

## IMMUNOLOGY

# No Pockets of Polio

**Although the necessity for further mass immunization against polio is debatable, each new crop of babies must be vaccinated if the disease is to be eliminated.**

► THE POCKETS of polio left in this country can be wiped out if every newborn baby is immunized.

"We need a door-bell ringing campaign in the poorer sections where vaccination is ignored," Dr. Donald A. Henderson, surveillance chief of the U.S. Public Health Service's Communicable Disease Center, Atlanta, Ga., told SCIENCE SERVICE.

Unless each new crop of babies is vaccinated, Dr. Henderson said, polio will again become a threat even in cities protected by mass immunization programs such as those recently held in Washington, D. C., Pittsburgh and Detroit.

Similar programs were needed last year in Jacksonville, Fla., Philadelphia and Los Angeles.

The National Foundation, whose president, Basil O'Connor, sees no need of further mass immunizations because of the reduced number of paralytic polio cases in the nation, recommends immunization for babies as early as six weeks of age.

A boost to vaccination programs was given by the Vaccination Assistance Act of 1962. Since the spring of 1963, funds have been available for a three-year program to give grants to states and cities having children under five years of age who have still not been vaccinated.

Thirty-three states and 20 cities and/or counties have received and are receiving vaccination assistance funds primarily for polio and the three-in-one shots of diphtheria, tetanus, and pertussis, or whooping cough.

Mississippi is especially singled out by the Communicable Disease Center as doing a good job of tracking down the unvaccinated. This summer, school teachers in that state will give volunteer time to ringing the door-bells Dr. Henderson said should be rung.

By following up birth records and asking questions in individual homes, it is hoped that vaccination will be more widespread and eliminate the danger of epidemics. Matching funds are provided by communities along with Federal money, and any surplus can be used to combat smallpox and measles.

Polio is spread mainly by children. One-half of the cases are estimated to be spread by youngsters under the age of five. Children under three started epidemics in Nicaragua and Chile, both of which had previously had successful mass immunization programs.

Dr. Albert B. Sabin, University of Cincinnati Medical Center scientist who developed the Sabin oral live-virus polio vaccine that in three years has been used for more than 250 million persons all over the world, says that "systematic ongoing programs" with

oral vaccines must be kept in operation for the new generations of children if polio is to be eliminated.

"It may be predicted that in communities that have had satisfactory initial mass immunization programs but have failed to develop adequate programs for oral vaccination of most of the children during their first year of life," Dr. Sabin stated, "polio-myelitis will within a few years again become a threat to the unimmunized and inadequately immunized children and adults."

Although both the killed vaccine, perfected in 1955 by Dr. Jonas Salk, and the oral Sabin vaccine are recommended by the Public Health Service, many authorities believe that only the latter can rule out inoculated persons as carriers and, in Dr. Sabin's words, "break the chain of transmission."

The National Foundation supported the research for both vaccines.

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## MEDICINE

## Babies From Frozen Sperm Healthy, Normal

► FOUR BABIES, aged five months to 11 months, are developing normally, both physically and mentally, although fathered by frozen sperm, a Philadelphia researcher reported.

Six women volunteered for a research study because their husbands lacked spermatozoa and they wanted children. Two of the women had miscarriages in the fourth month of pregnancy, but one of them had miscarried three times previously when artificially inseminated with sperm that had not been frozen.

One of the women conceived with semen that had been shipped by air in a frozen state from Little Rock, Ark. Three of the six women conceived after one month of insemination. One conceived during the second month, and two required five months of insemination.

Dr. William H. Perloff, who headed a team of Albert Einstein Medical Center, Philadelphia, scientists who made the study, told a meeting on sterility in Bar Harbour, Fla., that the freezing technique could be useful in establishing human sperm banks and possibly in the treatment of human infertility caused by low sperm count.

He said fresh human spermatozoa had been preserved up to five and a half months by freezing at minus 321 degrees Fahrenheit in liquid nitrogen. After thawing, there was no significant change in the sperm count.

Although no conclusions can be drawn at this time concerning future development

of the babies or any hereditary implications, he said previous experience with a small number of human pregnancies show no congenital abnormalities.

In lower species, particularly cattle, Dr. Perloff told the American Society for the Study of Fertility, normal births have been reported from sperm that has been kept frozen over long periods.

Collaborating in the research were Drs. Emil Steinberger of the Albert Einstein Medical Center, Philadelphia, and Jerome K. Sherman of the department of anatomy, University of Arkansas School of Medicine, Little Rock.

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All-American Rose Selections

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## PUBLIC HEALTH

## Asthma Sufferers Told To Sing or Play Flute

► ASTHMA SUFFERERS can improve their breathing capacity by learning to sing or play the flute, a meeting of the American Thoracic Society, medical arm of the National Tuberculosis Association, was told in New York.

Dr. Arend Bouhuys of Emory University School of Medicine, Atlanta, Ga., said wind instrument playing and singing require "a fine regulation of the exhaled air flow rate and of the pressure generated by the lungs and chest."

A person at rest uses only about 10% of his vital capacity, or lung volume, Dr. Bouhuys explained, and even during hard work the volume is increased only to about 50%. By contrast, the singer or woodwind player uses his lungs nearly to the fullest possible extent.

Dr. Bouhuys based his advice on a comparative study of the lung function of a number of men who played wind instruments and of healthy controls who did not play.

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