

## PUBLIC HEALTH

# Polio Virus Put in Candy

Russia is currently perfecting a candy that contains the live polio virus. Trial tests to date indicate favorable results with the candy vaccine.

RUSSIAN SCIENTISTS and confectioners are making batches of candy that contain live viruses.

This medical bonbon not only tastes like candy, but, more important, the viruses so far have produced safe levels of polio antibodies, Dr. Albert Sabin, a researcher in the field of live virus vaccine at the University of Cincinnati, told SCIENCE SERVICE.

The Russian confectionery industry is currently working on this project, Dr. Sabin learned from a recent trip to that country. The candy vaccine is not available for general distribution yet.

Dr. Sabin was one of 50 specialists attending a World Health Conference on the live polio virus vaccine in Washington. He referred to 1959 as the "ILPVVY," International Live Polio Virus Vaccine Year, comparable in scope to the recent IGY.

Scientists from throughout the world pooled information and results of studies to date concerning the practicability and safety of using live virus vaccine.

Conditions all over the world are different in regard to polio, Dr. Sabin, developer of one of the three strains of live virus vaccines being tested, pointed out. For instance, the tropical and subtropical climates of South America affect outbreaks and control of polio in a different manner than would be found in the Soviet Union.

Dr. Sabin sent live virus vaccine to Russia where 3,800,000 Soviets received an experimental dose. An additional 143,000 Czechoslovakians, 200,000 citizens of Singapore and 2,250,000 Mexicans also received the vaccine. Results seem to be good, Dr. Sabin said.

Another mass inoculation program was conducted in the Belgian Congo where an epidemic of polio had broken out. Dr. Hilary Koprowski of the Wistar Institute of Philadelphia, developer of another strain, reported favorable results from that program. Institute scientists are just completing inoculation of 75,000, bringing the total of those vaccinated in the Belgian Congo to 320,000.

Most of these Africans received type one vaccine only since that type is most prevalent in the Congo.

The reasons many scientists favor live vaccine are as follows:

The attenuated, or live, virus vaccine is preferable to the Salk killed virus because it produces longer lasting immunity. Furthermore, the killed vaccine protects only against paralyzation. The live virus, on the other hand, protects from both paralyzation and infection. Thus a person who has received the live virus cannot be a "carrier" or spreader of the disease. Persons immunized by a live virus vaccine also pass the

immunity to others within the family. This results in a protective antibody level for some members of the family who would not receive shots.

Despite all of this favorable evidence, however, the U. S. Public Health Service has taken a position of conservatism on the live virus vaccine question.

Surgeon General Leroy E. Burney has pointed out the advantages of this vaccine, including lower cost, longer immunity and ease of administration. (The vaccine can be given in syrup, spray or pill form.)

Many questions remain unanswered, however. First, does the live virus invade and damage the nervous system? Second, how successful or harmless is the spread of the virus from one member of a family to another? Can all three types of polio virus be combined into one effective dose? How valid are the data from those countries that have used the live vaccine?

Dr. Herald Cox of the Lederle Laboratories, Pearl River, N. Y., the researcher of the third strain of live vaccines, was also on hand to add to the information that will help the USPHS set up criteria for the eventual use of the vaccine.



**OIL PIPE STILL**—*What is believed to be the world's largest crude oil pipe still, with a design capacity of 140,000 barrels a stream day, has started operating. It will replace nine smaller stills, Standard Oil Company (Indiana) at Whiting, Ind., reported. Three furnaces supply the heat needed to distill the crude oil processed daily.*

The vaccine has not been tried on a mass scale in the United States because a great percentage of this population has become immune through the use of the Salk killed vaccine.

These three American researchers plus 47 other specialists around the world will attempt to establish a program to eliminate polio throughout the world.

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## AERONAUTICS

## Jet Flights Smoother Above 40,000 Feet

JET AIRPLANE flights are smoother above 40,000 feet than between 20,000 and 40,000, two scientists have found.

This may mean more comfortable rides for thousands of air travelers flying in the new jet planes, which can cruise at altitudes up to about 42,000 feet.

The scientists measured "clear-air turbulence" at heights between 20,000 and 55,000 feet over western United States, England and western Europe, Turkey and Japan. Clear air turbulence is the name given to patches of gusty, rough air, which can bounce a plane some 500 feet or more. It does not betray its presence by cloud formations.

Turbulent air encountered during most airplane flights usually is found near or in clouds.

Clear air turbulence, the scientists found, is met only about two percent of the time at altitudes between 40,000 and 55,000 feet. Between 20,000 and 40,000 feet, however, it would be encountered about five percent of the time.

Drs. Thomas L. Coleman and May T. Meadows of the Langley Research Center, National Aeronautics and Space Administration, Langley Field, Va., reported results of the airplane measurements of atmospheric turbulence to NASA headquarters in Washington, D. C.

Science News Letter, June 27, 1959

## ENGINEERING

## Test Gas Turbine Engine As Powerplant in Aircraft

See Front Cover

A NEW turboprop-turboshaft engine, the 2,650 horsepower T64, has been designed by the General Electric Company.

In one version of the aircraft engine, it will operate continuously at angles from 100 degrees above to 45 degrees below horizontal. As a turboshaft engine it will operate at a 45 degree "nose down" position for helicopters performing air to ground and air to water towing missions.

In the photograph on the cover of this week's SCIENCE NEWS LETTER the turboprop version is shown in one of the test cells designed for the engine at Lynn, Mass. The engine was designed as a powerplant for support aircraft such as carrier or water based anti-submarine warfare airplanes, VTOL-STOL transports and missile carriers.

Science News Letter, June 27, 1959