

Shingles is not caused by COVID-19 vaccines. Here's the science

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Physicians in Israel recently reported that six women with autoimmune disorders developed the painful rash known as shingles 3 to 14 days after they received a first or second dose of Pfizer's COVID-19 vaccine.

Yikes! Traditional and [social media](#)—not to mention vaccine foes—have pounced on the small study, warning that COVID-19 vaccines might reactivate the childhood chickenpox virus, triggering a shingles outbreak in adults.

But that's like concluding that because the rooster crows at dawn every day, he makes the sun come up.

"It's called a logical fallacy," said William Schaffner, an infectious disease specialist at Vanderbilt University Medical Center in Nashville, and also a liaison to the CDC's immunization advisory committee, which makes vaccine recommendations that shape insurance coverage. "The Israeli doctors fell into this trap because the COVID-19 vaccination and the shingles outbreaks were related in time."

Even the Israelis, who published in the journal *Rheumatology*, acknowledge that "the study design is not structured to determine a causal relationship."

So let's dig into what has been determined.

A sneaky virus called herpes zoster

Chickenpox is now preventable with a vaccine, but people born before 1995 probably had the childhood infection, which shows up as itchy red blisters. The virus, called [varicella zoster](#), is part of the herpesvirus family, which includes the genital herpes virus that causes sexually transmitted infections.

After the chickenpox go away, the virus hides out in nerves, ready for a potential reappearance years or decades later as shingles.

Shingles is so common that you have a 1 in 3 chance of developing it by age 80—unless you get Shingrix, the 4-year-old GlaxoSmithKline vaccine that is 90% effective at preventing it.

None of the six Israeli women, ages 36 to 61, had gotten Shingrix.

What makes herpes zoster flare into a shingles outbreak? It's unclear, but outbreaks have been linked to something we've all been feeling during the pandemic: stress.

Another risk factor is having a weakened [immune system](#). All six of the women had autoimmune diseases, such as rheumatoid arthritis, and were taking drugs that suppress the immune system.

How to distinguish evidence from coincidence

Schaffner has been getting emails from patients who developed shingles soon after getting a COVID-19 vaccine. "They are absolutely convinced

that there's a causal relationship," he said.

But to establish a link scientifically, the rate of shingles in a large unvaccinated population would have to be compared with the rate in a similar vaccinated population.

"If the rate is significantly higher in the vaccinated population, then there's probably a causal relationship," Schaffner said. "If not, it's a coincidence."

Even if the rate is higher, the next step would be lab studies of patient specimens to find biological evidence.

Israel, with one of the world's most aggressive vaccination programs, has given at least one dose of Pfizer's two-shot vaccine to more than half the population, or 4.7 million people. (Almost 40% are fully vaccinated.) Given how common shingles is, six cases out of 4.7 million is not a red flag, or what researchers call a "safety signal."

In the U.S., regulators and public health scientists are closely watching the federal Vaccine Adverse Event Reporting System (VAERS) for safety signals of COVID-19 vaccination. Although the reporting system is not comprehensive, it enables federal scientists to compare the rate of a post-vaccine event such as shingles with the actual "background" rate in the general population.

That's how VAERS revealed an ultra-rare clotting disorder that prompted officials to "pause" use of the Johnson & Johnson vaccine last week. Even though the disorder has occurred in only about 1 in a million J&J vaccine recipients, that rate is about threefold higher than would be expected. A federal [vaccine](#) advisory committee will meet on Friday to recommend whether to restrict, shelve, or just add a warning to the J&J one-dose shot.

"I have urged everyone who contacted me to report their case of shingles to VAERS," Schaffner said.

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