

SCIENCE

The Spike

A growing number of scientists are sounding the alarm about the risks of both COVID and its cures

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Those raising evidence-based concerns about the adverse effects of COVID-19 vaccines are often labeled purveyors of misinformation, and derided as anti-scientific conspiracy theorists and paranoid kooks. Or worse. Bill Kristol tweeted in late 2021 that, “there is blood on the hands in 2021 of the unvaccinated and especially their enablers and encouragers who know better.” However, there are a number of prominent scientists, doctors, and independent researchers who are wary of both COVID infection and the vaccines. Many of these figures are worried about one particular piece of the SARS-CoV-2 virus: the spike protein, which allows the virus to enter your cells, and which was chosen to be the featured element used in the Moderna, Pfizer, J&J, and AstraZeneca vaccines. The available evidence shows that COVID, especially in light of new forms of treatment, is not as acutely deadly as once feared, and while mortality attributable to the COVID vaccines has not been definitively characterized, it is likely relatively rare. But some scientists are concerned by the potential effects of repeated exposure to the spike protein, and therefore the advisability of further boosters

that contain it, given that we are going to be frequently reexposed to the circulating virus. Those voicing these concerns, however, have been subjected to censorship, ostracization, and damaging attacks on their reputations.

Take, for example, evolutionary biologist Bret Weinstein. On his DarkHorse podcast on June 21, 2021, Weinstein sat down with mRNA pioneer Dr. Robert Malone (COVID-vaccinated) and Silicon Valley inventor turned COVID investigator Steve Kirsch (COVID-vaccinated) to discuss the potential dangers of the vaccines rapidly being distributed around the country and across the world. The focus? The spike protein of SARS-CoV-2, which is produced when the mRNA from the vaccines enters your cells.

By June 21, 2021, Weinstein felt there was enough evidence to demonstrate that the spike was “cytotoxic” (toxic to cells) and asked for Malone’s take. Malone not only concurred but said he had already warned the FDA about that potential risk “months and months and months ago.” On June 3, 2021, according to an email provided to Tablet, Malone contacted Dr. Peter Marks, director of the FDA’s Center for Biologics Evaluation and Research, regarding his concerns about “circulating spike protein, and the associated implications.” Malone said on the podcast that his contacts inside the FDA ultimately felt that his evidence wasn’t strong enough to prove that the spike alone was “biologically active.” Dr. Marks has not responded to Tablet’s requests for comment.

Not one week after Weinstein’s podcast, as the concept of a toxic spike protein spread across the internet, the new fact-checking police leapt into action. Reuters wrote, “Posts are sharing the false statement that the spike protein in COVID-19 vaccines is cytotoxic, suggesting that it kills or damages cells. There is no evidence to support this,” and quoted a couple of experts. The fact check deemed Weinstein’s claim “false,” just as it had once done with the assertion that COVID-19 was likely created in a laboratory. As it turns out, the spike protein of the SARS-CoV-2 virus is now considered extremely toxic to many human systems—a conclusion reached in paper after paper. Evidence to support this has also been found in tissue samples from deceased

COVID patients, and those who were suspected to have died due to complications from vaccination, as well as those with post-vaccination myocarditis.

Every virus, like every organism, is made up of proteins, which are in turn made up of complex chains of amino acids. These are the microstructures of life itself. Coronaviruses like SARS-CoV-2 are composed of four main types of proteins: envelope, membrane, nucleocapsid, and spike. The spike protein's primary role is to help the virus attach to cells, gain entry, and propagate itself. To begin with, the ruthless efficiency of the SARS-CoV-2 spike protein makes it an extremely dangerous bit of biology. But also, this spike is itself a pathogen. This assessment is not breaking news; researchers who studied past human coronaviruses, especially SARS, noted that the spike protein can cause inflammation and increase disease severity. In fact, a 2005 study in the prestigious *Nature Medicine* journal proved that the spike protein of SARS, due to its effects on the now-famous ACE2 receptor, can “cause severe and often lethal lung failure.”

But the SARS-CoV-2 version makes those past spikes look simple by comparison. Dr. Paul Marik, the founder and chief scientific officer of the Front Line COVID-19 Critical Care Alliance, and the second-most-published critical care physician in the world, told Tablet that the only substance he's aware of as toxic as the SARS-CoV-2 spike is cyanide. “Cyanide kills you quickly, spike kills you over a prolonged period of time. It's truly astonishing the things it does.” Marik thinks that spike is the primary driver of COVID's virulence, which he saw firsthand while treating severely ill patients during the first wave of the pandemic. “It is the most vicious disease I have ever seen. People have said this is like the flu, and it's no big deal. Let me tell you ... It is an extremely evil disease. It's difficult to treat. It responds poorly and it kills people slowly over time.”

Veteran viral pathologist Dr. Gerard Nuovo, a retired professor at Ohio State University and an active researcher of COVID-19, was similarly shocked after looking at tissue samples from people who died from the illness. “I said to myself, I have never seen a fatal viral infection with so much viral protein in the target organ, which as you know is the lung.”

