MEDICINE

New Leads to Prevention of Infantile Paralysis Found

During Epidemics, Individuals Should Avoid Chilling And Strenuous Exercise; See Physician as Soon as Ill

DISCOVERIES that may lead to prevention of infantile paralysis were announced in reports to the medical committee of the National Foundation for Infantile Paralysis.

The mouth and alimentary tract are the probable areas of invasion by the virus of the disease, rather than the nose, as previously believed, and the alimentary tract is the chief site from which the virus is eliminated, Dr. Albert B. Sabin, of the University of Cincinnati, reported.

This puts the disease in a class with ailments like typhoid fever, instead of in a class with colds and influenza, from the standpoint of how it is spread and how its spread may be prevented. Diseases like the common cold which invade the body by way of the nose are spread by germs in nasal discharges, the breath and the saliva. Dr. Sabin could not find the causative virus in nasal secretions or saliva from patients sick with infantile paralysis, nor in portions of the nerves of smell examined after death in 12 fatal human cases. These findings, he pointed out, do not agree with the theory that the virus enters the body through the nose and travels along the nerves of smell to the brain and spinal cord.

Avoiding strenuous exercise and chilling during epidemics was advised by Dr. Sabin and Dr. Sidney O. Levinson, of Chicago, as a possible method of preventing the paralysis even if it does not prevent getting the disease.

"The history of heavy exercise (playing ball, swimming, hiking, etc.) is very frequently given by patients with paralytic poliomyelitis, and a limited personal inquiry has revealed that the interval between this exercise and the onset of paralysis is usually less than 24 hours," Dr. Sabin said. "This short interval suggests not only that those individuals were already harboring the virus in their nervous systems, but also that it might already have involved their medulla ("afterbrain") and spinal cord and that the exercise could be the factor which converts what might have remained an inapparent or nonparalytic type of poliomyelitis into the frankly paralytic type of the disease."

This would mean that, at least in epidemic areas, those persons who have fever, headaches, intestinal upsets, pain in the back and neck, and other otherwise unexplained symptoms of acute sickness, should not only see a physician immediately but also, under no circumstances, should indulge in heavy exercise.

Dr. Levinson stated that monkeys with infantile paralysis who were chilled by immersion in cold water developed a more severe paralysis than did either those that remained in their cages or those that were immersed in water at body temperature. This would indicate the obvious necessity of guarding humans with the disease against chilling.

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FLYING FORTRESS

This American ship now is seen wearing the bullseyes of the R. A. F. This Boeing B-17C-type bomber has a top speed of over 300 miles an hour and is especially equipped for high altitude flying.

PUBLIC HEALTH

Find Clues For Predicting Infantile Paralysis Outbreaks

CLUES for predicting where infantile paralysis outbreaks are likely to occur in the summer have been discovered by Dr. C. C. Dauer, epidemiologist of the District of Columbia Health Department.

The clues point to a possible outbreak of the dreaded childhood malady in Virginia this coming summer, Dr. Dauer suggests. (*Public Health Reports*)

The epidemics may not always come off as predicted. The clues which foretell the possibility are found in the number of infantile paralysis cases occurring in a given locality in the late fall and early winter. When there are a relatively large number of cases in a community at such a season, that community and surrounding area is likely to have a severe outbreak the following summer, Dr. Dauer finds from examining epidemic records as far back as the big 1916 infantile paralysis epidemic, when 27,363 cases were reported from 27 states.

Although no preventive of infantile paralysis has yet been discovered, Dr. Dauer suggests that the possibility of predicting where summer epidemics may come will give scientists a chance to test any preventive measures that may be devised and to carry on valuable preliminary studies on the epidemiology and immunology of the disease.

The records show, he says, that "several counties in eastern Kentucky and western West Virginia which had a high incidence in the fall of 1939 appear to have

been the focus from which the infection spread to the surrounding area in the summer of 1940. Likewise, the small group of counties in Iowa which reported poliomyelitis in larger number than usual in the fall and winter of 1939-1940, appear to have been the center from which the epidemic in that area may have spread the following summer.

"Several counties in northern Wisconsin reported a number of cases late in the fall of 1939 and a considerable number in January and February of 1940. In the summer of 1940 the disease began to appear first in the area comprising these counties and in the counties of the upper peninsula of Michigan immediately after.

