

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

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SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, DeeDee Stiepan, Narrator

- D** DeeDee Stiepan 00:00
Coming up on Mayo Clinic Q&A,
- D** Dr. Gregory Poland 00:03
Just because somebody reports that they had myopericarditis doesn't mean that it's related to the vaccine.
- D** DeeDee Stiepan 00:10
Myopericarditis is an inflammation of the heart that can affect the heart muscle and the heart's electrical system. There are reported cases of this viral infection in individuals 30 years and younger who received their second dose of the COVID-19 vaccine. Should this news make individuals hesitant about the vaccine?
- D** Dr. Gregory Poland 00:28
When you look at the other side? Okay, well, what if we don't get the vaccine? Well, not quite three and a half million children in the US are known to have been infected with COVID, 400 of them have died. Nobody's died of myopericarditis from the vaccine at this

point.

D Dr. Halena Gazelka 00:46
Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka. We're recording this podcast on Monday, June the 14th, 2021. And boy, is it hot up here in the Midwest, and elsewhere. Welcome today again to Dr. Greg Poland. virologist, infectious disease, and vaccine expert from Mayo Clinic. Hi, Greg.

D Dr. Gregory Poland 01:07
Well, good morning.

D Dr. Halena Gazelka 01:08
Good morning. How wonderful to see you on a Monday morning.

D Dr. Gregory Poland 01:11
And you so brightly dressed. It's a pleasure.

D Dr. Halena Gazelka 01:14
Sunshiny, I've just been in Sedona hiking over the weekend, and I have to say it was hotter in Minnesota than it was in Sedona, interestingly.

D Dr. Gregory Poland 01:25
Crazy weather.

D Dr. Halena Gazelka 01:26
Isn't that something? Well, how are you today Greg?

D Dr. Gregory Poland 01:31
I'm doing pretty well. You know, things have quieted down a bit in regards to COVID. I'm sure we'll talk about that with one new area that we should talk about in regards to a side-effect that might be happening in kids.

- D** Dr. Halena Gazelka 01:47
All right, we will get to that, Greg, but you said things have quieted down, but not everywhere Greg. Have you heard about the cicadas in Washington, D.C.? They actually kept a plane full of journalists traveling with Biden from being able to take off because they filled the engine.
- D** Dr. Gregory Poland 02:04
I saw that. Yeah, this is really an amazing phenomena that's hard to explain to me on any kind of rational basis.
- D** Dr. Halena Gazelka 02:13
I'm glad they haven't made it to my spot in Minnesota yet at the Mayo Clinic. I'm hoping, hoping. Well, Greg, I know that we have COVID news that you want to share. But I would like to ask, just to discuss some COVID news first. I read about a yellow lab named Buffy who is able to sniff out patients with COVID at a hospital in Sarasota, Florida. Isn't that fascinating?
- D** Dr. Gregory Poland 02:41
It is, and you know what's really interesting to me, we don't really understand the human mind /body interface very well. Now you take the olfactory, or smelling system of a dog, where they have many fold higher number of nerve cells that are involved in smelling. They're using dogs now to detect diabetes, bombs you know for airline security, for when people are about to have a seizure. I mean, it's just amazing what these animals are capable of. In the case of COVID, what's really fascinating to me is, as a scientist in one way, I hate to say it, but dogs are as good or better than our most sophisticated molecular testing.
- D** Dr. Halena Gazelka 03:32
Oh, that's something. With all the money that's gone into testing for COVID, we could have just been having yellow labs, and they're man's best friend, too.
- D** Dr. Gregory Poland 03:41
And you know, not only that in hospitals, as I'm sure you know, because we do it at Mayo too, but dogs are also used as part of the therapeutic treatment. Studies have shown that

when a dog like a yellow lab comes towards you, your blood pressure and heart rate almost automatically start going down. It's really an interesting phenomenon that deserves a lot more research

- D** Dr. Halena Gazelka 04:06
It really is very interesting. I guess we've got to get to some serious COVID news, Greg. Tell me what the numbers in the United States are looking like.
- D** Dr. Gregory Poland 04:14
Well, you know, this is wonderful. The numbers are way, way, way, way down.
- D** Dr. Halena Gazelka 04:19
Whew, good news on Monday.
- D** Dr. Gregory Poland 04:21
I know, you know, we hardly ever get to talk about that. You know, there's some spotty areas where that's not the case, however, and you know, sometimes as a scientist, you end up being the Debbie downer. I want to remind people that if we looked at the incidence curve from last year at about this time, it was equally low. So, does this represent the natural seasonal variation? Is it because we've got about half of people immunized?
- D** Dr. Halena Gazelka 04:58
Oh, is it that many now half?
- D** Dr. Gregory Poland 05:00
Yeah, we're really getting up there. Now we're stagnating at the 50 to 70%, depending on which state you look at. Some states are already at 70%. Other states way below that. So, is it that? I think we won't know, just as we didn't know last year until we get to Fall. Our biggest concern is that with immunization rates at 50%, we're going to see another surge this fall with these much more infectious variants.
- D** Dr. Halena Gazelka 05:34
Well, Greg, which leads us to a discussion about variants. There are many variants, and

the World Health Organization has started naming them Alpha, Beta, Gamma, and Delta, I think, and I think it's the Delta variant that's of particular concern to us, why?

