COVID-19 Vaccines with Dr. Benjamin Greenberg

Part VI

You can view of this video at: https://youtu.be/BAbAg85lhqY

Rebecca Whitney: [00:00:00] Thank you, Dr. Greenberg, for taking the time to join us once again today to answer some COVID-related questions. I believe this is the sixth Q and A session in our series. So, I'd just like to start off by asking about if there are any updates on new cases or possible relapses that may be associated after COVID vaccination? Our community has been asking about some of them and wanted to understand your take on that.

Dr. Ben Greenberg: [00:00:42] Yeah, it's a great question and it's one we get all the time, in terms of whether or not, for our community that we serve, individuals who had inflammation within the central nervous system, whether it was transverse myelitis or neuromyelitis optica or ADEM. Are we hearing reports of a vaccine causing a relapse or a new event? And in general, the answer is no. There have been a few reported cases where there were concerns of relapses, but when you look at the numbers, it's at or below the expected rate of just random relapses in individuals with, for example, neuromyelitis optica.

[00:01:20] And so, we have not seen this be a safety issue and, as time has gone by, thankfully we're getting more and more patients vaccinated. And every month that I don't get phone calls of new relapses after vaccination, is a bigger and bigger data set to give us a lot of confidence in the safety of this vaccine or, I should say, these vaccines, in our patient population.

[00:01:42] And while there are individual events that you'll read about on Facebook or hear about in social media of an individual who had myelitis after the COVID vaccine, it doesn't seem to be at a higher rate than the number of cases of myelitis we just expect in a year. And the reason I am very confident in a lack of association between the vaccine and causes of CNS inflammation is our safety network for looking for vaccine adverse events has been able to pick up on some adverse events of concern. So, for example, people will read about the concern of myocarditis or pericarditis with the Pfizer, the Moderna COVID vaccine.

[00:02:27] And it's important to recognize that the number of cases we're talking about are maybe 40 per million doses. This is still an extremely rare event, and yet we were able to pick up on it. So, if myelitis, or optic neuritis, or brain inflammation was occurring at a statistically significant rate after vaccination, we'd be hearing about it by now. We've given over 300 million doses of the vaccine. So, if there was a significant risk, we'd be seeing cases in my hospital and other hospitals around the country, and we're just not seeing those cases. And so, I think the association between the vaccine and CNS inflammation is slim to none.

Rebecca Whitney: [00:03:06] Got it. Thank you. And, hopping back to COVID vaccination for our community members, are you seeing any kind of lingering issues or long-term exacerbation of symptoms post vaccine, such as an increase in neuropathic pain that may continue on longer than what may be typical?

Dr. Ben Greenberg: [00:03:28] So, I have heard of a couple of these cases. And one of the things to remember is that whenever anything negative happens, frankly, these days in the world... so, if I eat a bad turkey sandwich and I have food poisoning for a week, the first place we go is social media. And there's an amplification and echo chamber effect such that individual events seemingly become patterns.

[00:03:53] And what I've seen in the overwhelming majority of patients, 99.99 - keep going - percent, is if there is any exacerbation of previous symptoms, so, somebody had pain or spasticity and in the days after their vaccination have a worsening of pain or spasticity, 99, again, .999 - keep going - percent of patients go back to their baseline in a very reasonable amount of time. In fact, there are lots of things that can exacerbate old symptoms, not just a COVID vaccine.

[00:04:23] There have been reports, and I've heard these from just a few patients, of those symptoms lingering for quite a period of time, not just days, but maybe weeks or a month. And so, I'm aware of the phenomenon, but it's been definitely the exception and not the rule, in terms of what we're seeing in patients.

[00:04:43] And so, we are still very avidly recommending that our patients get the vaccine because what we're seeing right now is not just a continued rate of hospitalizations, ICU stays, and deaths related to infection with the COVID virus.

Rebecca Whitney: [00:05:01] Got it. Thank you. And, specific to the pediatric population, are there any new updates about the research for the vaccines? Are we any closer to the younger population being eligible for a vaccine?

Dr. Ben Greenberg: [00:05:23] We definitely are. The studies have been going on in the under 12-year-old population. And, just to remind everyone, the mRNA vaccines, the Pfizer and the Moderna vaccines, that class of vaccines we've used in 12 and up, but the studies are still ongoing in the under 12. You'll hear on the news best guesses in terms of when the FDA could consider data for emergency use authorizations in under 12. And they all look to be this, that sometime in the fall, September, October, November range, and my guess is as good as anybody else's in terms of when exactly they may happen.

[00:05:58] But the other major milestone we'll see coming up is not just an emergency use authorization in adults and 12 and above, but probably FDA approval of the vaccines, which has been a point of contention for many folks. We expect that approval to come in the near future. And so, I think as we get into the fall, we'll be able to change the way we're talking about the vaccine and expand the population who are vaccine eligible.

