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SUMMARY KEYWORDS

vaccine, people, greg, vaccinated, variant, infections, mayo clinic, infected, symptoms, blood clot, vaccine hesitancy, virus, younger, cdc, called, risk, monoclonal antibodies, recommendations, women, interesting

SPEAKERS

Dr. Halena Gazelka, Dr. Gregory Poland, Narrator

N Narrator 00:01
Welcome to Mayo Clinic Q&A.

D Dr. Gregory Poland 00:04
What's surprising is the high rate of that occurrence. In fact, looking at mild infections among health care workers still had their lives significantly disrupted by long haul symptoms.

N Narrator 00:21
One in three people who had COVID-19 are now suffering from some type of long-term effect from the disease. What's the cause? And is there progress to help these people

D Dr. Gregory Poland 00:31
An area of active research, we do not have a clear mechanism for why this should be, particularly with the brain. The majority of that has been either what people call brain fog, or neuro psychiatric symptoms like depression, anxiety, those sorts of things. Welcome,

everyone to Mayo Clinic Q&A. I'm Dr. Halena, Gazelka. We're recording this podcast on Monday, April the 12th 2021. Well, here with us again today to discuss updates and COVID-19, including vaccines treatment, and all the things that you want to know is Dr. Greg Poland, virologist vaccine and infectious disease expert at Mayo Clinic. Hello again, Greg. Good morning. Halena. How are you?

D Dr. Halena Gazelka 01:16
Good to see you.

D Dr. Gregory Poland 01:17
And you.

D Dr. Halena Gazelka 01:18
I hope you had a lovely weekend.

D Dr. Gregory Poland 01:20
I did. I actually took Saturday off.

D Dr. Halena Gazelka 01:23
Oh my goodness,

D Dr. Gregory Poland 01:24
First time in 15 months that I took an entire Saturday off.

D Dr. Halena Gazelka 01:28
I bet your wife was thrilled.

D Dr. Gregory Poland 01:30
I don't know.

D

Dr. Halena Gazelka 01:33

Maybe she's ready for you to be back to work on Monday, who knows. Well, Greg, give us the numbers. Where are we with getting Americans vaccinated?

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Dr. Gregory Poland 01:41

Well, you know, we're doing a little better. Right now we have about 32 million cases that have occurred in the U.S. So one out of 10 Americans has been infected, and about 575,000 deaths. So about one out of every 569. Right now in the US there have been about 187 million doses that have been administered, and 238 million that had been delivered. So we're really doing well. In fact, over the weekend, I understand that we hit over 4 million doses on Saturday, administered. So this is a fantastic

D

Dr. Halena Gazelka 02:22

Well, someone wasn't taking the day off, Greg.

D

Dr. Gregory Poland 02:24

No, that's right. Now, I feel guilty.

D

Dr. Halena Gazelka 02:30

Greg, tell me how the variant I've heard the British variant is very problematic here in the U.S. are gaining speed. How is this affected by the vaccine? Do we know anything yet about that?

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Dr. Gregory Poland 02:44

Yeah, this is you know, we, in this show, and in many warned and warned against Spring Break travel against relaxing restrictions too soon. And we're now starting to see the brunt of that just as expected. Minnesota, Michigan, and other states now are actually having the beginning of surges. Michigan is the state to look at if you want to see what's going to happen over the next few weeks. They've had a dramatic surge in cases. And unfortunately, this is involving younger people, something we did not see in the past. And the reason for it is the B 117 or so-called UK variant is definitely more highly transmissible by about 50%. And probably equally again, as more lethal. And so unfortunately, we're going to see the, the loss of life among younger people who are just apparently not getting the message that you cannot relax restrictions yet, you cannot go without getting

the vaccine. These are really, really important Michigan's health care system is, in particular, in some of the southern areas, is overwhelmed. And how can that be happening? You know, not quite a year and a half into this. We, how many times do we have to do this? We just have to take this seriously.

D Dr. Halena Gazelka 04:19

One of my questions, Greg, is because these are younger people, is it individuals who haven't even had the opportunity to be vaccinated yet, possibly.

D Dr. Gregory Poland 04:28

In a lot of cases that that is the case. But you know, when you look at it, most of the states in fact, by the 19th, I think it is, the vaccine will be open to everybody, 16 for Pfizer, 18 for Madonna will be open to everybody. Okay, But as it is health care workers, essential workers, teachers, I mean a whole long list of people, regardless of their age as adults have been eligible to get the vaccine, but we're seeing vaccine hesitancy in particular among younger people, the misinformation that they're unlikely to get infected or unlikely to have symptoms, and that's just wrong.

D Dr. Halena Gazelka 05:11

I want to get back to vaccine hesitancy in a minute. But I want to ask you one thing right before I forget. I think that we have mentioned before that many states are lowering the age for vaccination to 16. What about teenagers? What about even the older children from 12-up say, where are we with them being able to be vaccinated?

