

## PUBLIC HEALTH

# Propylene Glycol Mist Might Stop Influenza Epidemics

Idea Would Be To Spray The Chemical Into Schools, Barracks, Industrial Plants and Other Meeting Places

**P**REVENTION of influenza epidemics may be possible by spraying a mist of the chemical, propylene glycol, into the air of schools, barracks, industrial plants and other places where large numbers of people gather.

Such a mist protected mice from the virus of influenza A in tests reported by Dr. Werner Henle and Dr. Joseph Zellat, of the University of Pennsylvania School of Medicine and Children's Hospital, to the Society for Experimental Biology and Medicine.

No signs of influenza developed in mice exposed to the flu virus by spraying it through an atomizer into the test chamber when propylene glycol was also sprayed into the chamber. When exposed to the virus in a similar way without the propylene glycol mist, more than 50% of the mice developed influenza.

Nearly 50% of the mice exposed to the virus without the propylene glycol

mist died, but only one mouse died in the group in which the mist as well as the virus was sprayed into the test chamber.

The propylene glycol mist is odorless, does not appear to stain or cause a noticeable film and the chemical has no poisonous effect on humans in the quantities used to create the mist. Its effectiveness in sterilizing air by killing bacteria had previously been announced by Dr. O. H. Robertson and associates, of the University of Chicago.

The tests by the Philadelphia scientists show that it is effective against at least one virus as well. They conclude that "propylene glycol aerosol (mist) reduces the chances of air-borne infection with the virus of influenza A and may be effective in preventing air-borne spread of the disease. The practicability of its use for this purpose has to be investigated."

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## MEDICINE

# Brain Injury Might Come From Vitamin A Lack in Infancy

**I**RREPARABLE paralysis and other signs of brain injury might result if babies did not get vitamin A, although this vitamin from butter and yellow vegetables like carrots is not necessary for the growth or function of the brain and spinal cord.

This seeming paradox was reported by Dr. S. B. Wolbach, of Harvard Medical School, at the meeting of the Association for Research in Nervous and Mental Disease in New York.

The damage to the nervous system with paralysis or other grave result caused by vitamin A lack is due to the fact that this vitamin is necessary for bone growth. If the vitamin is lacking during early growing periods, bone growth is markedly slowed. The brain and spinal cord are enclosed by bone. When they grow too large for the stunted

skull and the rest of the bony envelopment, the consequent squeezing causes striking deformities in brain, spinal cord and nerve roots.

In experimental animals, irreparable paralysis and other signs of brain injury resulted, Dr. Wolbach and Dr. O. A. Bessey found. They are convinced that acute uncomplicated deficiency of vitamin A in the human infant would produce similar results, but have not had an opportunity to verify this.

## Brain Needs One Group

**V**ITAMINS may be divided into two groups, those needed to prevent brain and spinal cord degeneration and those not required for maintenance of nervous structure, Dr. Harold E. Him-

wich, of Albany Medical College, Union University, told the meeting.

The vitamins needed by the central nervous system include vitamin B<sup>1</sup> (thiamin, the morale vitamin), nicotinic acid amide, riboflavin, pantothenic acid, vitamin B<sub>6</sub> and vitamin A, Dr. Himwich said.

Vitamin B<sup>1</sup> plays an important part in the processes supplying energy for brain functions, helping the brain tissues to get energy from their chief foodstuff, the sugar and starch group.

Lack of this vitamin not only produces biochemical disturbances in the central nervous system, depressing brain activity by interfering with conversion of food into energy. Lack of the vitamin also produces characteristic neurological changes in the part of the body controlled by the portion of the brain affected. Rats deprived of the vitamin and unable to walk, for example, were found to have a depression of brain metabolism (energy interchange) in the part of the brain containing the nerve centers that govern movement.

Treatment of diseases will improve, Dr. Himwich pointed out, when scientists gain more such knowledge about the specific effects produced on body tissues by lack of the other vitamins.

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## GENERAL SCIENCE

## National Lectureships Announced by Sigma Xi

**N**ATIONAL lectureships on scientific subjects for 1942 were announced today by the Society of Sigma Xi, national honorary fraternity for promotion of research.

Lecturers and their topics will be Dr. H. A. Bethe, department of physics, Cornell University, "Energy Production in Stars"; Dr. P. W. Bridgman, department of physics, Harvard University, "Some Recent Work in the Field of High Pressures"; Dr. H. M. Evans, department of biology, University of California, "Recent Results from Studies on the Anterior Pituitary"; Dr. John G. Kirkwood, department of chemistry, Cornell University, "The Structure of Liquids"; Dr. Lionel S. Marks, department of engineering, Harvard University, "Modern Power Generation."

Lectures will be delivered by the scientists at dates and places to be announced later. The lectures are delivered with a view to bringing leading personalities and information to various Sigma Xi chapters located in the leading universities.

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