Rebecca Whitney: [00:06:28] Okay. Thank you. And we've had a lot of questions from families who are very concerned about sending their children back to school. Of course, it depends on where you are in the country, as far as what kind of protocols may be in place, as far as protecting. But, for those who maybe the children are not yet eligible, they're under 12, or they have other medical concerns where they're not able to receive the vaccine, or they are vaccine eligible and we know that there is still the potential to get COVID less severely. But what recommendations or suggestions do you have for those families, as they're trying to decide what to do? Any protocols for sending your child back to school? For considering the vaccine if you are 12 and up? Anything for our community?

Dr. Ben Greenberg: [00:07:26] Yeah. So, this does get complicated, and we're struggling with this, depending on the city, region, and state you live in. Different places are taking different approaches. But I can tell you what the data clearly states. So, number one, everybody who is vaccine eligible in your household should get vaccinated, full-stop. The mathematics are dramatic, in terms of supporting the benefit versus any risks, concerns relative to the vaccine. And so, we should always bet on what overwhelmingly is going to protect

our health, wellbeing, and the health and wellbeing of our kids. And the data is profound for this vaccine, in that regard.

[00:08:08] Number two, irregardless of whether or not you're vaccinated or not, or your children are vaccinated or not, so, even once vaccinated, everybody should be wearing masks in school. And different school districts are taking different approaches around whether or not there'll be a mask mandate versus a voluntary use of masks.

[00:08:28] And this is one of the few times as a clinician, as a scientist that I'm going to cross over and make a public health or perhaps advocacy statement. And that is all of our families should become very engaged in their local communities, at the school board and state legislature levels, to push schools to have mask mandates, particularly during where we are right now with the Delta variant.

[00:08:52] What we're seeing across children's hospitals in the region and the nation is a dramatic spike in the hospitalization rate of previously healthy children, adolescents, kids, infants who are in ICUs and who are dying from COVID-related illnesses, particularly the Delta variant. And it is all preventable through universal masking during this outbreak.

[00:09:18] And so, it is important for families, not just to make a choice for themselves, for their kids to go to school in masks, but to advocate that the schools use mandatory masking of staff and students while we get through this latest wave of infections and hopefully expand the uptake of vaccinations, so that we don't have this issue for the entire school year.

[00:09:44] This is 100% solvable if we take those two steps. Vaccinate everybody who's eligible and, whether you vaccinate or not, wear a mask so that we can stop the spread of this once and for all.

Rebecca Whitney: [00:09:58] Got it. Thank you so much. And talking about the news, the FDA, the FDA is likely getting ready to approve a third dose for those who are immunocompromised and have already received two doses of the vaccine. Can you elaborate on that a bit more? And once this is approved, will it pertain to our community members, and more specifically, to those who are on immunosuppressant therapies, like the rituximab for their NMOSD or MOG antibody disease?

Dr. Ben Greenberg: [00:10:30] Yeah. So, it's a great question and something we're dealing with in clinic all the time. In our community, as hopefully everyone's aware, we really have two different types of patients and families that we serve.

[00:10:42] So, for a group of our patients, they've had a one-time, one-time only event, and they aren't on any medications to suppress the immune system because they're felt to be in a low-risk category of ever having their autoimmune events again. But we also serve a community of individuals whose immune systems have remained perpetually confused, and they require certain medications, immunosuppressants, to prevent their myelitis, or optic neuritis, or brain inflammation from coming back in the future.

[00:11:12] And despite their willingness to roll up their sleeves and get vaccinated, despite their push to take doses of vaccine to not just help themselves, but to help others around them, their immunosuppression medicine is interfering with the efficacy of the vaccine. Not the safety, the efficacy. So, they may get their first dose.

[00:11:32] They may go back three to four weeks later, get their second dose, but their immune system doesn't mount a response to the vaccine because of the medication they're on. Through no fault of their own, they're

stuck in a position. We've been doing a study on this all year, here at UT Southwestern, and we're finding that certain medications in the immunosuppressant category significantly impact the efficacy of the vaccine.

[00:11:57] And we were not alone in this. There, there are studies from across the nation supporting it, so much so that the NIH and the FDA and the CDC have been looking at the data. And we expect for the FDA to give a clearance and perhaps even a recommendation for individuals who are on those medications to get a third dose, to try and increase the odds of getting an effective response to the vaccine.

[00:12:22] We welcome this recommendation. We think it is the right move to take. And if somebody is on a medication that suppresses their immune system, they should talk with their clinician about setting up for a booster, if and when we get the approval. For our patients and families where there have been an autoimmune attack, but they are not on a medicine to suppress the immune system, this recommendation would not apply, because we presume that their immune system is perfectly normal relative to mounting a response to the vaccine. So, it is going to be specific to individuals who are on immunosuppressant medication.

