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Mayo Clinic Q & A - Dr. Greg Poland - 08 09 21 YouTube Audio...

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SUMMARY KEYWORDS

vaccinated, variant, people, infected, vaccine, mask, greg, question, delta, infection, study, immunized, happening, individuals, antibody levels, risk, recommendation, science, unclear, pandemic

SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, Narrator

Narrator 00:01 Coming up on Mayo Clinic Q&A,

Dr. Gregory Poland 00:03

It is Code Red in the U.S. and for the globe in regards to these variants, and there is immense concern that we are on the verge of developing evermore infective and virulent variants that could escape completely or in large part previous immunity, whether from infection or vaccines.



Narrator 00:28

COVID-19 cases, hospitalizations and deaths continue to march upward in the United States. The upswing is mostly due to the spread of the Delta variant among unvaccinated individuals.



Dr. Gregory Poland 00:40

If you get vaccinated, your risk of infection is not zero, but it's reduced 3-fold, your risks of

having any symptoms are reduced 8-fold. Your risk of being hospitalized is reduced 25fold. So yes, these are disease blocking vaccines.

Dr. Halena Gazelka 01:00

Welcome, everyone to Mayo Clinic Q&A. I'm Dr. Halena Gazelka. We're recording this podcast on Monday, August the 9th, 2021. The ongoing surge of COVID-19 in the United States is prompting some action, and all 50 states are reporting rising vaccination rates. But there's still work to be done as we race against the Delta variant and try to stop other variants from developing. Well, Dr. Greg Poland is here again this week to discuss this with us, give us some updates, and answer plenty of questions from our listeners about vaccination. Welcome, Greg.

Dr. Gregory Poland 01:36

Thank you, Halena. A lot has happened in the last week, and I hope we get to talk about it.

Dr. Halena Gazelka 01:42

Wonderful. We are so glad to have you again. All of our listeners know that Dr. Greg Poland is an infectious disease expert at Mayo Clinic who specializes in vaccines and virology. Wonderful to have you here.



Dr. Halena Gazelka 01:56 Give us an update, Greg.

Dr. Gregory Poland 01:58

Well, a lot is happening. As you mentioned Halena in the opener, we're now having over 100,000 new cases of COVID a day. Just the end of June, we were at about 10,000. So, this is a 10-fold increase. We have about 63,000 people in the hospital with COVID in the U.S., as of Friday. Back at the end of June, we were at about 16,000. So, those numbers give you some sense of just the overwhelming surge that's happened. Those are just the ones sick enough to be identified. So, you understand just how big this is with Delta variant.

Dr. Halena Gazelka 02:41

Right. And now, Greg, I have seen something in the news yesterday about the Lambda variant infecting individuals in the United States. What do we know about that?

Dr. Gregory Poland 02:50

Yeah, the Lambda variant is an interesting one. It's unclear at this point whether this will overtake Delta the way Delta overtook Alpha. But basically, Lambda has a set of mutations that do two things that make it a bad actor. One is that it increases viral infectivity just the way Delta does. But it has a second characteristic, a little bit like Delta, but worse where it can evade neutralizing antibody. So, in other words, you get previously infected with COVID, or you get vaccinated with COVID, now you get infected with Lambda. Why do you get infected? Because it can evade those antibodies that you have, whether it's from vaccine, or from infection, not 100% evasion, but we don't know exactly how much evasion can occur. And what this illustrates is what you and I have talked about, really over the last year, the more we let this go out of hand, and frankly my message today to the public is a is a term you and I recognize in the hospitals, and that's Code Red. It is Code Red in the U.S. and for the globe in regards to these variants. And there is immense concern that we are on the verge of developing evermore infective and virulent variants that could escape completely or in large part, previous immunity, whether from infection or vaccines. So, I hope our listeners really get that message. It is Code Red. We need to get everybody vaccinated as quickly as possible. The other thing that is really sad for us as health care workers is the number of children and young adults now getting infected. When you look just last week, 72,000 kids were infected with COVID. Now that was not happening with the previous variants, but the viral titers and the infectivity of the Delta variant are so high that even kids who had mostly escaped the ravages of COVID no longer are. The Ochsner medical system, they have over 800 kids hospitalized. One of my colleagues down in Houston is saying they're now airlifting babies out of Houston to other hospitals because they are full. So, folks this is nothing to play around with. This is a serious variant.

