



“Breakthrough” Infections and the Polio Vaccine

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Many people are confused by the term “COVID Breakthrough Infections,” which are infections occurring even after three doses of vaccine. I think the confusion is the result of the name being wrong. The virus doesn't "breakthrough" anything. A better name might be “Vax Miss” infections, because something about the vaccine or the recipient's body caused the vaccine to “miss” its goal of producing effective immunity. "Vax Miss" infections are not unique to COVID but are "an expected occurrence for a small percentage of those receiving any vaccine. **No vaccine for any disease is 100% effective** in preventing infection in every person who receives it.” (1)

You may be surprised to learn that "Vax Miss" infections *can* occur with the polio vaccine. “Two doses of inactivated polio vaccine (IPV) are 90% effective or more against polio; three doses are 99% to 100% effective,” says the Centers for Disease Control and Prevention (2). But the CDC cautions that, “There are rare cases of individuals contracting polio even with the shots” because *no vaccine is 100% effective*.

The Salk Vaccine: Not 100% effective

While "Vax Miss" infections will be exceedingly rare with the current 99% to *nearly* 100% effective polio vaccine, the original Salk vaccine was far from “100% effective”, despite Salk's claim on April 12, 1955 when the vaccine trials report was announced. Unfortunately, hyperbole ruled on that beautiful spring day. First to speak, Dr. Tommy Francis, who ran the 1954 polio vaccine field trial, reported, “The vaccination could be considered to be 60 to 80 percent effective against paralytic poliomyelitis.” (2)

However, the already-prepared press release stated, “Dr. Thomas Francis, Jr., Director of the Poliomyelitis Vaccine Evaluation Center, told an anxious world of parents that the Salk vaccine has been proved to be up to 80-90 percent effective.” (3) Newspapers and newsreels reported the 90% number. (4) And, ultimately, Salk himself that day announced “100% effectiveness,” causing a heated backstage argument between Francis and Salk.

Polio Vaccine “Vax Miss” Infections”

When polio cases in the US began to rise again after 1957, questions arose about the “100% effectiveness” of Salk's vaccine.

In 1962, public health specialist Dr. Herbert Ratner's Polio Vaccine Status committee's findings were presented in testimony to the U.S. House of Representatives:

“In the fall of 1955 Dr. Langmuir [director of polio surveillance for the U.S. Public Health Service] had predicted that by 1957 there would be less than 100 cases of paralytic polio in the United States. As you know, four years and 300 million doses of Salk vaccine later, we had in 1959 approximately 6,000 cases of paralytic polio, 1,000 of which were in persons who had received three, four, and more shots of the Salk vaccine.”

Ratner's committee estimated that Salk's original vaccine was "possibly 72% effective," a percentage in the middle of Tommy Francis' estimated range. This percentage suggests that there would potentially have been "Vax Miss" Infections” in 28% of those who received the 1950s vintage polio vaccine, accounting for the rise in polio cases in spite of widespread vaccination.

“Vax Miss” Infections” - Polio Versus COVID

Given the 90% to nearly 100% effectiveness of today's injectable polio vaccine, and the absence of poliovirus in nearly the entire world, there are likely few, if any, polio "Vax Miss" Infections”.

But in spite of the 90% to 95% effectiveness of COVID vaccines, with 500 million COVID cases worldwide and 11 billion COVID vaccine doses given, at least 550 million COVID "Vax Miss" infections would be expected. Why? Because no vaccine is 100% effective.

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References: (1) www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/breakthrough-infections-coronavirus-after-vaccination#

(2) www.cdc.gov/vaccines/vpd/polio/index.html

(3) <https://sph.umich.edu/polio/>

(4) www.youtube.com/watch?v=2LIDn_MQDkc