Rebecca Whitney: [00:12:59] Okay, perfect. Thank you so much. If I can hop back to talking about the vaccine in our pediatric population. Obviously, there are some families who have had the correlation of vaccination with the onset of their demyelinating attack. For those families, is there anything else we can provide them as they help make those decisions, as they decide to go forward with vaccinating their children? Are the mRNA vaccines a quote, unquote safer option than a viral vector vaccine, if they're of that concern where they're not ready to take that jump because they've been in that rare circumstance before? Any thoughts on that?

Dr. Ben Greenberg: [00:13:46] Several thoughts. And I want to break this down in several ways. So, one is around our data and experience, and the other is around the science. So, let's start with the data and the experience. We have looked at individuals who have suffered inflammatory events of the brain and spinal cord for years. And we've looked at how often does a subsequent vaccine after their initial event, whether it was vaccine related or not, how often when people take a subsequent vaccine do we see new events?

[00:14:19] And it is essentially zero. In individuals with neuromyelitis optica or multiple sclerosis, it's a little harder because we know those individuals have relapsing disease. So, if you get an injection and, two months later, you have a relapse, all we can do is say, 'Was the rate of relapse, statistically different from the unvaccinated population?'

[00:14:39] And there isn't a difference. So, we don't think it increases the rate of relapse. Then if we look at individuals who have had only one attack and they get a vaccine, I am not aware of even single cases where we show there was new inflammation. We've had recurrence of old symptoms, we've had an exacerbation of old symptoms, but we haven't seen new inflammation. So, if it's happened, it has been rarer than rare, rarer than concerns about relationships between vaccination and myelitis to begin with. So, the data says it's safe to do. But now let me take it to individual experiences on, and the biology is why it's safe to do.

[00:15:19] If somebody feels as though their myelitis event, or their optic neuritis, or brain inflammation is vaccine related, so, they had a vaccine in one month and the next month they had their first symptoms of their neurologic disease, which would naturally lead us as human beings to question, 'Did A cause B? Because it came first, did the vaccine have a relationship?' One of the things to remember is it's never a one-to-one relationship of vaccines to the event. It is a combination of everything that was going on - if there was a relationship, - everything that was going on played a role.

[00:15:56] How do I know this to be true? Well, almost all of those individuals had childhood immunizations. They had their polio immunizations, their tetanus immunizations, their measle immunizations, and we don't

see one month old, two months old, three-month-olds coming in with myelitis at some exceedingly rate different than the population. So, vaccines in general are not the cause of myelitis.

[00:16:22] So, if a vaccination played a role in myelitis, if it did, it was in the context of everything else that was going on in your life. Were you nutritionally deficient in vitamin D, were you not sleeping well, did you have a cold at the same time, things that we'll never know about, and it is impossible to recreate those events again, years later. So, this notion of, 'I had an event with vaccine X, so I don't want any more vaccines' loses track of the fact that it's never just going to be one thing. And, if it was that I had an event because of that one vaccine, it wasn't the COVID vaccine, so that one should be safe.

[00:17:02] So, when we're talking about risks of vaccines, we need to be internally consistent. If somebody is going to say that their event or somebody's event was caused by vaccine X, then avoid vaccine X. But, if somebody is going to say their event was called by vaccines in general, we know that not to be true because there were a lot of vaccines that came before that and after that, that didn't cause the myelitis.

[00:17:26] And so, when it comes to the COVID vaccine, since you've never seen it before, and we've given hundreds of millions of doses and are not seeing outbreaks of myelitis, or ADEM, or optic neuritis - I would have seen it by now, if it was going to happen. I can look people in the eye through a camera and say it's safe to take this vaccine regardless of what your history was prior and vaccine-related events.

Rebecca Whitney: [00:17:53] Okay, thank you very much. And talking to you about the studies that are underway for children, I often get the question about, 'How do I find out how it pertains specifically to those children who have had one of these disorders?' How long does it take before we'll be able to extrapolate that information specific to our, even if we go to pediatric, community and be able to show the data specific to them? How far out are we from that?

Dr. Ben Greenberg: [00:18:28] Yeah, so, it's a great question and it gets to this notion of when we're looking at data, how representative is that data relative to each of us as individuals.

[00:18:37] So, for example, if all of the vaccine studies were done in women between the ages of 15 and 18, would that data apply to me, a male who's older than 18 by just a few years, and I question whether or not it applies. It's a very scientifically appropriate question to say, 'If we get data from 40,000 children between the ages of 3 and 11, 6 and 11, that says it's safe for children, does that apply to my child who has these very unique attributes to them?' And the answer is, we don't get to a representative sample of our kids who have had myelitis until enough of our kids who have had myelitis take the vaccine. And now that's going to be a concerning statement to parents.