Dr. Halena Gazelka 05:36

And quite concerning as we're sending kids back to school.

Dr. Gregory Poland 05:39

Well, you know, that's another thing you look at where this is happening. This is happening in the context of kids going back to school, sometimes in states that are trying to outlaw

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the use of masks, which is just inconceivable, large gatherings. If you look at the Netherlands music festival that just occurred, they had 20,000 people over two days. They're already able to trace over 1000 infections. Okay, that was 20,000. Look at what's happened in the U.S., the Lollapalooza concert in Chicago. Going on right now, Sturgis where they think they'll have an estimated 700,000 people get together, and in an environment where unfortunately, much of America has been misled into thinking that the pandemic is over, and mask mandates and distancing is over. And nothing could be further from the truth. We are, as we have talked about, we are in to date, the most dangerous phase of this pandemic.

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Dr. Halena Gazelka 06:51

And vaccination rates are going up. Is that correct Greg?

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Dr. Gregory Poland 06:53

They finally are a little bit. In fact, if you look at it, 50% of Americans are fully vaccinated, and when you look at adults, just adults, 70% have gotten at least one dose. But think of what that means, you know, we've had these vaccines since December, January timeframe. And yet, only 70% have gotten at least one dose, meaning 30% have not even gotten one dose. And it's very, very unfortunate. Getting through to those individuals with credible information and data has proven to be incredibly difficult, if not impossible, in a number of cases.

Dr. Halena Gazelka 07:40

I saw that the Minnesota Department of Health in fact, I got a text message about it, the Minnesota Department of Health is offering \$100.

Dr. Gregory Poland 07:47 Yeah. I saw that.

Dr. Halena Gazelka 07:48

For individuals who will go get their first vaccine if they haven't had it yet.



Dr. Gregory Poland 07:53

I mean, they're you know, this is desperation. How do you save a public from itself? You

know, some governors, this is not my approach, but some governors are saying, well, there are just going to have to be people who will die, who cannot get this message and cannot believe it. And you know, just take a glimpse at the news, you see article after article of people pleading for the vaccine once they're intubated, or dying, or are begging their family to tell everybody we were wrong, we were wrong about this. People who were mocking vaccines and masks who are now dead of COVID. It almost makes you feel beside yourself because you're watching a population wide tragedy occurring, and yet can't get the message across to people.

Dr. Halena Gazelka 08:50

And I think this has been psychologically difficult for some as well. I was talking to some colleagues at a work event, and we were saying how very difficult it is to grapple with the fact that we were just opening things up, we had just been told, oh, you don't need to necessarily wear a mask and opening up restrictions, and now some of those are probably going to need to be imposed again, and certainly advisable to wear the masks as you said.

Dr. Gregory Poland 09:18

You're right, and I felt very badly about it over this last week. I talked to a number of colleagues around the U.S. who are basically calling it quits. They said I've worked 14-16-hour days for 18 months, I'm risking my life and the public doesn't care. And they're just calling it quits, which will make the problem worse. That's no solution. But they're literally so burned out from overwork and the inability of the public to grasp this simple message.

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Dr. Halena Gazelka 09:53

Greg, some of our incredibly astute listeners have sent us questions, and there's one that I think has come up over and over. I've heard it in the media as well. And so, I'm going to ask you this question. This person says, I know several individuals who became ill due to COVID during the initial wave, and they are refusing to get vaccinated based on their assumption that they are now immune to all of its variants. Are individuals who have had COVID better protected by also being vaccinated, and therefore are they less likely to put others at risk?

