SCIENCE

Peter Salk, whose father conquered polio, says coronavirus fight is far from over



Dr. Peter Salk, one of Dr. Jonas Salk's sons, stands near a photo of his famous father, at the Salk Institute for Biological Studies in La Jolla. The elder Salk discovered and developed the first successful inactivated polio vaccine. (Howard Lipin)

The La Jolla resident hasn't left his home in two months, and doesn't plan to do so soon.

By GARY ROBBINS

MAY 23, 2020 | 6 AM







He lives in La Jolla Village, near a cove that will be crowded this weekend by sunbathers who are no longer willing to shelter-in-place from the novel coronavirus.

Peter Salk's favorite stores and restaurants also are nearby. Many are beginning to reopen now that the pandemic is on the decline in San Diego County.

But after two months of hunkering down at home, the 76-year-old Salk won't be venturing beyond his front porch during the long Memorial Day weekend. And it may be a while before he does.

"I'm not ready to run the risk of getting infected," said Salk, a biomedical researcher who spent years working with his father, Jonas Salk, the man who developed the first successful vaccine against the deadly polio virus.

"It seems clear that as we loosen up, the disease can come back."

Customers <u>began to return</u> to local restaurants on Thursday and Friday, after dine-in service was resumed countywide.

But many people share Salk's concerns, especially older people. The COVID-19 death rate is particularly high among those who are 70 or above.



Dr. Jonas Salk gives an 8-year-old boy a trial polio vaccine at the Frick Elementary School, Pittsburgh, Pennsylvania, in 1954. (Underwood Archives/Underwood Archives/Getty Images)

Salk's thoughts about the threat carry weight because of his family name, as well as his deep understanding of communicable diseases and the promise and peril of vaccines. In 1953, at age 9, he became among the first wave of people to be inoculated with his <u>father's experimental vaccine</u>.

His message has special meaning among people old enough to remember the era when polio paralyzed and killed thousands of people in what seemed like a random way. Children were hit the hardest. It wasn't unusual for a parent to take their child out of school at the mere suggestion that another student had the virus, which is spread when people come into contact with an infected person's stool. Polio also can be transmitted through the droplets in a sneeze or a cough from someone who is infected.

In the 1940s and '50s, polio was the most feared disease in the country. Such public places as swimming pools and movie theaters were shut down when outbreaks occurred.

Things didn't begin to change until 1955, when Jonas Salk's vaccine was deemed safe and effective after seven years of research, development and testing. By 1961, the incidence of polio cases in the US had dropped by 97 percent.

Salk moved on to La Jolla, where he founded a biomedical research institute that bears his name. Peter, who <u>earned his medical degree</u> at Johns Hopkins University, later joined the Salk Institute, where he studied everything from cancer to immunotherapy, multiple sclerosis and HIV/AIDS.



Dr. Jonas Salk reads LIFE magazine with his wife and three boys. From left to right: Jonathan, 5; Donna Salk; Peter, 11; Salk; and Darrell, 8. (ASSOCIATED PRESS)

He still keeps close watch on diseases and was alarmed when news about the coronavirus first began to circulate.

"I was dumbstruck when this all came about," Salk told the Union-Tribune during an interview on Zoom. "I'm 76, I have had some lung issues, and suddenly here's this virus that overloads and overwhelms hospitals.

"I thought that if I got this infection, or my wife, Ellen, did, we might not be able to get a hospital bed. Or, if we needed it, we wouldn't be able to get a ventilator.

"I was scared. I felt like the disease was lurking everywhere. I took hand sanitizer around with me. I was paranoid that I might touch something that was contaminated with the virus."

Gov. Gavin Newsom issued a decree on March 19 that ordered Californians to shelter-in-place.

"That was such a relief to me," Salk said. "I haven't left home since then."

His 2003 Honda Civic sits outside. The battery is dead from lack of use.

Salk took another step to potentially protect his own health, obtaining the anti-malarial drug hydroxycholorquine. He obtained it long before President Trump cited the drug as possible treatment for COVID-19.



Hospital Corpsman 2nd Class Shane Miller, left, and Hospital Corpsman 2nd Class Austin Kelly, both assigned to Fleet Surgical Team 9, draw blood from a Sailor assigned to the guided-missile destroyer USS Kidd (DDG 100) after its arrival in San Diego on April 28 as part of the Navy's response to the COVID-19 outbreak on board the ship. (Petty Officer 2nd Class Alex Corona/U.S. Navy)

Trump's remarks caused an uproar because scientists have yet to determine whether the drug can be effectively used against the virus.

"I looked at the original studies and got the impression that the drug might be useful," Salk said. "But it was clear that it would have to be used carefully because of side effects that could cause dangerous abnormal heart rhythms.

"More recent reports have suggested that hydroxychloroquine may not, in fact, be effective in the context of severe coronavirus disease. Whether it might be useful shortly after exposure isn't clear to me.

"I might still consider taking it, with careful monitoring."

In the meantime, scientists around the world are feverishly trying to develop a vaccine against the virus.

Salk is circumspect on the matter, saying, "I do my best to keep an open mind about new vaccines. I am predisposed to think that they are likely to be both safe and effective. My perception has been that, for the most part, when problems have shown up they have been handled appropriately ...

"It important not to try to go too quickly, despite the pressing need for having a vaccine as soon as possible. I have read, for example, that some of the vaccine programs may be skipping animal studies and going straight into humans. You lose an opportunity to see how the vaccine will work in people."



At a drive-up testing site, Covid Clinic medical assistants Rhiannon Weik (right) and Arely Gutierrez (left) collect samples for Coronavirus COVID-19 testing at the San Elijo campus of Mira Costa College in April in Cardiff. (Eduardo Contreras/Eduardo Contreras/The San Diego Union-Tribune)

Salk says he didn't bother getting flu shots as a young adult, "despite the fact that my father had played a major role in developing the first influenza vaccine in the early 1940s."

"It must have driven him crazy that I held back in the way. But then a family member came down with influenza and was horribly sick. That changed my attitude, and I have gotten flu shots ever since."

Salk is eager to see a safe vaccine emerge soon. He feels very unsettled about what's occurring now.

"First of all, we don't yet know the natural history of the disease as it occurs through seasons in the year," Salk said. "Other coronaviruses exhibit seasonality. Maybe we'll get lucky for the moment and the novel coronanavirus will tend to spread less in the spring and summer than in winter. But we don't know.

"In any case, the chances of the disease flaring up again, sooner or later, are real, particularly with the loosening up of social distancing restrictions."

But he understands people's need for good news.

"People were afraid of polio. It affected them for years," Salk said. "It could be measured in the extraordinary relief that came when the (Salk) vaccine was found to be safe and effective. There was jubilation. Finally, we had a vaccine in hand so that we did not have to live in a constant state of fear."

He's not sure that people's anxiety will immediately subside when a vaccine is approved for the coronavirus.

"It will depend on what this vaccine looks like," Salk said. "Will it be really successful? Will it be available? Who's going to get it? How many people are actually going to want it?

"We're living in a time where there's already distrust of vaccines in a significant portion of the population.

"I have concerns about this."

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