D Dr. Gregory Poland 05:30

So, virtually all of the manufacturers are doing studies in that age. Pfizer is the most advanced with that and actually has completed that study showed 100% protection. So they are actually definitely coming forward. Yes, they're coming forward with an E-U-A request to the FDA, for use of the Pfizer vaccine and kids 12 to 15 years old. It's already approved for 16 and above.

D Dr. Halena Gazelka 05:58

Now, you were just talking about vaccine hesitancy. And I actually saw an interesting news article saying that far more women than men are being vaccinated, then there were a number of reasons for this, the health care system and how many women working within

the healthcare system, it's and women may be being more older women who would have been eligible first. But does this have anything to do with vaccine hesitancy? Are men hesitant to get vaccinated?

D Dr. Gregory Poland 06:25

Yeah, you know, it's a very interesting question. And as you mentioned, women tend to have higher immunization rates with COVID vaccine, because they predominate in the healthcare field, in the teaching fields and a lot of the essential worker type fields. So they've been able to get the vaccine whereas less men, but even accounting for that Halena, we do see evidence of that. Some of it I think, is, you know, just the nature of our culture, women tend to be the ones responsible for health care in the family. They're, they're the ones that tend to watch over that. They're the ones that are taking care of the family. So you know, as my wife often says, I don't get sick time. So she's been she's been one to stay on top of that. But I think there are other issues. When you look at college graduation rates, for example, in our culture here in the US, women tend to be better educated. And when you're better educated, you're more likely to not fall prey to misinformation or disinformation, you're less likely to associate a vaccine with a political affiliation, or even an economic conflict of interest, because there's such a focus on wellbeing, on health and on caregiving. And I think that that's a, it's a hard factor to quantitate. But I think it's a real factor.

D Dr. Halena Gazelka 07:58

That's really interesting, Greg, what you said about education is fascinating to me. And it reminded me of when I started medical school and found out that 55% of my medical school class at the University of Minnesota was women. And I thought how interesting that was in a field that we had traditionally thought of as a male dominated field. Yeah, absolutely.

D Dr. Gregory Poland 08:20

And, you know, I mean, I go to anybody who's good, but predominantly in our family, we all go to female physicians.

D Dr. Halena Gazelka 08:30

AstraZeneca. Greg, we talked about this a couple of weeks ago, that it has not yet been approved. I don't think for emergency use authorization in the United States. And why is that? There's still concerns about blood clots.

D Dr. Gregory Poland 08:44

Yeah, yeah. Well, number one, they have not come forward yet with a request to the to the FDA. But I think until the issue about these unusual, low platelets called thrombocytopenia, and then clotting called thrombosis, until those are cleared up, I think it's going to be difficult to, to approve a vaccine like that in the U.S. The issue is separating what is real and potentially caused by the vaccine, from what, what are background rates. And it's a difficult situation because the value of the AstraZeneca vaccine is that it does work. It's effective. It's also very inexpensive. So when you look worldwide, this is a this is a key vaccine to controlling this. And so you're in this position where you're trying to look at background rates, and you're basically asking the question, has this increased the risk over background of a blood clot by one in a million? That's a very hard thing to discern. And to know whether it's true. Let's say that you thought it did. Would you not use the vaccine when the risk of getting COVID and getting a blood clot, if you got COVID is so much higher? And that's the dilemma of you know, how do you balance these things out. Now, for the most part, the mRNA vaccines have not been associated with an elevated rate of thrombosis, it's just the Add no virus, vectored vaccines. And again, whether that's a real association or not, is unclear. I think the one place that it may be getting a little more clear, is in an unusual kind of clot, called a central venous sinus thrombosis. This is a blood clot in a vein draining the brain. And there it appears, this could be modified by more data, but it appears that that risk is slightly increased. And mostly in younger women, and mostly in younger women taking oral contraceptives, which tends to increase the risk of that type of clotting anyway. So we're again back in that situation of is it actually higher than the background rate or not?

D Dr. Halena Gazelka 11:14

Right, but a frightening sounding event?