Dr. Gregory Poland 10:26

Yeah. So, let me give the punchline and then go through the data. The debate is over. People who have previously been infected, do better if they get vaccinated. Now, why the controversy? First study out was the Cleveland Clinic study for which they've now issued kind of a clarification of it. But they looked at health care workers who had previously gotten vaccinated, and then followed them. They did not do prospective PCR swabs, so they only know about the people who happen to come back. That's a major limitation of that study. The other thing is that these were younger individuals, the vast majority of whom had asymptomatic or very mild disease, and who were employed in the health care field, not at all representative of the United States. And in that study, they did not find any benefit in immunity to vaccinating. Now, again, in this series, we have made it our dedication, our promise to speak very transparently about those data. Those data are in a preprint server, they have not been peer reviewed. I don't think that study is going to get published without massive underlining of the limitations of that study. Why did I say the conclusion I did? Because we have two better studies. One is a small study. When you look at a group of, again this tended to be healthcare workers in Chicago, Illinois, but what I like, and I brought the numbers here with me, so they looked at people who had been previously infected, those who got a dose or two of vaccine, and those who didn't. Alright, if they were previously infected, all right, their baseline antibody titer was 620. If they had not gotten infected, they never got infected, their baseline titer was four. All right, after one dose, the people who had gotten just one dose of vaccine not infected, their antibody level was 1800. If they were previously infected, and got one dose, their antibody level was not 1800, but 30,000. What about after two doses in people who had not gotten infected? Antibody level was 15,000. People who were previously infected, up to 36,600. So, the point is that the antibody levels were massively increased after previous infection and getting at least one, if not two doses. All right. What about real-world effectiveness studies? So, this is a study done in Kentucky, where they looked at previously infected people, some of whom then got immunized, some of whom didn't. If you look at the risk of reinfection, the people who got infected, then got two doses of vaccine had a 2.3-fold reduction in the risk of getting reinfected compared to the people who got infected and never immunized. So, these are real-world data that confirm, in my mind, that people who have previously gotten infected, do better and have less risk of reinfection if they get immunized. Now, why would that be? One really simple explanation here, they're getting reinfected with Delta variant. They got originally infected with the original variant. When you get vaccine after having been infected, you dramatically increase the depth of your immune response, such that the amount of immune evasion that occurs from Delta is overcome by those very, very high antibody levels, and that's why they do better.

Dr. Halena Gazelka 14:43

Okay, so to phrase this very simply, you've answered this, essentially, in what you just said, that this individual has written into ask you. I've seen some doctors on TV say that the immunity for COVID for those who are fully vaccinated is much more robust than for those

who've actually been infected with the virus. But I've also heard the converse, the doctors say that your immunity is better if you've been infected with COVID rather than been vaccinated. So, which is true?

Dr. Gregory Poland 15:14

So, it's a misunderstanding of terms. The antibody levels are higher in people who were previously infected and got fully vaccinated. The antibody response is, if you will, more focused in people who are fully immunized. What's not clear is, do we see the same quality of that antibody in people who were vaccinated after getting infected? I think the answer is going to turn out to be yes. But there's still a little wiggle room or controversy there. So, the key part is what makes this difficult is the variant. If they had gotten infected initially, and that was the only virus circulating, I think they'd be fine, but that's not what's happening. They got infected with let's call it virus A, now they risk reinfection with virus B. And virus B is much more contagious or infective and has some amount of evasion of immune response. That's why bumping those antibody levels up in a very focused way with immunization after infection is really superior immunity.

Dr. Halena Gazelka 16:38

But essentially, the argument is a moot point, Greg, because even any individual who is eligible to be vaccinated should be vaccinated, and it doesn't matter if they've had COVID in the past.

Dr. Gregory Poland 16:48 Absolutely. Absolutely right.

Dr. Halena Gazelka 16:51

All right. Here's another question, any truth to this? Is the rate of infection among vaccinated and those previously infected with COVID-19 essentially the same? If so, it would appear that there is no scientifically evidenced reason for those who have had COVID-19 to receive the vaccine unless a variant booster comes along.

