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A Look into the Risks and Long-Term Impacts of COVID-19

Announcer:
You're listening to *VacciNation* on ReachMD, and this episode is sponsored by Moderna. Here's your host, Dr. Brian McDonough.

Dr. McDonough:
Welcome to *VacciNation* on ReachMD. I'm Dr. Brian McDonough, and joining me to discuss the risks and long-term impacts of COVID-19 on adults are Dr. Stefan Gravenstein and Dr. David Canaday. Dr. Gravenstein is the David S. Greer Professor of Geriatric Medicine at Brown University in Providence, Rhode Island. Dr. Gravenstein, glad to have you with us.

Dr. Gravenstein:
Glad to be here. Thank you.

Dr. McDonough:
And Dr. Canaday is a Professor in the Division of Infectious Disease and HIV Medicine in the School of Medicine at Case Western Reserve University in Cleveland, Ohio. Dr. Canaday, thank you for being here today.

Dr. Canaday:
Also glad to be here. Thank you.

Dr. McDonough:
Now when it comes to COVID-19, Dr. Gravenstein, we often hear about its impacts on older adults, but can you tell us about the risks COVID-19 poses to adults of all ages?

Dr. Gravenstein:
Sure. It does pose a risk to all ages, and the risks that it poses are the same if not the same in severity. For example, severe illness that includes hospitalization and death, it occurs at all ages, particularly those that have underlying health conditions like diabetes, cardiovascular disease, obesity, and so forth. So it's important to know that even if they are healthy, they're not immune. They can get these severe outcomes, but the risk is going to be lower in this group of course.

Dr. McDonough:
And turning to you now, Dr. Canaday, what are the potential long-term impacts of COVID-19 on adults including those who experience mild or moderate symptoms?

Dr. Canaday:
I think one of the key things that's most important about COVID is long COVID, that's the term that most people use to describe it, and this would be symptoms that you have. There's a number of definitions, but I like to use the definition of symptoms that persist over three months. We've all had acute viral illnesses over our lives. We have symptoms that can last for a week, the post flu cough that takes a while to go away, and that kind of thing, but those usually do not last longer than four to six weeks. COVID though can have a syndrome called long COVID, and it is relatively common. In a large study to date where they did a metanalysis, which is a kind of study where they pooled together a whole bunch of studies throughout the world to try to get the best information. There was 54 studies using a lot of different databases, 23 different countries, etc. and the number of how often long COVID occurred was on the order of about six percent of individuals had symptoms from their COVID infection that persisted at least three months. The biggest symptoms we're talking about would be things like persisted fatigue, body pain, mood swings, the other one would be cognitive problems as Dr. Gravenstein said, brain fog is the slang term for that, or ongoing respiratory problems, which would be persistent cough, shortness of breath, those kind of

things. And these type of impacts can occur at all ages.

So one thing I think's very important to think about with COVID-19 is that it is not going away, and in fact we do not anticipate that it's going to go away probably in our lifetime. So it has ended up essentially being like another virus, like influenza, where we're likely going to need continued vaccinations. And hopefully, the severity of it will continue to be less and less and have less of a social impact, etc., but we still have a lot to learn on this virus. We need to keep taking COVID-19 seriously, think about preventative measures, trying to recognize the disease when it does occur, so you continue with protective measures, isolating and wearing masks for example, and then again continuing on with vaccinations.

But the vaccines are basically updated every year. COVID-19 or SARS-CoV-2, which is the technical name of the virus, is an RNA virus, which means it mutates quite a bit. And what that means is that the strains change from year to year or even sooner than from year to year. And the vaccines basically are being updated on an ongoing basis. So even if you've had the vaccine when it's time and recommended, stay up to date because the newest vaccines will get you on to the newest strains and optimize your protection.

Dr. McDonough:
Dr. Canaday, let me ask you a follow-up question that is, this is a real-world situation. A patient came up to me yesterday, she's in her early 60s. So she's not over 65, and she's not high-risk in any other way, maybe a little overweight, but that's about it, with high blood pressure. But her question is she wants to know if she should get a vaccine now. She had it last October. She's going to be travelling, but she knows that the newer vaccine, at the time of this taping, will probably be next November or so, and she's wondering, "Do I get it now and later? Or do I sit back and wait for the newer version that will adapt to the present virus we have right now?" What advice would you give a patient in that situation?

Dr. Canaday:
I can tell you the CDC answer. The CDC answer is if she is under 65 and not in a high-risk age group, then she is on the yearly plan. The people that get it every six months or get that extra, in-between booster are people that are more high-risk individuals. There's a lot of conditions though that could put you in a high-risk category, or people over 65, long-term care residents is a very high-risk group for example. So that would be my answer. I would say travel is a big source of getting infected. Absolutely. If you're on an airplane, wear a mask. Nobody wears a mask on an airplane anymore. I feel like a crazy man when I'm on the airplane now, and I wear my mask every time, especially when you're getting on the plane, getting off the plane, before they turn on the great filters and have the air blowing all over the place. Wear masks. It is a very common source of transmission when you're traveling, especially with flights.

Dr. Gravenstein:
If I were to nuance that question, I completely agree with David on the high points. The person that's going to be doing activities where they are likely to get exposed and infected, that would be a reason to have pause and maybe consider getting a vaccine. So if they know they are going to be getting on a plane and they know they're not going to wear a mask, they're not going to do the other stuff, this gives them a margin of protection that they can't get any other way. If they are far out from their last vaccine, if they got it that last September and now they're going to do these high-risk activities, the transmission dynamics are also such that younger adults often have more social contacts and may be more likely to spread the virus to others, and so they become part of this propagation stream. There's an article published in *Science* that said that adults younger than your example here, 20 to 49, are responsible for the majority of COVID-19 transmissions in the U.S.

