displaying antibodies on a blood test, either when they're donating blood or otherwise. Is this any different in a person who is immune suppressed? Would there be differences?

**D** Dr. Gregory Poland 15:16  
Yes. So, what this question really strikes at the heart of is, do we have a blood marker that can tell us you're protected or not protected? We think that that blood marker is likely to be neutralizing antibody. But it's only one part of the immunity story. Probably equally important is cellular immunity, which is not standardly measured. Now, what we know is that people with cellular immunity can very rapidly develop protection when they're re-exposed. So, that's a good thing. The question is, if I've not been infected with COVID-19, what we call COVID-19 naive, and then I go in and get my vaccine, and let's say I am immunocompromised, and I have no antibody response, am I protected? My guess is you might be protected, but it's probably very low-level protection, and might not be protective at all. We don't know with clarity, you might have some element of cellular immunity, you might not, because we don't and can't measure that very well as a standard clinical test. So, a lot of questions around that, it does cause a lot of anxiety, and I understand that for people who are either immunocompromised because of a disease they have or a treatment they're taking. And we're working hard to get those kinds of data.

**D** Dr. Halena Gazelka 16:55  
Sounds like another reason to continue masking and hands face in space, because we don't really know how protected some individuals are, even if vaccinated.

**D** Dr. Gregory Poland 17:06  
Absolutely.

**D** Dr. Halena Gazelka 17:06



Next question, should transplant patients who have received organ transplants, or I suppose bone marrow transplants, or stem cell transplants be vaccinated? And is there any fear of rejecting the organ that they have received?

D

Dr. Gregory Poland 17:25

Yeah. So, the truth of the matter is, nobody has done a study of people receiving a bone marrow or solid organ transplant. They were excluded from the phase III clinical trials, as would normally be the case. So, the truth is, we don't have any data on that. Now, the other side of the coin, and this is the expert opinion side of it is, we have no data that would suggest harm in a case like that. So, the general expert opinion consensus is that yes, we would offer vaccine to those individuals with, of course, no guarantee about what level of protection they may or may not achieve. Those studies have started. In fact, we're starting one at Mayo Clinic to better understand those answers. In regards to the other part of the question Halena about rejection, again, we have no evidence of that, and no underlying biologic theory that would really make us concerned about that possibility. But again, you know, you're better informed when we have a lot of clinical trial data about that, which I hope we'll have in the coming months.

D

Dr. Halena Gazelka 18:47

We have a lot of questions about people who are immune compromised today. Next is an autoimmune question. A listener would like to know if those with autoimmune diseases such as scleroderma, lupus, rheumatoid arthritis, are at a higher risk for side effects from the vaccines.

D

Dr. Gregory Poland 19:03

Yeah, we have no evidence of that, of higher risk of side effects. And there were many people who did have various kinds of autoimmune diseases who were in the clinical trials, and how well they fared in the trial had little to do with their underlying disease, more to do with what treatment they were or were not on. As you know, some of the disease modifying agents are actually in a sense immunosuppressive, and those could be reasons they may not develop as high of antibody level, but no safety issues. Nobody has seen or reported a reactivation or a worsening of an autoimmune disease due to receipt of these vaccines.

D

Dr. Halena Gazelka 19:53

Oh, we have another listener who wrote in and said that they have a painful case of

shingles or herpes zoster, should they be getting their COVID vaccine? And incidentally, I do hope that you are feeling better. That's a difficult thing to struggle with.

**D** Dr. Gregory Poland 20:06

Yeah, our sympathies to that listener, it's a miserable disease. It is, by the way, the reason for the recommendation of the inactivated shingles vaccine, it's two doses with very high efficacy, on the order of 85 to 90 plus percent. Generally, and again, this isn't something that's specifically been studied, but the general recommendation across all vaccines is that we generally wait until recovery from an acute illness. Part of that is, we don't want to confuse side effects, or attribute side effects, to a vaccine where that is not the case. So, my recommendation in this case would be to recover from that, and then get your COVID vaccine.

**D** Dr. Halena Gazelka 20:59

Well, and then how do they fit in the shingles vaccine? This individual may also need to receive their shingles vaccine should that be first, same time, COVID first?

**D** Dr. Gregory Poland 21:08

Yeah, that really depends on the clinical circumstances. So, generally, we say wait six to 12 months after an episode of shingles because shingles disease is in itself, boosting of shingles immunity. So, they've got plenty of time to do that. But again, depending on their particular clinical situation, that's really a question to be discussed with their health care provider.