Dr. Gregory Poland 17:12

So, you know, people really tried to dig into the details, but the only details they have are what the press reports or misreports. And that's where this constant, you know, kind of bubbling confusion occurs. Probably the best study I know of is what's called the REACT study in the UK. Why is it such a good study? They enrolled over 98,000 people, and they prospectively followed them. So, you know what's actually happening, not just what people report, and they swab them looking for evidence of infection. So, you take the group of people out of that 98,000 who got vaccinated, and the group who didn't get vaccinated, and you follow them with regular PCR swabs. What did they find? There were 527 in that week or two weeks that they studied them out of the 98,000. That's a rate of positivity of .63%. If you look at the unvaccinated, that rate was 1.2%. If you look at those who got two doses of vaccine, it was 0.4. So, 1.2 versus 0.4, a 3-fold reduction. That fits with the information that we know about, and we've been talking about. If you get vaccinated, your risk of infection is not zero, but it's reduced 3-fold. Your risks of having any symptoms are reduced 8-fold. Your risk of being hospitalized is reduced 25-fold. So yes, these are disease blocking vaccines. You get the vaccine, and nonetheless get exposed to the highly infectious Delta variant, you can get infected, but the odds are far and away that you're going to be asymptomatic, you're not going to die, you're not going to end up in the hospital. There have been some people, in fact over 6,000 people, again to be absolutely transparent in the U.S., who were fully vaccinated, got infected with Delta and were hospitalized or died. What is that rate? 0.004%. I'll take those odds any day compared to not being vaccinated.

D Dr. Halena Gazelka 19:38

Right. All right. Our next vaccine question is for those who may be at higher risk, such as the elderly, and they received the Johnson & Johnson vaccine because that's what was available, it now appears that perhaps the Moderna and Pfizer vaccines are more effective. Should and can those individuals get one of the mRNA vaccines? And will there be advice about this coming from the FDA and the CDC?

Dr. Gregory Poland 20:08

This is a very fair question Halena, in the face of the Delta variant. This was not an issue with the previous Alpha variant in the original strength. But with Delta variant, it's apparent that these vaccines are not that good at infection blocking. Now they block infection about 50-60% of the time. They block disease more than the 90 plus percent, Johnson & Johnson being a single dose, there's some data out there suggesting that there may be less infection and disease blocking ability. But this is a little unclear. Again, to be very transparent, no one knows the answer to the question that that listener asked, and, you know, it's literally stay tuned. A lot of work is going into trying to determine are there differences between vaccine platforms? It's unclear right now. In fact, the only new recommendation I'm aware of that we're getting close to in the next days to weeks, will be a recommendation for a third or booster dose in those who are immunocompromised, so

people who have pretty moderate to severe levels of immunocompromise, we will probably be boosting them. That recommendation will probably come out in the next days to a week or two. Whether that will then get expanded to the elderly is as yet unclear.

Dr. Halena Gazelka 21:44

Okay. This next question is not clear to me if this individual is vaccinated, I've assumed so. If vaccinated individuals can spread the virus even asymptomatically, why don't we have them quarantine? Presumably if they test positive for COVID. If I come into close contact with someone who has COVID-19. it sounds like I could carry it and spread it to others, but I don't need to quarantine? Does the mask fully protect others around me from me spreading it to them?