Dr. McDonough:
With all this being said Dr. Gravenstein, what role does vaccination play in preventing those long-term impacts?

Dr. Gravenstein:
So it prevents both near- and long-term impacts. Some of the nearer-term impacts that it prevents that have long-term consequences, for example, are preventing the cardiovascular outcomes. You heard from Dr. Canaday the cognitive impacts; people that have brain fog that lasts beyond that. It appears that the vaccine reduces the risk of long COVID, and it reduces the severity of the disease to the people who get hospitalized and spend days in the ICU, have a much lower risk of that happening, and therefore, a better recovery overall.

Dr. McDonough:
For those just tuning in, you're listening to *VacciNation* on ReachMD. I'm Dr. Brian McDonough, and I'm speaking with Drs. Stefan Gravenstein and David Canady about the impacts of COVID-19 on patients of all ages.

So given the vaccination can help lessen the risk of complications, Dr. Canaday, how do you approach discussing a COVID-19 vaccine with younger and middle-aged adults?

Dr. Canaday:
The ultimate long-term impact is very severe outcomes and death, so vaccinations are very effective at all age groups at preventing death or very severe outcomes. One of the things that we've evolved to learn about a vaccination with COVID in particular, and now we're starting to think about it in other viral infections also is the COVID vaccine preventing the infection itself it's reasonably effective at preventing the infection itself, but with COVID, the key is preventing the long-term outcomes and preventing the severe outcomes at which the vaccination is very effective.

So and one other point, Dr. Gravenstein is a geriatrician, and I work a lot in older folks and infectious disease, the impact to older individuals, nursing home residents, the more frail older individuals, even if the quote COVID itself doesn't get you, the fact that you are taken out of your normal routine activities, potentially stay in a hospital, have to go to long-term care to recover, those have enormous long-term impacts on your quality of life moving forward.

Dr. McDonough:
Dr. Canaday, so how do you approach discussing a COVID-19 vaccine with younger and middle-aged adults?

Dr. Canaday:
Sure. This is a very important question in my mind. So I think one of the things I like to do if it's a patient that I know, then you know what are they like, you have their medical history, what kind of vaccination history, etc. But oftentimes, we're potentially seeing patients that we don't know well, or we don't know at all, so you need to start out to try to tailor your message, so where are they coming from and their thoughts about COVID. Then understanding your patient a little bit, what is their life situation?

So then once you have that, again, tailoring the message, so emphasizing a personal community benefit depending on what type of job you're in. Protecting you, protecting your family, protecting the grandparents. And then of course, just duck-tailing into the elements that we already talked about.

Dr. Gravenstein:
And one of the things that I keep hearing is the concern about side effects, and I think this is a point that's worth knowing and that is people that have poor side effects tend to have better responses to the vaccine. They have more effective vaccines. There's a paper that just recently came out on that. And we also published a paper, this is now a nursing home elderly that absence of side effects is often as times that they haven't responded well. So it's something to embrace.

Dr. McDonough:
You've both brought up a lot of great points, so as a quick follow-up, Dr. Canaday, let's go over common barriers or concerns patients may have, and you've addressed it, but again, how do you address these common concerns that people have?

Dr. Canaday:
So the side effects are, they're fairly common mild side effects right when you get the shot, soreness at the injection site. I call it the "my bigger brother punched me in the arm" type of side effect. That's extremely common, but it goes away within a day or two almost always; the fatigue, headaches, etc. Those are just one or two-day headaches. You don't get any long COVID syndrome from the vaccine. Severe reactions are extremely rare.

Dr. Gravenstein:
Yeah, and so this idea about side effects that you get from COVID versus from the vaccine when you get the infection, you have no control over how long the virus is replicating, and so with the vaccine, you get the exposure to the molecules they generate; the response is very brief. So it's a controlled exposure as opposed to an uncontrolled, unknown outcome.

Dr. Canaday:
Very important point. And then misinformation about vaccine safety, for example, just trying to chat with the individual, debunking common myths. And then some people have doubts about the vaccine efficacy; there's very clear data. And then a lot of people will then bring up, "Oh well, you know, I've had COVID. I have natural immunity." Well natural immunity is great. Natural immunity is unpredictable. In order to get natural immunity, you have to get COVID. And what if you're the 6.2 percent of the people that get COVID, they get long COVID. You don't want to test yourself on natural immunity. There are a certain amount of people now that have never gotten COVID as far as they know, and I still tell them that's great for you, still keep getting the shots, and get them updated.

Dr. McDonough:
Before we close, Dr. Gravenstein, can you tell us why it's so important to recognize that the burden of COVID-19, and other respiratory viruses, extend beyond older adults?

Dr. Gravenstein:

Yeah, I think you've just heard a litany of reasons why this might be true. Long COVID being high on the list. The wide impact, not just the six percent, but also the days off work and so forth, the transmission dynamics, the economic impact, the mental health considerations, the equity issues, and as a public health strategy. Increasingly, it'll be the kids that bring it into the home. We do cocooning, when we get a whole community vaccinated, we can protect everybody collectively. I think that worked early on. It allows us to get away from some of the other perimeters of social distancing.

Dr. McDonough:
As those final comments bring us to the end of today's program, I want to thank my guests, Dr. Stefan Gravenstein and Dr. David Canaday, for joining me to discuss how we can lessen the risk of infection-related complications for respiratory viruses. Dr. Gravenstein, Dr. Canaday, it was great speaking with both of you today.

Dr. Gravenstein:
Thank you very much.

Dr. Canaday:
Yeah, thank you very much.

Announcer:
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