MEDICINE

Polio Protection for Life?

Statements give hope that a single series of anti-polio "shots" may be effective for long periods of time, perhaps for a lifetime. Must guard against possible new strains of virus.

See Front Cover

➤ THE BEST thing about the Salk polio vaccine, apart from its safety, is its promise of long-lasting, maybe life-long protection. While it may take a few years to be certain of this point, two statements about the vaccine give this promise.

One is that of the vaccine's maker, Dr. Jonas E. Salk of the University of Pittsburgh. The level of polio-fighting antibodies induced by the vaccine when the booster dose is given seven months or longer after the first, priming "shots" is higher than that in persons who have had an attack of paralyzing polio, he said.

Second encouraging statement on the vaccine's long-lasting effect came from Dr. William C. Workman of the Laboratory of Biologics Control, National Institutes of Health. He said:

"It is a reasonable hope that, as in diphtheria, natural exposure to the poliomyelitis viruses will continue to reinforce the immunity induced by vaccination, but experience, possibly of some years, will be required to establish this."

Continued vigilance will be needed, Dr. Workman said, to be sure there is not in the future a change in the polio viruses we now have, or even the development of new strains. This sort of thing has handicapped production of vaccines against influenza, making it almost impossible to produce one that would be effective against the particular strain that might appear in a given epidemic.

The cover of this week's SCIENCE NEWS LETTER shows how the Salk vaccine is prepared in the specially-built laboratories of Parke, Davis and Co. Three strains of poliomyelitis virus are grown separately, then pooled. The mixture is drawn from the pooling tank into large storage bottles and is refrigerated until the safety and potency of each lot have been determined.

Looking toward the future of vaccination against polio and other virus diseases is the fact that scientists now have a "base line for the future." There is no guesswork and can be no "fuzzy or iffy allowances," declared Dr. Thomas M. Rivers of the Rockefeller Institute for Medical Research. The field trial involving nearly two million children and the evaluation procedure followed by Dr. Thomas Francis Jr. of the University of Michigan show the way to get the facts about the safety and efficiency of any future vaccines.

"Sorely needed" for the future, Dr. Workman said, is a simple test to tell quickly which child or expectant mother or other person is immune to polio and which needs the vaccine. This would help greatly in making best use of the available amounts of vaccine.

Hope that polio might be eradicated from the population even before universal vaccination of the population was expressed by Dr. David Bodian of the Johns Hopkins University, Baltimore. He based this on "incomplete but suggestive laboratory experiments."

If the vaccine tends to eliminate polio virus carriers as well as paralytic cases, the hope would certainly come true.

The good news about the Salk polio vaccine is triple good news. First, of course, is the fact that it works and is safe. Second, the fact that it is "extremely effective" against the most severe, most often killing form of polio, bulbar polio. Third, it protects against family exposure. This can mean the end of the family tragedies in which one child after another fell victim to polio's onslaught, with each subsequent patient more likely to be paralyzed by the disease.

The 80% to 90% efficiency rating Dr. Francis gave the present vaccine makes it about as good as a vaccine can be. No vaccine has ever been 100%, and none is expected to be, since there are some persons who cannot be successfully vaccinated. This is because their bodies cannot make antibodies to fight invading disease germs or viruses.

Children who will get the vaccine this year should get only two shots, Dr. Jonas E. Salk, University of Pittsburgh scientist who made the vaccine, has stated. The third booster shot should not be given until at least seven months later. If this schedule is followed, the vaccinated child should be immune to polio for "an indefinite period, perhaps years." All children who got the vaccine last summer should get a booster shot this year, Dr. Salk stated, because the three "shots" given last year within a five-week period would not give the lasting immunity that can come from a booster shot months after the primary vaccination.

Vaccinations of school children this year with vaccine supplied by the National Foundation of Infantile Paralysis will follow this schedule. Children who got three shots of vaccine last year will get the booster shot now.

One feature of Dr. Francis' report that will be especially reassuring to doctors is the fact that the areas picked by the National Foundation for Infantile Paralysis for the field trials last summer were so well picked that there could be no doubt of the vaccine's effectiveness on the grounds of where it was tried.

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• RADIO

Saturday, April 30, 1955, 5:00-5:15 p.m., EDT

"Adventures in Science," with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Dr. W. S. Middleton, chief medical director, U. S. Veterans Administration, will discuss "Mental Health Week."

MEDICINE

Polio Danger for Babies

➤ BABIES AND small children under five may bear the brunt of polio in the next year.

Unless special steps are taken, many of them will not get the famous Salk vaccine to protect them against the disease.

These neglected little ones are in the ages when polio, if it strikes, is most likely to paralyze.

Present plans call for vaccination of children in the first three grades of school who did not get the vaccine last year. The National Foundation for Infantile Paralysis will provide the vaccine for this.

Older and younger children can be vaccinated by the family doctor or the pediatrician. However, with the cost of three "shots" of vaccine estimated at $6 plus the physician's fee for giving the vaccine, many parents, especially with large families, may not be able to afford the vaccine for their children.

Babies and small children who are taken to health department child health clinics, for example, will not get the vaccine in most cases. A few health departments may be able to spare funds for this and some local chapters of the National Foundation for Infantile Paralysis might provide funds. This, however, is not yet definitely known.

Among children aged five to ten years, about 60% of all cases of polio are paralytic polio. The other 40% are non-paralytic. This figure is reversed among the small fry. Under age five, about 70% of polio cases are paralytic, with about 30% escaping paralysis.

More children in the older age groups probably get polio. For one five-year period, for example, one state reported cases of all kinds of polio attacked babies under one year at the rate of 10 per 100,000 population. From ages one to four, the rate was 30 per 100,000. At ages five to nine the rate was 45 per 100,000, with many non-paralytic cases included. After age ten, the rate began falling. In the 10 to 14 group it was 42 per 100,000.

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