Dr. Gregory Poland 22:16

There's a lot of question and a lot of science wrapped up in that. So, first the question of masks, I know that this has remained controversial because unfortunately, this medical mask became political or you know other kind of a symbol, which it's not. It is a medical symbol of somebody saying I want to reduce my risk, and I'm going to wear a mask. No masks are perfect. Even the so-called N-95, which is the best mask that the public would be able to buy, recognize it's not called an N-100. It's called an N-95. They're not perfect. They have to be fit tested, etc. Next best are masks that are multi-layer surgical or medical masks, then fabric masks. What does not work, and in fact may be harmful to others, is you see people wearing neck gaiters. That actually serves, if you're infected and you cough or breathe out, to fracture the droplets into smaller particles making it easier for it to infect other people. So, that message needs to get out. Stop wearing neck gaiters. That is not an appropriate face covering, nor is a single layer bandana. These masks are dirt cheap and widely available now as are K N-95 masks. And in the face of the Delta variant, we should not only be wearing masks, but wearing the best mask available to us when we're indoors with other people or in crowded outdoor venues. Now the issue about do vaccinated and unvaccinated transmit, if they were both infected, transmit equally well? The guess is no, probably not. But those data again are not very clear. Some people have suggested that viral loads or viral titers in those two groups are about the same. Other studies have not suggested that. So, it's a little unclear whether somebody who is asymptomatic is transmitting at the same rate that somebody who is symptomatic. I would empirically say no. If I'm coughing, sneezing, I have viral titers high enough that I'm symptomatic, I think that's higher risk than somebody like you and I who feel just fine and have no symptoms and are not coughing or sneezing. Now I'll probably have to sneeze. I think the other question within that Halena, you asked is what about quarantine, and I

think obviously whether you have symptoms or not, and you are known to be PCR positive, that is infected, then you are duty bound to isolate yourself from other people so that you don't spread that infection. But recognize here, and I want people to understand, this is not confusion, or just changing recommendations for political purposes. This is the nature of science you and I are comfortable with and live with every day. Science changes. An immense number of eyes are on Coronavirus. An immense number of people doing research, and so you're seeing this happen at the speed of sound, where we're getting lots of different studies, sometimes with discrepant results, which happens in science, but you look at the trend. And as the science changes, so should recommendations, and that's a good thing. It's not evidence of confusion, it's evidence of taking in that science and reshaping policy based on those new data. And what we're studying is changing. We have gone from the original Wu Han strain to the Alpha variant, to the California, Illinois, and other variants to the Delta variant, now to the Lambda, Gamma and Beta variants. So, everything is changing while we're trying to study it. So, a very dynamic situation, and everybody's doing their best to shape those findings into recommendations to the public that will keep them safe.

Dr. Halena Gazelka 26:48

Next question is, back to schools a big issue right now, as we discussed earlier. So, what about the kids under 12 who aren't yet vaccinated? Do you have any clue about when they will be eligible?

Dr. Gregory Poland 27:00

Yeah, this is a really good question. And you know, all of us want to see this happen sooner rather than later. But what's happening is that the the major studies looking at immunizing children under the age of 12, really got going in the June timeframe. So, by the time those studies are done, by the time all the quality checks and safety checks are done, and the FDA reviews it, my guess is that it's going to be very late fall, early winter, before we see that recommendation. This is why it's imperative. I am not above begging parents, please get vaccinated, please get anybody in your family who is 12 and older vaccinated to protect those younger kids. And those kids, no question need to be in a mask.

Dr. Halena Gazelka 28:00

So, I have a follow-up question from a listener on that, Greg. They have children who are old enough to be vaccinated and younger children who have not been vaccinated. They're planning to keep the younger children home and do distance learning until they can be vaccinated. They're curious what the risk of allowing the older children who are vaccinated to go to school is in terms of could they be bringing the infection home to their younger siblings?

Dr. Gregory Poland 28:25

So, the reason I said that we are in a Code Red situation is for this reason, and I don't say this to scare people, but to give them a sense of what's actually happening. I called this we are in a code read situation. So, that means there is no safe. There is no safe now, all we have is safer. And so, when you look at it that way you realize even kids that are immunized, that are going to be gathered in indoor settings, should be masked, not only to protect themselves, but those around them. And for the very scenario you mentioned, when they come home to their younger siblings, they reduce, you can never eliminate, but they reduce the risk of then infecting their younger siblings. And again, you know we are, if anybody doesn't believe this, just go, and look at data on major medical centers that are experiencing surges here. In Tennessee an otherwise healthy 11-month-old baby died. They are airlifting children out of Houston to other hospitals. This is serious. This variant is a bad actor, and we need to take science-based precautions to protect ourselves and one another. You might have seen the headline on the front page of USA Today. This past Friday, the headline was, we have failed each other.