**D** Dr. Halena Gazelka 21:35

Well, this next question, Greg, I had read about this in the paper as well, that if individuals are allergic to a laxative, called Miralax (polyethylene glycol), that they should not receive a COVID vaccine. True and why?

**D** Dr. Gregory Poland 21:50

Yeah, a very, very practical question Halena. Thank you for asking that because it comes up and I haven't thought to mention, and I don't think we've gotten the question before. But the two mRNA vaccines do contain PEG, or polyethylene glycol. The Johnson & Johnson vaccine does not contain PEG, but contains a compound somewhat related called polysorbate 80. So, people who have had documented allergic reactions to PEG

containing medications, and Miralax would be one of those, would I think be best served by seeing an allergist, understanding as you know, a lot of times patients believe they have an allergy to something and they didn't have an allergy, they may have had a side effect or something. But, get that investigated in order to understand whether or not they could safely get that vaccine. And there's some testing that can be done. But the short answer to your question is if they've had a documented allergic reaction to a PEG containing product, then we would probably differ from giving them, without further testing and consultation, an mRNA-based vaccine.

**D** Dr. Halena Gazelka 23:12

I think that's really common in practice that we see many people with very long allergy lists. But, when you really look they're actually a sensitivity. So, it is wise to know, and even to see an allergist, as you said to be tested, because there's some medications that it's going to be difficult not to receive in your lifetime.

**D** Dr. Gregory Poland 23:30

Well said, yes.

**D** Dr. Halena Gazelka 23:33

Let's move on to long haulers or long COVID syndrome. There's a new little acronym for this PASC, all in capitals. Is that "Pass C"? I'm not sure how I'm supposed to pronounce that. What does it stand for?

**D** Dr. Gregory Poland 23:47

That stands for "post-acute sequelae of SARS-CoV-2". Ha Ha. Leave it to us physicians to invent long terms.

**D** Dr. Halena Gazelka 23:57

Easy, it has to be a big long term.

**D** Dr. Gregory Poland 23:59

Yeah, you know, I kind of like the term long-haul or long COVID because everybody knows what we mean there. We don't have to kind of mystify it. But basically, it's getting at the idea, and you know, interestingly, there's a recent study from the University of

Washington, showing that about 30% of their patients who develop documented COVID had symptoms persisting, are you ready for this? As long as nine months?

**D** Dr. Halena Gazelka 24:30  
Oh, wow.

**D** Dr. Gregory Poland 24:31  
And that can happen even with very mild disease. So, you know, it's also one of those points of misinformation, perhaps particularly younger people who say, you know what, even if I got, you know, mild COVID here, I'm not going to get hospitalized or die. They're probably right, but that doesn't preclude them from developing, and we're learning a lot about this, developing persistent symptoms of fatigue, headache, what patients describe as brain fog and other things. And, I would urge our listeners, any healthcare providers that are listening, these are real symptoms. They deserve to be taken seriously. And NIH, in fact, said over the weekend that they were going to invest substantial funds into research studies to better understand this. So, it's incumbent upon patients to let physicians know about those symptoms, and for physicians to design, you know, rehab and recovery programs that assist those patients in getting back to their baseline if we can.

**D** Dr. Halena Gazelka 25:43  
Well, Greg, I think our listeners are always one step ahead of us. Because we have a question. Can you have persistent symptoms if you develop COVID, and you've been vaccinated, and does having received the vaccine lessen the intensity or the likelihood of that occurring, if it can occur?

**D** Dr. Gregory Poland 26:03  
I'm not exactly sure I understand the question. But let me try to divide it up. So, the question is, if you got COVID vaccine, and later developed COVID, are you less likely to develop long-haul symptoms? We think so, because in general, if you had any breakthrough infection, it's likely to be much lower level. You could still develop it, as I explained just a moment ago, but less likely so. Now what about the scenario of does having had the disease and then getting the vaccine protect you against the long haul symptoms? The issue here, and the symptoms that develop, seem to be a function of not only the hyper inflammatory responses from the disease, but some of the end organ damage that's done by the virus. For example, I heard anecdotally, just recently of a case of somebody who recovered from COVID infection, went to a high-altitude place, which

they normally have no difficulty with, couldn't tolerate the higher altitude.