Here are some of the things that the spike protein has been found to have the potential to do. In the cardiovascular system: One segment of spike can signal the cells of blood vessels in the lungs to grow, causing “thickened” vessel walls typical of pulmonary hypertension, a condition that makes it harder for the heart to pump blood into the lungs; that same fragment, S1, can damage the cells which line the inside of every blood vessel in the body including the lungs; can damage the cells in your heart which work in concert with those cells; can cause the heart to become fibrotic; and can, says this 2022 paper, even contribute to the development of myocarditis, an inflammatory condition of the heart muscle which weakens it, and can cause sudden death in recovered patients. The Cleveland Clinic estimates that the survival rate for myocarditis is 80% after one year and 50% after five.

In the blood: Spike can deform our clotting cells—or platelets—sometimes irreversibly activating them; it binds to blood clotting proteins and creates clots that are “structurally abnormal”; it can cause microclots from red blood cells clumping together that deplete blood oxygen levels. David Scheim, an independent researcher who co-authored a study published in December 2022 about those microclots with a team from France’s famed Méditerranée Infection Institute in Marseille, told Tablet that their experiment revealed the red blood cell clumping “is actually visible [to the naked eye], it forms a film so you don’t even need a microscope, you just add the spike to a suspension of red blood cells and you see this clumping.”

In the brain: The S1 fragment of spike has been shown to move straight across the blood brain barrier, the all-important gatekeeper of the brain, in humanized mice. Once it’s in, the spike can damage cells that line the

walls of blood vessels in the brain, lead to memory loss, or disrupt the mitochondria of similar brain blood vessel cells, potentially triggering “a more severe form of stroke.” Perhaps more ominously, certain sequences on the S1 portion of the spike are able to bind to amyloid proteins that have been known to cause severe neurological disease. The proteins that spike is able to bind are related to the development of Alzheimer’s, Parkinson’s, and Creutzfeldt-Jacob, an irreversible, and fatal brain disease. Additionally, the spike itself may be considered an amyloid, a misfolded protein that can grow and form fibrous plaques. Think of the 1958 horror classic *The Blob*, but at a cellular level.

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In short, spike can contribute to cardiovascular damage, brain damage, blood clots, autoimmunity, cell deformation, and cell-to-cell fusion. As Walter Chesnut, an independent researcher, has previously written, “It is a Swiss Army Knife of death.” Chesnut co-authored an article in 2021 with a group of scientists, doctors, and journalists that included Luc Montagnier (who won a Nobel Prize for his discovery of HIV) outlining what may tie together all of the spike’s nasty effects. They theorized that spike preys on our DNA, and that repeated

exposure will prematurely age us, leading to earlier death by natural causes. “Spike is spike. The more the worse,” Chesnut told Tablet.

The Chesnut and Montagnier et al. hypothesis that spike protein can accelerate biological aging is still novel, and not widely accepted. Professor Masfique Mehedi, a microbiologist and virologist who has studied Ebola at the prestigious Rocky Mountain Laboratories, and whose work shows that COVID spike can enter the nucleus of our cells, told Tablet that their hypothesis may be “premature.” There is, however, mounting evidence that the larger idea that vaccine-induced spike could be harming people is worth taking seriously.

The spike protein of SARS-CoV-2 is not precisely identical to the spike used in the vaccines, though they are very similar. First of all, at any given point in time, the wild-type spike is mutating (e.g., omicron) with unknown consequences, whereas the vaccine spikes are predetermined. But the design of the vaccine spike was deliberately altered from the original in at least two key ways: to increase stability, and to “lock” the protein in its “prefusion” shape, in the hopes that it would teach our immune system to recognize and neutralize the virus’s spike before it has a chance to bind to our cells.

One argument against the spike protein hypothesis of vaccine injury—meaning the notion that exposure to the spike protein is the main cause of the vaccine’s potentially severe side effects—is that due to the changes locking the spike in its prefusion shape, it can’t cause the damage alleged. However, many of the examples provided above of spike-related pathologies don’t require cell-binding, but rather just require exposure.

Because of how dangerous it is, some believe that it’s a secondary question where the spike is coming from, COVID or the treatments for COVID—all that really matters is that it’s coming into contact with your cells. “The more spike, the greater the risk. So if you have COVID and get vaccinated, you have a greater risk, if you are vaccinated and you get COVID, you have a greater risk,” Marik said. In February 2023, a group of researchers from the University of Colorado seemed to affirm Marik’s contention. After assessing a small group

of patients with myocarditis, they concluded: “These observations suggest that myocardial injury during COVID-19 or after mRNA vaccination may be produced by the same Spike protein–based mechanism, which may be amenable to preventative or therapeutic strategies.”

A second argument against the hypothesis is that there simply isn’t enough spike released into the blood after vaccination to cause the kinds of issues we’ve seen in COVID patients. “The low doses of the spike protein in the vaccine, in our experiments anyway, didn’t cause any recognizable damage,” Dr. Nuovo told Tablet.

