

# Q&A: The COVID-19 Vaccine

Category: Stories

written by Tim Sanborn | January 5, 2021



“How are you surviving the COVID-19 pandemic?”

Lately, this is my new opening question with patients who come for a routine office visit. As a cardiologist in a community-hospital setting, I see mostly elderly patients.

When I ask my patients this question as they sit on the exam table wearing their brightly colored masks, they usually answer, “I don’t go out much. When I do, I wear a mask and practice social distancing.”

In recent weeks, they’ve begun asking *me* questions—about the COVID-19 vaccine. Having just received the vaccine myself, I can describe the experience firsthand.

“Getting the COVID-19 vaccine hurts less than a flu shot,” I reassure them. “It was a simple pinch of the muscle in my arm and an injection with a very small needle that I barely felt. After waiting fifteen minutes to be sure I didn’t have any serious reactions to the vaccine, I left with a Band-Aid on my arm—and the peace of mind that our country may soon be able to conquer this deadly disease.”

“I sure hope so,” most patients reply.

“As with any vaccine, there are potential side effects,” I continue. “Pain and swelling at the injection site, fever, chills, headache and even fatigue are common. These side effects are not dangerous and usually go away quickly.

Most people are back to work the next day.”

“But I’m worried about having a serious allergic reaction,” patients often respond. “Haven’t there been some severe reactions reported in patients in Alaska and the UK?”

“You’re correct,” I answer. “There have been a few cases of people suffering anaphylaxis after receiving the vaccine. One doctor in Boston, who had a shellfish allergy, brought his EpiPen with him when he got the vaccine. (An EpiPen contains epinephrine and is used to treat an allergic reaction to bee stings or certain foods.) Almost immediately after this doctor got the vaccine, he felt dizzy, and his heart rate raced up to 150 beats a minute. Within minutes, his tongue went numb, and he was drenched in a cold sweat. The doctor said it was the same reaction he’d experienced with shellfish. He immediately used his EpiPen, then was taken to the emergency room, where he received Benadryl and steroids to calm down his immune system. He was observed for a while, then safely discharged home.”

“How often does this type of allergic reaction occur?” patients wonder.

“So far, after more than two million injections, severe allergic reactions have occurred in only a handful of patients. To be cautious, health officials at the CDC advise that the vaccines may not be appropriate for people with a history of anaphylaxis to ingredients in the vaccine. They also recommend that everyone be observed for fifteen minutes after getting the vaccine, in case they have a serious adverse reaction and need treatment. The risks you face from *not* getting the COVID-19 vaccine are worse than those you face from getting it.”

“What causes those allergic reactions?” patients ask.

“Some experts think the ingredient polyethylene glycol may be the culprit, but we don’t know for sure. The CDC and the FDA are tracking these allergic reactions to find out more about them.”

“Is this something *I* should be concerned about?” patients often ask.

With most patients, I can say, “Looking at your medical record, I don’t see that you have any serious allergies. Are you aware of any?” When patients say no, I reassure them again that the COVID-19 vaccine is safe and strongly recommend that they get it as soon as it becomes available.

“Haven’t they found mutant strains of the COVID-19 virus?” some have asked.

“Yes. As far as we understand, these mutations may make the virus easier to spread, but don’t cause a more serious infection.”

At this point, patients often ask, “Can you tell me more about how this vaccine works?”

“Coronaviruses are named for the crown-like spike proteins on the surface of the virus. Generally, to trigger an immune response, vaccines introduce weakened or inactivated viruses or bacteria into the body. Then our body’s

immune system makes antibodies against these germs. The current COVID-19 vaccines, however, are unique in that they contain messenger RNA that gets into human cells and teaches the ribosomes, or protein factories in the cells, how to make a harmless piece of the COVID-19 virus spike protein. After copies of the protein are made and go to the cell surface, our immune system B cells recognize this spike protein as foreign and begin making antibodies against it, as they would with a natural infection. With the vaccine, our bodies learn how to protect us from the serious consequences of getting sick with a COVID-19 infection.”

“This is fascinating,” most say. “What an amazing medical breakthrough, to be developed in such a short period of time.”

“Yes, it’s quite a remarkable achievement!” I agree, then caution, “We still have other questions to answer. We don’t know whether vaccinated people might develop an asymptomatic COVID-19 infection, then transmit the virus to others. We also don’t know how long the vaccine’s protection will last, or whether booster shots will be needed, like a flu vaccine. Although the current vaccines are reported to be 95 percent effective in reducing the risk of a serious COVID-19 infection, in a large population a 5 percent risk could still be significant. Until more people are vaccinated, we’ll all need to keep wearing masks to prevent airborne transmission to others.”

“Well, I’m over seventy-five years old, with a heart condition,” most patients conclude. “You’ve convinced me: I should get the vaccine as soon as it’s available.”

“That’s a smart decision on your part,” I tell them. “It’s rewarding for me as a physician to answer your questions so that you can make the best decisions for your health. Unfortunately, some patients feel it’s their right to ignore simple public-health advice. But this resistance to following the health experts’ recommendations is waning. The willingness to get the vaccine is now up to more than 60 percent of the population, and still rising.

“You and I are both old enough to remember the polio vaccine,” I conclude, “and what a great reception that received, back in the 1950s. Now, we need that same acceptance for the COVID-19 vaccine.”