Preventing Polio with Salk's Vaccine

Polio, a disease which also existed in ancient times, is incurable. Even today, despite all our technological and medical advances, the illness cannot be cured.

It can, however, be prevented.

This clip, from "Unconditional Surrender" - a film about polio and its first preventive vaccine by Dr. Jonas Edward Salk and his colleagues - takes us behind the scenes in the 1950s when polio was quickly and consistently spreading among children throughout America.

In 1952, for example, an outbreak of polio caused many people to be placed in iron lungs. This image, online via the National Museum of American History (courtesy Rancho Los Amigos Medical Center in Downey, California) depicts multiple iron-lung patients being cared-for by nurses that year.



Some individuals with polio had to live in iron lungs for decades (for the rest of their lives). That's because the polio virus significantly harmed their respiratory muscles, rendering them unable to breathe on their own.

On the 11th of July, in 1953, the *Chicago Tribune* – among other news organizations – reported the success of the first mass inoculation program in Montgomery, Alabama:

Montgomery, Ala., July 10 (AP) – Medical authorities today pronounced the first mass gamma globulin inoculation a success in reducing polio.

The serum was injected last week in more than 31,000 Montgomery children in efforts to halt a near epidemic. Two cases were reported here yesterday and another today, bringing the county's total to 91.

Dr. D.G. Gill, state health officer, and Dr. A.H. Gragam, Montgomery county health officer, said in a statement:

"The mass immunization program of children 9 years old and under in Montgomery county – the first test in the United States – has proven to be effective in reducing the number and severity of polio cases.

"We believe that, in line with the results of experiments in Houston, Tex, Sioux City, Ia., and Provo, Utah, the next four weeks in Montgomery will show fewer cases, by possibly 80 per cent."

The two health officials said the cases probably would be milder, with "fewer paralytic cases than would have been expected without the aid of gamma globulin in the children of 9 years of age and under." (See *Chicago Tribune*, July 11, 1953, at page 27.)

On the 26th of February, 1954, Dr. Salk and other health-care providers began the first mass-testing of the vaccine in Pittsburgh. Children lined-up in the Commons Room of the Cathedral of Learning, at the University of Pittsburgh - the place where Dr. Salk and his team created the vaccine - to be innoculated.

The following year - on the 12th of April, 1955 - Dr. Salk's vaccine was declared "safe and effective" for the prevention of polio.

The Salk vaccine consisted of one initial shot and two additional "boosters."

This documentary also explains how the vaccine was processed and what occurred after the mass-testing proved the innoculations were 78% effective (even with just the first shot).

In the clip we meet Randy Kerr, the first child to get the innoculations after the vaccine trials were concluded.

Salk's vaccine (which utlized inactivated poliovirus) was injected. Dr. Albert Sabin's vaccine, which followed Salk's by a few years, used a low-grade form of active poliovirus which children could take by mouth.

Both vaccines are still used throughout the world to prevent children and adults from contracting the disease which can be both paralyzing and deadly. When the vaccine is not provided to children, however, the polio virus reemerges, then spreads.

A case-in-point occurred in Pakistan where the Taliban outlawed polio-vaccination programs for about two years. Not only did Pakistani children become ill with polio, the virus—known as "wild type 1 poliovirus" (WPV1)—spread. It reached Syria in 2013.

Dr. Salk, who was born on 28 October 1914, died on 23 June 1995.

See, also:

"Could You Patent the Sun?"

Credits:

"Unconditional Surrender," a film about polio and the first preventive vaccine, is online courtesy Library of Congress.

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Iron Lungs during 1952
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