Dr. Halena Gazelka 30:04

Yes, that's profound to see that on the newspaper.



Dr. Gregory Poland 30:07 It really is.

Dr. Halena Gazelka 30:09

Greg, our next question is about air travel. So, I was actually astounded by how busy the airports seemed to become almost immediately this summer when the world began to open up again. And our next listener is wondering, can you give any advice about air travel? What would you say? And they're also wondering about getting together in large groups as a follow-up to that, maybe family members, etc., when you don't know who has been vaccinated in that group?



Dr. Gregory Poland 30:39

You know, this is really hard, I feel like I've spoken so much about this to stopped up ears.

Because people don't want to hear this, they emotionally don't want to hear this. And so, they will grasp on to any piece of misinformation that supports what they emotionally want to do. Here's the science, here's the facts. In the middle of the world on fire with this highly contagious variant, my personal recommendation is, limit your travel to only that which is truly essential. Otherwise, you are adding risk to your profile. And, you know, not only the risk of getting infected, but one of the things that's becoming clear, is the risk of infecting other people, including members of your family. There's one tragic story after another with a wedding, a birthday get together, a summer camp, you know, whatever that might be, and the risks of so-called long COVID, which are considerable, and they are life-altering. So, why wouldn't you protect yourself? So, I would say no airline travel, I know I'll get in trouble from the airlines by this, but again, transparency is important here. No travel that is not essential, and you're wearing a K N-95. mask. That mask stays on, you're sanitizing your hands, you're distancing as much as is practical. And if you develop any symptoms, you're getting tested to find out if you got infected.



Dr. Halena Gazelka 32:30 Greg, what's a K N-95?

Dr. Gregory Poland 32:33

It's similar to an N-95 mask, but widely available publicly. You can go to most stores that would sell those kinds of items and buy them. I know they're available at Costco, for example.

Dr. Halena Gazelka 32:46

I think I know what you're going to say about this next question, but a family member told me that they were at a wedding this last weekend where there were 400 guests. And this individual has also asked us about getting together in large groups.

Dr. Gregory Poland 33:08

I guess a way to do it is let's look at the outcome of somebody infected getting hospitalized, maybe having to be on a ventilator or dying, or even surviving it, but developing long COVID. Now unwind that. Would you have said, yep, that was worth it? Or could we have done it outdoors? Could we have done it masked? Could we have done it socially distanced to keep everybody safe? I think if you went into a wedding of that size, and somebody, you know, I'm not trying to be crass here, but somebody walked in holding a loaded gun, everybody would attend to that risk immediately. And yet with something equally as deadly, we want to emotionally ignore it and say, well I'm vaccinated, well I'm young, I'm healthy, oh, I was previously infected, when the science doesn't support that at all as something that's going to keep you safe from infection. So, it's just maybe not a very good analogy to talk about a gun analogy, but my wife and I were talking, evidently there's some kind of a banded Cobra, that got loose, was it in Texas or Arizona? Well in that area, so one snake in that area, parents are not letting their kids out to play. Everybody's you know, freaked out about this one snake deadly snake, but that one snake. Now compare that to COVID. I mean, immensely greater risks with COVID. People are acting like the pandemic is over, and that is unfortunate. No credible healthcare expert would endorse behavior that would increase your risk when it's so easy to mitigate your risk.

Dr. Halena Gazelka 35:04

Your story about the Cobra reminded me that my grandson, Liam, who is six, loves to watch the show about the 72 deadliest animals and the Cobra was on there, and I thought, I don't think I'd let my grandkids out if the Cobra was on the loose in the neighborhood after watching that show with him. But they did not have COVID on that show. So, not equal representation at all.

Dr. Gregory Poland 35:28

Not equal at all. And, you know, again, to go back to the to the issue with kids. Here's a study that the CDC did. Now this was this past March and April. So, we were not yet facing Delta. So, this was with the easier variant, if you will, they looked at 204 adolescents between 12 and 17-years old, that got infected with COVID and hospitalized. A third of them had to go to the ICU, 5% of them ended up on a ventilator. I think when something like that happens, any parent I know would have done anything to prevent that from happening, and hence my plea, sometimes in maybe not the greatest analogies, but my plea to attend to this as the Code Red situation that it is.