D Dr. Gregory Poland 11:17

Sure, if we're considering

D Dr. Halena Gazelka 11:18

If you're considering getting a vaccine and otherwise feeling healthy now? Interesting. Well, Greg, in spite of the cautions against travel, and being safe traveling, or the CDC has begun to change some of the recommendations in that regard. So I assume that people maybe will be traveling more this summer. And I'm wondering, you know, many times people get COVID tests before they travel or when they return. We've had questions

about if someone has the COVID vaccine, will they then test positive for the test, perhaps

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Dr. Gregory Poland 11:52

So just to clarify that there are there are diagnostic tests that tell us whether you're infected or not. And then there are antibody tests to tell us whether you were infected in the past. So the antigen and PCR tests Do not turn positive, just because you've had a vaccine. It's only if you have the presence of the virus. Now there can be false positives there. The antibody tests tell you whether you have been infected in the in the recent or distant past such that you have antibody to one of the proteins in the virus. So, so a key distinction there. What CDC is saying in regards to traveling is that if you've been fully vaccinated, that means 14 days or more after your second dose of an mRNA vaccine, or 14 or more days after the single dose of the Johnson and Johnson vaccine. They're then saying that domestically, you could travel. Now, at the same time, they're saying, but we don't recommend travel. And the reason for that is because we have not yet gotten enough people vaccinated. And the more people travel, the greater the risk of the spread of these variants. And these variants could potentially change a lot. Let me give you some examples. In the Madonna study that was just recently completed, they looked at live virus neutralizing antibody capability, six months after getting the second dose and people age 65. And that neutralizing ability was reduced tenfold after six months.

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Dr. Halena Gazelka 13:44

So in other words, the ability to resist

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Dr. Gregory Poland 13:47

A viral infection. Now you take instead of the standard virus, you take the UK variant, or even worse, the South African variant, and you are going to see some breakthrough infections over time. And so the idea really is the ideal thing. I mean, if I were, if I had the capability, I would say, okay, nobody, unless it's absolutely essential move out of your community, everybody's going to wear a mask, everybody's going to socially distance, we're going to open up as much as we can, though safely until we get as many people vaccinated as possible and get these variants under control. Otherwise, the reality we're going to have to live with is that this pandemic will just continue. We are now on the verge of our fourth surge. And this is going to continue until we get a handle on this just keeps going, doesn't it? Thank goodness for vaccines, even to the point where most of us believe now that we are almost certainly going to have to live with this virus every year. We've failed to get ahold of this early on. And the consequence will be, it's it'll be something like influenza. I don't mean in terms of severity, but in terms of annual infections and surges

D Dr. Halena Gazelka 15:17

And interesting to see what happens with vaccinations. Well, those be annual as well. Yeah. So Greg, this weekend, I ran a couple of errands. When you were having your day off on Saturday, I was as well. And I had to go to a couple of stores, and they were, you know, they all offer you hand sanitizer, which is wonderful, can't have too much hand sanitizer. And they're all still many stores, we're still wiping the counters and disinfecting and sterilizing them between customers. And I know that the CDC has changed the recommendations a little bit about disinfecting surfaces or put out some recommendations. What are those? And what should we, should we be doing?

D Dr. Gregory Poland 15:58

Yeah, what the CDC wisely did, and I think this is really important for our listeners to understand. Wisdom resides in changing your mind and your recommendations as new data and science becomes available. And that's what's happening here. So the estimate is that touching a contaminated surface and then touching your eyes, nose, or mouth, is, is likely to result in perhaps, perhaps an infection one out of every 10,000 times, I mean, terribly low. Now, that's not a firm number, as you might imagine, that's a very difficult thing to actually measure. So what the CDC is doing is modifying those guidelines, they're saying that the risk of touching a contaminated surface and then getting infected is very low. We know that for hands. And for hard surfaces, soap and water is good enough. We don't need to be using more toxic agents like bleach wipes and things like that. And so their recommendation is, if it has been three days or more, just use soap and water, the only time to use a disinfectant like bleach would be if you had a confirmed COVID case in that environment, and then it would be worthwhile to do it. Now what's interesting is it's probably also contributed to a decrease in influenza cases along with mask wearing. So there definitely is value in high touch surfaces, for example, bathroom doorknobs, maybe the doorknob in and out of a facility. Beyond that, I think that it gets really low yield, for example, people wiping their mail or groceries, I just think that that has the science has now progressed to the point where we can say that's exceptionally low yield, the risk is by far of not wearing a mask properly or not having your hands clean and touching your, your face. those are those are the risks.

D Dr. Halena Gazelka 18:23

Okay, that's, that's good information to have. Greg, there's been a lot of information about COVID long haulers, as they've been called people out who have long term sequelae of the infection. And a recent study showed that one in three individuals have some difficulty with brain disease after a COVID-19. I'm wondering, what does that entail? And what do we know about the neurologic and physiologic effects of COVID-19 at this

point?

D **Dr. Gregory Poland** 18:50

Yeah, you know it this is very interesting. In an area of active research, we do not have a clear mechanism for why this should be, particularly with the brain. And just to clarify, the majority of that has been either what people call brain fog, or neuropsychiatric symptoms like depression, anxiety, those sorts of things. In addition, of course, there have been strokes and other, other conditions that affect that. What's surprising is the high rate of that occurrence. In fact, in the Journal of American Medical Association over the weekend, there was a research letter looking at mild infections among healthcare workers, and eight plus months later, nine to 12% of them still had their lives significantly disrupted by long haul symptoms. So this is this is something the NIH and the government is aware of. They're putting a lot of money into research to understand that. We've applied for one of those grants, we're waiting to hear this week actually whether we'll get that grant. But I think it does deserve a lot of research to understand not only what causes it, but what should we do therapeutically, to assist patients that have had those kinds of symptoms.