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Dr. Gregory Poland 05:52

Yeah, there's a number of variants that are of concern. So, last summer, we were at really low numbers, then we had a major upsurge. And the reason for that was the Alpha, or so-called UK variant. The Beta variant is the South African variant. That turns out to be more infectious. The one we're really struggling with and concerned about around the world is the so-called India or 617, or Delta. It gets very confusing. Delta variant, which is another 50% above the Alpha variant in transmissibility and infectivity. So, this is of grave concern. It's at about 6% or so of the sequences currently detected in the US. So, this is something to really keep our eye on. And this is why I've mentioned Halena, that as I look at these data, we will enter into we're in and this fall really enter into in many ways the most dangerous phase of the pandemic for people who have not been vaccinated.

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Dr. Halena Gazelka 07:01

Why?

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Dr. Gregory Poland 07:02

They're facing a variant that's much more infectious, has about four-fold higher viral loads in their system, and likely more severe disease. So, it's actually more dangerous now more than ever to be unvaccinated.

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Dr. Halena Gazelka 07:22

Alright, good reminder to get vaccinated. Tell me also, Greg, about the World Health Organization (WHO) raising concerns about a two-track pandemic. What does that mean?

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Dr. Gregory Poland 07:36

So Halena, this two-track idea relates to the idea that, in the West, we have ready access to the vaccine. Outside of the West, many countries have very limited access. So, they continue to have a pandemic, in some countries out of control, where ours is now down at its lowest level. So, two different courses of that pandemic. The danger being, as long as it's out of control there, and there's travel, they will constantly reintroduce it to the U.S.

D Dr. Halena Gazelka 08:09
Because they are going to converge is what you're saying.?

D Dr. Gregory Poland 08:12
Exactly.

D Dr. Halena Gazelka 08:12
All right, Greg. Another thing that I had seen in the news today and wanted to ask you about was that I saw that the CDC is holding an emergency hearing about heart inflammation after the vaccination.

D Dr. Gregory Poland 08:26
Yeah, so this is an area of concern. And I want to take our listeners through this. You and I have worked very hard to be as transparent as we know the data and explain it to them. So, this past week, there was a meeting at FDA. This Friday, there'll be a meeting at CDC. Those are publicly, everything we do as vaccinologists is public. Anybody can tune in and watch those. Here's the issue, there have been about 789 cases of what's called myopericarditis. That means inflammation of the muscle, myo, or what looks like a piece of saran wrap, that surrounds the heart called the pericardium. So, inflammation of that. That can happen for a whole variety of reasons, commonly occurs after influenza, for example, and other respiratory viruses, and primarily in children. So, there's a certain background rate. That's why we're being very careful here to say, what is causative, what is background rate. In this case, I'm going to step out a little forward and say, to my eyes, these data suggest a rate higher than background. Let me let me tell you why. So, of the 789 cases, this is across all ages, it's mostly occurring after the second dose, males far more than females, which is true for the background rate, with a mean age of about 24 years. Now, let's take out of that 789, the 470 that have occurred in people under the age of 30. We have data on 285 cases. So, just one side point here, just because somebody reports that they had myopericarditis doesn't mean that it's related to the vaccine. So, a lot of work has to go in examining every medical record, one of them might have been occurring three weeks before the vaccine, and they're just now reporting. So, of the 285 cases where we have data, 270 of them have been discharged, had no complications, nothing like that. 15 still in the hospital, and three in the ICU. So, let's break that down a little further. The number of cases that have occurred in kids 16 to 17, is about 79 cases. You expect between two and 20 cases by background rates. How about in kids, well, young adults 18 to 24, there have been 196 cases, and you expect between eight and 80

cases. So, quite an elevation. So, the trick now is we've got to go in and look at each medical record, determine when, first of all was the diagnosis correct, and second of all, when in relation to the vaccine. If it happened before, clearly, it wasn't related. If it happened, you know, year, a month later, it's clearly not related. So, you're looking for a temporal relationship. Those data are going to be presented on Friday and decisions made. Right now, the CDC continues, and I think it's the appropriate recommendation to recommend it for kids 12 and older. When you look at the other side, okay, well, what if we don't get the vaccine? Well, not quite three and a half million children in the U.S. are known to have been infected with COVID, 400 of them have died. Nobody's died of myopericarditis from the vaccine at this point, but 400 have died. Now those are unequal denominators, but just to make the case that whatever decision we make, and you and I've talked about this, it's true for everything, there's some level of risk. What we're looking for is much more benefit, and much less risk.

