

Neurologist talks COVID-19 vaccines and MS



Currently, three vaccines — Pfizer-BioNtech, Moderna and Johnson & Johnson — are [available for all adults over 16](#) (the FDA has authorized the emergency use of the Pfizer-BioNtech vaccine for [adolescents 12 and older](#)).

But should you get vaccinated if you've already had COVID-19? When does full immunity happen after vaccination?

Dorlan Kimbrough, MD, assistant professor of neurology at Duke University School of Medicine, neurologist at Duke University Hospital in its multiple sclerosis and neuroimmunology division, and a member of a group of experts convened by the National MS Society to develop vaccine guidance, joined the Society for an [Ask an MS Expert episode](#) on vaccine efficacy, safety and side effects.

Dr. Kimbrough cleared up vaccine myths and common questions; below are highlights to know.

- [How vaccines work](#)
- [Johnson & Johnson vaccine](#)
- [Side effects](#)
- [MS & the vaccine](#)
- [Racial disparities in healthcare](#)



COVID-19 vaccines help our bodies develop immunity to the virus that causes COVID-19 without us having to get the illness, according to the Centers for Disease Control and Prevention. Photo: iStock

How vaccines work

What can you tell us about this new, mRNA approach to vaccines?

While no one is a fan of the pandemic, the fact that it has kept this pace and caused all this calamity, it's really accelerated the implementation of technology that was kind of coming along slowly from a research standpoint before. So, this is an opportunity to have new technology be brought out and applied faster than it otherwise would have, which in a way, helps get the vaccine out to people more quickly. And it's effective and it's safe. mRNA is mainly a vehicle of introducing the vaccine that makes the production of it a lot swifter than some of the methods before, and when you have a worldwide pandemic, it's important to move swiftly. That's why this technology was employed for this particular vaccine.

There have been all sorts of myths and stories circulating on various social media platforms that mRNA vaccines can alter someone's DNA, they can cause infertility in women and even that they're full of dangerous toxins. Dr. Kimbrough, would you mind clearing up some of these myths for us?

One thing that could be reassuring is that the minute anything doesn't quite add up or

there's been any concern, like we've seen with [the blood clots](#), immediately there's investigation of what's going on. Some of the things that are being reported, sometimes it's on social media, sometimes it's the far corners of the internet, would have captured notice and would have brought a lot of scrutiny. There's a lot that's just patently false.

Some of these myths also have to do with the understandable fear of dealing with the pandemic and then having a new vaccine that's available; the idea of doing something brand new under scary circumstances is frightening. When I talk to some individuals, what I take away from the conversation is not so much that people really believe in the myth per se, but that they are afraid of doing something that is frightening. In our culture, there's a need to find a reason that sounds scientific to back it up — but it's okay to be afraid. It's okay to acknowledge that there's some fear and concern about whether or not you want to go ahead and do something so new.

I think sometimes the myths are kind of like a manifestation of the fear that's out there, and the more we get the message out about what the science says and about what we're actually seeing, the more those myths can be dispelled.

Pfizer recently announced that people will likely need to get a booster at some point in the year. A flu shot is needed every year — will it be the same for the COVID-19 vaccine?

This is where we're on the frontier of figuring out how this is going to play out in the long run. That's a possibility, but not guaranteed yet. It's not clear exactly what the timetable would be for booster scenarios.

Are the two mRNA vaccines effective against the known variants?

So far, so good. There are a variety of these different variants. Bottom line is that there have been several of these variants tested to see if there are sufficient antibody responses to the vaccine for them and so far, so good with that.

Once people have received that second shot, how long does it take before someone's considered fully vaccinated?

Two weeks after the last shot.

If you recently had COVID-19, should you still be vaccinated?

This is a moving target about how long one may have immunity after exposure to COVID itself. And the numbers on that are kind of varied. This gets back to earlier questions about whether we'll need boosters in the future; it remains to be seen what the actual timeline would be for that.

(Editor's Note: the CDC recommends those who have previously had COVID-19 get the

vaccine. Learn more on the [CDC's FAQ page](#)).

Johnson & Johnson vaccine

The CDC and FDA issued a statement on April 13 announcing a pause of the Johnson & Johnson vaccine to give experts time to investigate an extremely rare blood clotting issue. I know it's an issue of significant concern for some people. Can you explain what this blood clotting issue is and tell us how serious it is?

What we know so far is that there have been some rare blood clots. It's called a cerebral venous sinus thrombosis. That's the long way of saying that these are blood clots that have occurred in the veins that drain blood away from the brain, and the problem with that is that it can injure the brain and, in some cases, it's been very serious. But fortunately, it's been quite rare, too.

Are people living with MS at any greater risk for this particular condition if they happen to receive the J&J vaccine?

Not for this particular condition, no.

If someone received the Johnson & Johnson vaccine, is there anything that they need to be watching for?

If someone received the vaccine the J&J vaccine over three weeks ago, chances are very small that anything problematic will happen for them. Even if it's been within three weeks, the chances are still very low, and some of the things to be on the lookout for would be severe headaches out of proportion to anything experienced before. Blood clots can also occur elsewhere, too, so if there's chest pain, shortness of breath, abdominal pain, headaches, seizures, things that are fairly obvious, severe, new and distinct from what people have experienced before. Those would be warning signs.



After receiving the COVID-19 vaccine, you may have some side effects, which are normal signs that your body is building protection. Photo: iStock

Side effects

What are some of the common side effects that people may experience after getting vaccinated?