Dr. Halena Gazelka 36:24

Greg, what does the future look like? Are we going to do this masking and social distancing for every variant that comes along? Will we need a new booster for every variant that comes along?



Dr. Gregory Poland 36:35

Really, really good questions, Halena. I guess I didn't realize just how much this is affecting

me. My wife said these last three days that I'm speaking clearly giving vaccination instructions in my sleep. So, you know, my brain is grinding away on this. This is, again, absolute transparency, none of us can predict the future. So, I don't really know the answer to the question. What we can say, is when we look over the last 18 months, we have, with a steady drumbeat, developed more and more worrisome variants. Most of us think more of those variants are going to come given that we have so many people ignoring vaccination and masking recommendations. I think it's inevitable, but I don't have a way of knowing for sure. What we think is going to happen long-term because of the way we dealt with this as a society in a globe is rather than eliminating this, which we had opportunity to do, and lost. More likely, this will become at best, something more akin to influenza that will always be with us. And that we will have to regularly immunize against. Whether they'll have to be variant specific is unclear right now. My guess is like all RNA viruses that will learn to evade vaccine induced immunity. So, we'll always have to be catching up with the virus with newer and more updated vaccines. That's my guess.

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Dr. Halena Gazelka 38:27

All right. Well, any last words for us today?

Dr. Gregory Poland 38:30

Yeah, you know, I did prepare something just briefly that I wanted to say, and that is, in this kind of Code Red, in this public emergency, I would urge at least five ways that you can layer one after another to best protect yourself, and yet live as normal a life as all of us want. You know, we're not mean doctors sitting in an ivory tower thinking of ways to make life miserable for people, guite the contrary. My desire is nobody ever gets admitted to the hospital with COVID. No kid ever dies. No mother is ever lost from COVID. So, how can we do that? 1) Listen to credible experts, not just people who are celebrities or politicians that you're, you know, attracted to, people who know the science. 2) Get vaccinated. 3) Wear a proper mask properly. 4) Please limit your travel to only that which is essential. 5) Is to avoid crowds. If it's inevitable that you have to be around the crowd, stay to the periphery. Wear a proper mask in order to best protect yourself. Folks, it is the nature of medicine that we see what you don't see. And what we see is tragedy after tragedy, day after day after day. And there's no way for me to adequately transmit it. I help with research at a hospital down in Florida, which is a real hot spot. They went from 12 cases to 150 cases. They're intubating teenagers and putting them on ventilators. And the public has no awareness because, of course, we can't take cameras in there and show people, and these families are devastated. And yet we feel like we're trying to say the message over and over again, please, please take care of yourselves and prevent getting infected, sick and those around you. And it's doable. It's doable with these simple

measures.

Dr. Halena Gazelka 40:56 Very sage advice, Greg. Thank you.

Dr. Gregory Poland 40:59 My pleasure.

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Dr. Halena Gazelka 41:00 As always for being here today, we appreciate that, Greg.

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Dr. Gregory Poland 41:04

I hope, and I am motivated by the cards and letters and emails that you and I get where people say we've listened, we went out and got our vaccination, or a family member of mine that didn't want to do it, we sent them your podcast, and they went out and got vaccinated. And I thank God for that. It motivates me to keep working hard on this to keep trying to get that message across.

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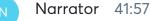
Dr. Halena Gazelka 41:33

Our thanks to Dr. Greg Poland for being here today to talk to us about COVID-19, the latest in the Delta variant, and vaccinations. If you haven't been vaccinated, please get vaccinated so that we can come back to you in future weeks with good news.

Dr. Gregory Poland 41:49 Yeah.

Dr. Halena Gazelka 41:51

I hope that you learned something today. I know that I did. And we wish each and every one of you a very wonderful day.



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