Nonetheless, Nuovo abstained from getting his third vaccine dose because “the initial vaccine data showed that people who didn’t get the booster were still very well protected against severe COVID, and the second point was I didn’t see the point of introducing more spike protein into my body if there was no benefit to be coming from it ... because the spike protein per se does have some toxicity associated with it.”

There is another way that the vaccines might be causing harm. Due to FOIA requests from Judicial Watch and others, we now know that the vaccine material travels beyond the upper arm muscle throughout the body, in spite of the CDC’s web page maintaining the 2020 narrative that it stays put. Because the vaccines were designed to express the full-length spike protein in our cells, some researchers like professor Mehedi worry that the vaccines could be inducing a major attack of the immune system against healthy cells throughout the body. “An unfortunate & unimaginable detrimental consequence ... face[d] by everyone who took it due to a poor and unacceptable design by the low-grade researchers and opportunistic makers.”

That kind of candor is hard to come by when the price for expressing an idea or trying to test a theory can be the destruction of one’s career and social life, as happened to numerous researchers and scientists, including Marik. For his views on COVID treatment in the ICU, like not wanting to use the highly toxic antiviral drug remdesivir, and probably for his stated viewpoint on the spike protein and vaccines, Marik was suspended from his role as ICU director of Sentara General Hospital in Norfolk, Virginia, in late 2021. He resigned from

his role as professor at East Virginia Medical School shortly after. Marik says his colleagues no longer talk to him. “Not a single one.”

Yet, the data has a way of piling up, even if many in science, media, and government have avoided acknowledging its implications: By October of last year there had been at least 1,250 studies published in medical journals documenting events as disparate as Bell’s palsy, multiple sclerosis, central venous thrombosis, encephalitis, inflammatory bowel disease, myocarditis, etc. after vaccination. For one awful example, take this recent case report from Tokushima University in Japan documenting the “fatal multi organ inflammation” of a 14-year-old girl after her booster. Then there are the adverse event-monitoring systems, the joint-run CDC/FDA VAERS (Vaccine Adverse Event Reporting System) being the most notable. As of March 31, 2023, there have been over 1.5 million adverse events reported in the system, with nearly 200,000 involving hospitalization. While VAERS is a very imperfect system, with some critics claiming massive underreporting and others, overreporting, there is a clear signal that injuries are occurring. German Health Minister Karl Lauterbach said in a March 2023 interview that the rate of “serious vaccination damage” may be as high as 1 in 10,000.

Defining the ultimate numbers of how many people are being affected by various side effects is a difficult task, but looking at the original trial data does give some context. Last September, a team of researchers, including two from UCLA, one from Stanford, and one editor of the *British Medical Journal*, published a study in *Vaccine* titled, “Serious adverse events of special interest following mRNA COVID-19 vaccination in randomized trials in adults,” which reviewed the Pfizer and Moderna trial data. While the investigators note that their study was hampered by their lack of access to the raw data, which the companies have not made available, they concluded that, “The excess risk of serious adverse events found in our study points to the need for formal harm-benefit analyses, particularly those that are stratified according to risk of serious COVID-19 outcomes.”

It is too early to say definitively if these vaccine injuries are caused by the spike protein (or the proprietary lipid nanoparticles or the fragmented, low-quality mRNA or something else) but there is certainly enough evidence to consider this as a possibility. And yet the doctors and scientists who have been trying to raise significant questions have been often ignored, bullied, or silenced.

Bret Weinstein's podcast was demonetized on YouTube. Walter Chesnut was removed from Twitter for half of 2022. A peer-reviewed paper, which concluded that the spike protein can actually damage our DNA's ability to repair itself—not all that distant from what Chesnut is now proposing—was retracted by the journal *Viruses*, though the explanation seemed at least as political as purely scientific. Indeed, in working on this piece, Microsoft Word even prevented me from opening the link to Chesnut and Montagnier's *France Soir* article about the aging hypothesis, stating in its pop-up warning, “conclusions related to vaccine safety are not validated and lacked experimental support.” The state of California passed a law last year that essentially muzzles doctors from offering a dissenting opinion on the “contemporary scientific consensus” on COVID. Professor Mehedi, who is more concerned about the vaccines turning the immune system against our cells than about spike, told Tablet that doubts he's raised about the vaccine design and the subsequent potential for damage are simply ignored by his fellow scientists. “Nobody listen[s] to me, even,” he said, adding: “We are not critical thinkers.”

The COVID epoch is still very young. SARS-CoV-2 most likely didn't exist before 2019; mRNA tech has been in the works for 30 years, but it had never been deployed widely in humans until 2021. The Moderna vaccine was designed in two days, with the company's CEO, Stéphane Bancel, telling *The New York Times*, “this is not a complicated virus.” The vaccine's adverse events, meanwhile, have been studied for only about two years now, and have been downplayed by our public health apparatus and media. There are immunologists who believe that repeated exposure to SARS-CoV-2 could be extremely detrimental to our basic immune function over time, and others who believe the vaccine can cause similar devastation to our defenses, both potentially

explaining the reemergence of rare latent viral syndromes and fungal infections now emerging around the world. We don't know what we don't know. In fact, we're just starting to find out.

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