D **Dr. Halena Gazelka** 20:17

I know we have a number of physicians and scientists here at Mayo Clinic who are very interested in this topic. And we've even had on the program before that they have developed a program within our rehab unit, a physical medicine and rehabilitation unit, just for individuals who suffered from COVID-19. I think many of the patients that they have were hospitalized, and then went to the rehab unit. But it's fascinating. They were kind of early on recognizing this. And it's quite a big area of focus.

D **Dr. Gregory Poland** 20:49

Yeah, and I think as you're pointing to Halena, we do see a gradient. In other words, the risk being greater with more severe disease manifestations. But this is something important, especially for the younger people, even mild disease, when you're talking about 10, 12, 15% of people saying my life is moderately to severely disrupted by the long-term symptoms of mild disease in young people that's significant and needs to be paid attention to.

D **Dr. Halena Gazelka** 21:23

Greg, I saw another article that I wanted to ask you about, and that was prevention of COVID-19 using monoclonal antibodies. And I'm wondering, why would we do that when

we're vaccinating people to prevent COVID-19? What are the advantages?

D **Dr. Gregory Poland** 21:40

Yeah, you know, so we've done a lot of work in thinking about monoclonal antibodies, and what is the appropriate use for them. And I think there's really several uses one would be in the immunocompromised patient where they're unlikely to respond well to the vaccine. So we can protect them for about three months with an infusion of monoclonal antibodies. The second would be in people where they cannot get the vaccine, maybe they've had an anaphylaxis reaction, for example, or they're allergic to a component of the vaccine. And then the third would be in trying to prevent, so people who have not yet gotten the vaccine, trying to prevent them from moving into moderate to severe disease and prevent hospitalization. And here's the interesting last one that you're, you're pointing to studies now showing that and these were done in nursing home environments, that we could infuse monoclonal antibodies, and protect people from getting infected in the first place. So the first three uses were therapeutic. The last one prophylactic. What's interesting is that we have had to move from using a single monoclonal to a so-called cocktail two or more monoclonal antibodies, again, because of these variants that are arising.

D **Dr. Halena Gazelka** 23:07

Interesting. It's a fascinating area of research as well. And amazing, like we've said before, how quickly this has progressed. And that the that the research has developed, and the knowledge has developed. It's really amazing. It's real time. It's been a horrible, horrible plague or pandemic. But what an amazing time to be alive when accomplishments like this are occurring at the same time.

D **Dr. Gregory Poland** 23:32

Never, never before really, in modern medicine have we seen anything like this, have we seen the galvanization of science. And it just shows that with focus and funding, scientists and physicians can do a tremendous amount of good, very quickly. The hard part is bringing along the public to understand those data. And, you know, to some degree that argues for why we need rigorous scientific education from the youngest grades onward, otherwise, people just sort of are paralyzed by fear, rather than understanding.

D **Dr. Halena Gazelka** 24:14

Yeah, that the internet is a is a two-edged sword, isn't it? Full of good information and full

of bad information at times.

D Dr. Gregory Poland 24:23
Yes.

D Dr. Halena Gazelka 24:24
Well, Greg, do you have any last words of wisdom for us today?

D Dr. Gregory Poland 24:28
I think, when I'm what I'm very animated about and happy about is that we have exceeded any expectation about efficacy and safety of the vaccines, particularly as we look at the mRNA vaccines where we have only one safety signal, which is anaphylaxis. The other part about that has been the ability to move these vaccines out into the population to the rate of now 4 million doses a day. The one piece here that is making this a desperate race, and I say that not to be dramatic, but to instill reality, we are in a desperate race between these variants. And the ability to immunize people. And how that's going to play out is really up to each one of us. And whether we do the right things that are science based, or whether we each decide for ourselves, no, I don't care about what the data show, and I'm just going to do X, Y, or Z. And that has, as we said, cost well over half a million American lives.

D Dr. Halena Gazelka 25:39
I think it's just wonderful to be sharing some good news, though, about the efficacy of vaccines and how quickly we're getting them out. So thank you for that, Greg. Thanks for being here again today.

D Dr. Gregory Poland 25:49
My pleasure.

D Dr. Halena Gazelka 25:51
Our thanks to infection, infectious disease specialist, Dr. Greg Poland from the Mayo Clinic for being with us here today to give us our COVID-19 updates. I hope that you've learned something I know that I have, and we wish each of you a very wonderful day.

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Narrator 26:06

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