"Such occurrences as described above are not unusual since several similar instances are to be found in the past decade."

As to this coming summer, Dr. Dauer points out: In the state of Virginia poliomyelitis cases were reported in larger numbers than usual, during the months of November and December of 1940. Most of these late cases were reported from counties located in the southwestern part of the State. It will be interesting to see if this instance of occurrence of the disease in this locality in the late fall will be the forerunner of a more widespread outbreak in Virginia and the surrounding area in the summer of 1941."

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PHYSICS

Officials Foresee Serious Shortage of Physicists

Colleges Will Graduate About 250 New Physicists This Year; Need Is for Over 1,000; Other Shortages

AN ACUTE shortage of physicists for defense work is foreseen by officials here. They are needed for investigating problems of electricity, strength of materials and means of protecting against bombs, mines, etc., as well as new ways of obtaining power.

Colleges will graduate about 250 new physicists this year. We need over 1,000.

An accurate assay of the new reinforcements for Uncle Sam's army of scientific and technical personnel and the extent to which they fall short of meeting immediate requirements of the Government and the defense industries will be available in about three weeks. Replies will then be received to a questionnaire now going out to all college presidents.

The National Roster of Scientific and Specialized Personnel, master list of America's available resources in scientific brains and specialized training, has asked all college presidents to furnish the number of physicists, chemists, psychologists and other scientists they will graduate this spring.

Forms will then be furnished to the colleges to pass on to these graduates, so that they may automatically be added to the National Roster.

In line with President Roosevelt's policy and the action of the Selective Service System in recommending special consideration by draft boards of requests for deferment by students in chemistry, engineering and medicine, it is anticipated that similar recommendations may be made for students in physics, psychology and other sciences where shortages are likely and where the need for additional manpower may seriously delay the defense program.

The shortage of physicists is believed to be much more serious than that likely to occur in chemistry. Fortunately, the United States has large numbers of trained chemists and chemical engineers —a situation attributed to the stimulus of the first World War.

When America entered the War in 1918, the need for chemists was keenly felt. At that time, Germany led in chemical development. But since that time, we have had more than twenty years in which to train chemists. Today, about 60,000 chemists are already registered in the National Roster.

This War may provide a similar urgency to direct intelligent young students into the field of physics. But up to date, physics has not attracted many. Only 7,000 physicists are now listed in the Roster.

In psychology, the number available is still smaller. There are only about 3,000 psychologists in the United States. The Government and defense industries are having difficulty in finding enough trained personnel especially in clinical and abnormal psychology, psychological and personnel testing, and in the analysis of propaganda.

Serious shortages also seem to exist in marine engineering and mechanical engineering.

To aid in meeting defense needs, the National Roster is now preparing to list trained personnel in the medical sciences. It is also planned to list motion picture engineers and distributers.

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PSYCHOLOGY

Committee Locating and Listing Psychologists

TO AID in meeting growing defense needs for psychologists and to avert a possible acute shortage of professionally trained personnel in this science, a special committee of the National Research Council is locating and listing psychologists qualified and available for the work needed.

This Committee on the Listing of Personnel in Psychology is working under the auspices of the National Research Council's Emergency Committee in Psychology. It will supplement the records already available in the National Roster of Scientific and Specialized Personnel, and will work in cooperation with the Roster.

Defense needs have brought a greatly stepped-up demand for psychologists who understand how to sort men out according to their various talents, aptitudes and skills so that each man can be placed at the task for which he is best fitted.

The Government and private defense industries also need psychologists for developing new training methods and for supervising the training of great numbers of workers in the shortest possible time.

Clinical psychologists are also needed to help provide for the mental health of America and to aid in protecting individuals from avoidable mental strains for which they are not fitted.

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RADIO

B. P. Caldwell, Jr., assistant secretary of Underwriters' Laboratories, Inc., will talk about incendiary or sabotage and normal accidents and fires that slow up defense production as guest scientist on "Adventures in Science," with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Thursday, May 29, 3:45 p.m. EDST, 2:45 EST, 1:45 CST, 12:45 MST and 11:45 a.m. PST. Listen in on your local station. Listen in each Thursday.