**D** Dr. Halena Gazelka 27:19  
Interesting.

**D** Dr. Gregory Poland 27:20  
That raises the question in my mind, is there some pulmonary scarring or fibrosis that occurred as a result of that. We certainly do see some decreased functionality in people post COVID. And so, some of these symptoms that develop, I think, are related to the virus, not to the vaccine. And again, by getting a vaccine and preventing infection, you're reducing and modifying the potential, or any severity of those symptoms.

**D** Dr. Halena Gazelka 27:56  
Well, our focus has been so much on vaccines lately that we haven't talked a lot about treatment, hmm hmm, for COVID-19. Excuse me. A listener has a question about ivermectin as a potential treatment.

**D** Dr. Gregory Poland 28:09  
So, you know, this has come up with a lot of you know, it came up with hydroxychloroquine, azithromycin, ivermectin, MMR vaccine, BCG vaccine, and you name it questions. If there's evidence in the laboratory of a decrease in viral load or replication, that's enough evidence to say let's test it and find out. And so, the NIH, the Gates Foundation, and others are in fact doing this study, looking at a number of these medications to answer these questions. If ivermectin worked, it would be really great, because it's a very inexpensive medication and would offer a therapy, particularly in lower economic situated countries. For that treatment it's less than \$1 a dose.

**D** Dr. Halena Gazelka 29:07  
Oh Wow.

**D** Dr. Gregory Poland 29:08  
Yeah, so, it would be beneficial if it were true. The data, as I have seen them thus far, does not support the idea that we would treat outside of a clinical trial. So, let's get the clinical trial data first. Let's not make the mistake that was made with hydroxychloroquine and

azithromycin, and a variety of other things. So, the key thing is, as you and I know and pledged, first do no harm. We find out are these adding benefit or adding side effects. Unfortunately, with hydroxychloroquine, it harmed people.

**D** Dr. Halena Gazelka 29:50

Doesn't that just say a lot, Greg about how far we've come in a year, that a year ago we were desperate to find solutions, or what do we do now that people are contracting this, and we've come a long way.

**D** Dr. Gregory Poland 30:03

And you know, we've learned a lot about if we're going to use convalescent plasma, for example, the need to use it early and high titer plasma. We've learned an awful lot. I've done some podcasts on the neutralizing monoclonal antibodies as therapy in COVID-19. We've learned a lot about using two monoclonals rather than a single drug, and instituting that very early on. We're now beginning even to move the science forward to say, are there situations where we might in a preventive rather than a therapeutic posture, give some of these therapies? So, it is amazing to me with international collaboration, you know, as I said, in a recent editorial that I just submitted, when you focus and fund research, the scientific community can do just short of miraculous things. But the key is focus and funding.

**D** Dr. Halena Gazelka 31:05

Wow, lots of collaborating has gone on. We have dug deep into the mailbag today Greg. Do you have any last words for us or thoughts?

**D** Dr. Gregory Poland 31:14

So, as I often do, encouraging people, what we have seen is that people are decreasing their travel, they are wearing masks, they are following the hand, face, space and vaccinate paradigm, and it's working. We had 50,000 infections yesterday. Now remember, we were touching on 300,000 a day.

**D** Dr. Halena Gazelka 31:40

Wow.

- D** Dr. Gregory Poland 31:41  
The key here, and I'm going to inject my scientific opinion, is that those early gains are already starting to shift with increased number of cases, as states and businesses begin to relax restrictions, in my estimation, too early. We've seen over and over again, around the world, that when you do that, prior to very high rates of immunization and continued mask wearing, unless you can find a way to literally seal a country's borders, you will have a recurrence. This is especially risky with these variants. You know, there's a there's a preprint out just showing as one example that the AstraZeneca vaccine essentially offered minimal to no protection against the so-called South African variant. So, we cannot be premature in our early celebrations. We have to kind of continue to stay the course. And if we do that, we will find our way out of this, but not quite yet.
- D** Dr. Halena Gazelka 32:56  
But now is not the time to let down our guard.
- D** Dr. Gregory Poland 32:58  
Exactly. It is all of us together.
- D** Dr. Halena Gazelka 33:02  
Well, thanks for being here today, Greg, and answering lots of great questions.
- D** Dr. Gregory Poland 33:07  
Thank you so much.
- D** Dr. Halena Gazelka 33:08  
Our thanks to Dr. Greg Poland, infectious disease expert, virologist and vaccine expert from Mayo Clinic here answering our mailbag again today. I hope that you learned something today. I know that I did. And we wish you a wonderful day. Keep submitting your questions.
- N** Narrator 33:26  
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