Similar to some other vaccines, there may be some pain at the injection site. Some people may experience more generalized aches and pains. In some cases, people may feel fatigued, maybe a mild headache. People have described it as sort of like flu-like symptoms without the full-blown respiratory component of that. But generally speaking, those are fairly mild and usually resolve within days to a week or two.

Will people living with MS experience the same side effects as the general population?

In general, it should be about the same, and some people have concerns about whether or not vaccines might trigger an MS relapse or whether it might cause them to have more symptoms than usual.

Anytime there's a challenge to the immune system with vaccination, and we've seen this with other vaccines, it is possible that some people could feel some of their MS symptoms

more prominently, or in some cases, people may happen to have a relapse afterward. There have been a few preliminary studies so far that show that the rate of relapses is not higher than if someone hadn't had the vaccine.

Is it recommended to take over-the-counter medicines like ibuprofen or acetaminophen to treat side effects after the vaccination?

That can be reasonable in some circumstances. Most people are able to, at least in my clinical experience, tolerate it without it, but mild analgesia, staying hydrated and rest is usually sufficient.

What's the available evidence telling us about long-term side effects?

It's understandable and reasonable to be concerned about the possibility of having long-term issues with any new medication or vaccine or anything that's being introduced into someone's body. Thus far, we don't have any evidence of any long-term effects. And also, it has been very recent that we started vaccines for COVID-19. Looking in general, though, we don't have a lot to hang our hat on in terms of seeing bad outcomes.

MS & the vaccine

What can you tell us about the safety of getting an mRNA vaccine while on a disease-modifying therapy?

It is safe and a lot of the questions that I'm hearing from people these days revolve around the timing and whether the vaccine will work properly. In general, it's more important to get the vaccine than to worry about the timing, but in certain circumstances, [we do have suggestions and considerations](#) to apply for the timing for specific medications.

Do some disease-modifying therapies affect how well the vaccine works?

The short answer is that the vaccines have been seen to be effective with various MS treatments. Some of what we're looking at is extrapolated from looking at other vaccine studies and seeing how well the immune system responds to someone who is using one of the medications that affect the immune system.

In some cases, the level of protection is "lower," so the responses may not be as high as if someone wasn't taking that medication. But even with that, they're still above the threshold that you need to get protection. So, there is still some protection although there are individual circumstances where I'm sure doctors will look into that for their patient about whether or not they happen to be someone that falls outside of that. But in general, these vaccines are effective despite treatments with disease-modifying therapies.

If someone is experiencing a flare in their MS symptoms after receiving their first shot, should that person still get the second shot?

The first thing to do there is to make their neurologist aware of it and get that investigated because a lot of times, people understandably use the term “flare” or “attack” or “exacerbation” in different ways to describe what they’re feeling, and having increased symptoms after a vaccine does not necessarily mean that MS is all of a sudden misbehaving. There could be other issues at stake, so it’s important to really get a good handle on what’s happening. Is this a true MS relapse, are there new MRI lesions, or is this just kind of feeling uncomfortable after the vaccine? The first step there would be to make their neurologist aware of it and get it investigated before making a decision about getting the second shot.



The National MS Society is here to help people affected by multiple sclerosis and their families overcome the physical, mental and financial challenges created by the coronavirus (COVID-19) pandemic. Photo: iStock

Racial disparities in health care

COVID-19 has disproportionately affected minority communities and getting vaccinated is exactly what can help keep the people in these communities safe. But a history of medical mistreatment and discrimination in our health care system are both causes of concern for people of color when it comes to being vaccinated. Can you share with us a little bit about how communities of color have been affected impacted by COVID-19 and what effect this is all having on vaccine

confidence?

As many people are aware, a lot of the statistics about the impact of disability, intensive care unit stays and mortality have been very disproportionate for lots of communities, particularly Black patients and Hispanic patients. Sometimes that has to do with some of the comorbidities in terms of cardiovascular disease and pulmonary disease among many other things that can raise the risk of bad outcomes with COVID-19.

When it comes to vaccination, it's important to use this as a tool to try to mitigate some of that risk so that the spread can be slowed down. Not only for themselves as an individual, because as we know, most people don't have the worst outcome with COVID-19. But the problem is if you're someone that's spreading it then that just contributes to this snowball effect of it going throughout the population. So again, vaccination is key.

Knowing that health disparities exist, how can people of color feel confident that getting that vaccine is safe and effective for them? What can be done to help amplify that very important message?

People who have gotten the vaccine can share their experiences. I have been vaccinated, many people in my family have been vaccinated. Obviously, outreach programs from various organizations – whether it's public health agencies and governmental healthcare organizations, patient advocacy organizations – are ways to get the word out. I think it's important for everybody to try to understand that a lot of this has been very well vetted and there's an urgent need to get this word out there.

Were people of color represented in the vaccine clinical trials and were there enough to fully understand the impact of the vaccine on this specific population?

If you look at the various groups that were in the trials and also just at the U.S. census population, there's very good representation there, so I think we can be definitely confident about the administration of this vaccine for everyone.

I would still encourage folks to get vaccinated because we're trying to prevent that mortality data from mushrooming as it had been, especially when this came on the scene a year ago.

Editor's Note: Questions and answers have been edited for length and clarity.

To learn more about the COVID-19 pandemic and multiple sclerosis, visit the [Society's Coronavirus Resources Page](#). Read [blogs about the MS community's experience with the COVID-19 pandemic](#).