[00:19:32] They're going to say, 'Well, you don't know what you're recommending then to my child.' To which I say, scientifically, we can triangulate a few different pieces of data. So, we can take those 40,000 kids under the age of 12 and say, in this pediatric population, the vaccine is or isn't safe, based on the data we get when the study is done.

[00:19:52] So, assuming we find out that it's safe, there weren't any surprises, nothing happened in these children that was different than the adults that we have been vaccinating. And then I look at the thousands, hundreds of thousands, dare I say, millions of individuals who have taken the vaccine over the age of 12, who do have autoimmune diseases of some kind and say, well, nothing bad happened to those.

[00:20:18] And you can triangulate to say, the likelihood is, in 6- to 12-year-olds who've had an autoimmune event, there shouldn't be a unique issue. Now, that is not the same as doing the study, and I admit that, I

embrace it, I own it. But that math tends to work out very well, and it is highly unusual for us to see surprises when we apply that logical approach.

[00:20:43] So, when we get the approval, or at least the authorization to use vaccinations below the age of 12, assuming the data looks similar to what we saw in the adults, I will feel very comfortable recommending the vaccine for the families that we treat at our clinic.

Rebecca Whitney: [00:21:00] Okay, thank you very much. And do you have any updates as far as, we've talked about, we're seeing the increases, we're seeing the spikes, particularly in children, and it's related to the Delta variant. Any additional updates about the Delta variant? Anything that you can share with us as far as where we're headed with that? And are there additional variants that, you hear rumblings of them here and there, that we need to be concerned about?

Dr. Ben Greenberg: [00:21:37] Yes. And at risk of getting on a little bit of a soap box, I am not going to... sometimes I resist the temptation to say, 'We told you so.' I'm not going to resist it this time. I'm going to own it. We have been saying for months that if we as a nation and we as a world didn't do certain things, then we would be exactly where we are today, with ICUs and hospitals being overrun across the country.

[00:22:05] We have families who are coming in with patients who need treatment for their cancer or treatment for a heart attack or a stroke who can't get a bed in an ICU because they are full of individuals who didn't believe what we said, didn't get vaccinated, didn't wear a mask, and now they are suffering and causing suffering to others who aren't getting adequate care across this nation.

[00:22:30] It is time for us to recognize that the Delta variant was of our own making. The only reason we get variations, mutations in viruses, is by giving them a chance to infect. They don't mutate unless they have people to infect.

[00:22:47] So, we welcomed this mutation into our society by not vaccinating, and we're paying the price for it and, unfortunately, we're paying the price with lives for it. And so, the Delta variant is concerning because it is more transmissible and appears to be more severe, and appears to be causing more issues in adolescents and children than we saw with the original variant.

[00:23:08] And so, it is plain to say we will have children in our country die from an infection because we did not vaccinate enough people. There was a large enough group of people who were unwilling to vaccinate and that directly leads to what we're seeing today.

[00:23:25] So, are we going to see other variants? Yes. Until we get our vaccination rates up over 75, 80, 90% of the population, we will see new variants, and I want to paint the nightmare scenario for our community. We have not yet seen this virus mutate in a way to cause myelitis, or ADEM, or encephalitis. There's nothing to say that mutation couldn't happen.

[00:23:51] We haven't yet seen this virus mutate to cause a whole host of complications that it could cause. And, even though its infectivity with these mutations is getting higher, it could even get more transmissible than what it is now.

[00:24:06] We have tools to control it, but if we allow it to keep going, we may get a mutation that makes our vaccines ineffective, and we will be right back to where we were, which is a full lockdown and waiting a year for a brand-new vaccine to be developed for everybody to hesitate to get all over again.

[00:24:28] So, you hear about the Lambda variant, you hear about other variants that are out there, and they are being tracked to determine, are they more infectious, or more toxic, or escaping vaccine efficacy. And we should all be afraid of that. And if we want to avoid the horrific doomsday scenarios that mathematically can occur, if we allow the virus to keep going like it is, then get a vaccine, where a mask, and in a few months, this will all be done.

[00:24:59] But we have to do it at the same time and together. It only works if we do it as a group. The individual choice to vaccinate and to mask won't stop this. It has to be at a community level.

Rebecca Whitney: [00:25:12] Yes. Thank you very much.

Dr. Ben Greenberg: [00:25:15] Sorry about the soap box.

Rebecca Whitney: [00:25:17] It's okay. Always appreciative of your assistance and your availability. Thank you so much for taking the time.

Dr. Ben Greenberg: [00:25:25] Thank you so much.

Rebecca Whitney: [00:25:26] It's very much appreciated.

Dr. Ben Greenberg: [00:25:28] Take care.

Rebecca Whitney: [00:25:28] Thank you.