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Dr. Halena Gazelka 12:40

So Greg, you talked about the accuracy of diagnosis. How do you diagnose myopericarditis, and are all these cases actually documented with diagnostics?

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Dr. Gregory Poland 12:51

Right, really good question, because they're not all documented. And that's the research that has to go on. So, the typical way that you diagnose it is a patient comes in and complains that they have chest pain, or they're short of breath, or their heart is fluttering, you'll do an EKG, you'll do an echocardiogram so we can look at the muscle of the heart, and you'll do what's called cardiac enzymes, a blood test. When those are abnormal, we can make the diagnosis. Now, what do we do for it? The vast majority of cases, monitor their heart rhythm and rest, and the vast majority are very mild. In fact, if I didn't say it, it probably occurs much more commonly than we are aware of, it's just that we don't diagnosis because it's transient, it's mild, it goes away on its own. What you're looking for are the cases that can cause problems. So, when somebody has more severe symptoms or more prolonged symptoms, that's a time when, you know, if you've gotten the vaccine, and those are symptoms, you should report those to your physician or healthcare provider so that it can be looked into.

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Dr. Halena Gazelka 14:03

Yes, so supportive care was what we would call that. Well, great information. Thank you, Greg. Now, we started this out very positively by saying that the case numbers were down. Anything else that you'd like to share with us today?

D Dr. Gregory Poland 14:20

Um, I think the other news that's really interesting is, you know, there's something called monoclonal antibodies. These are synthesized antibodies that attack the virus and prevent it from infecting. So, we've been using monoclonal antibodies, in fact, at Mayo Clinic, we've been one of the leaders in using monoclonal antibodies. Well, it's a two monoclonal combination made by Regeneron. They have now developed a formulation where you can give half the dose subcutaneously. In the past it has required admission to the hospital to give it by IV. They are now testing this in younger and younger ages at lower and lower doses, and it's working well. So, this is another example where we can rescue somebody if we catch them early enough, who's gotten infected, and treat them. The other really interesting paper that came out was the use of those in nursing home patients who had not yet gotten the vaccine. But there were cases in the nursing home, it also involved the workers there. So, they prophylactically gave them the monoclonal antibody, and it worked. It prevented infection. So, you can prevent and treat. So, I think we're gonna see a lot more of that. The other interesting thing that has been gathering some momentum is the idea of next gen or next generation vaccines, and two of those that are being worked on our oral pill vaccines against COVID.

D Dr. Halena Gazelka 16:04

Interesting.

D Dr. Gregory Poland 16:04

And another manufacturer is working on a patch, something like a band aid that you could put on to immunize. So well, you know, if there's a silver lining, it's a funny thing to say, but if there's a silver lining in this tragedy that has been the pandemic is like many tragedies, it sparks innovation and research that will eventually benefit all of us.

D Dr. Halena Gazelka 16:32

It has been absolutely amazing. I think that sub q delivery of the monoclonal antibodies is amazing. I know here at Mayo, we've been using some outpatient infusion centers, because I believe, at least initially, that some of the thought behind using monoclonal antibodies was to keep individuals from becoming hospitalized, I think. But they were having to go in five days in a row, I think, to receive their antibody, but now sub q that would be great.

- D** Dr. Gregory Poland 16:58
Yeah, so you can do it outpatient, you can do home therapy. So, that's a game changer. Well, the only the only other thing is, as we've sort of touched upon are the variants, a lot of work going into sequencing and understanding. And I know we've said it before, but I want to just briefly make the point, again. What we knew, and what our listeners have learned over the past year, some of that information will not hold true as we go forward, because we're facing variants that are much more infectious. So, you look last year, it was rare for a child to get infected with symptomatic infection or be hospitalized. Now in the U.S. with some of these variants, 20 25% of the COVID hospitalizations are now in kids.
- D** Dr. Halena Gazelka 17:55
Oh my goodness.
- D** Dr. Gregory Poland 17:56
So, information is going to change as we know more and more about these variants.
- D** Dr. Halena Gazelka 18:03
Well, if there's anything we've learned over this pandemic, is that information changes, right.
- D** Dr. Gregory Poland 18:08
Indeed. And you know we learn we learn as we're going along, we're forced to with a new virus.
- D** Dr. Halena Gazelka 18:16
Well, thank you so much, Greg. Lots of interesting information today, including COVID sniffing dogs in Florida.
- D** Dr. Gregory Poland 18:24
Cicadas, dogs.
- D** Dr. Halena Gazelka 18:28

Well, thanks for being here today, Greg.

D Dr. Gregory Poland 18:30
My pleasure.

D Dr. Halena Gazelka 18:32
Our thanks to Dr. Greg Poland for being here today to give us our COVID update. Dr. Poland is an infectious disease expert at Mayo Clinic. And I hope that you learned something today. I know that I did. We wish each of you a very wonderful day.

N Narrator 18:47
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