

MEDICINE

Zinc Sulfate Pontocain Solution Urged as Preventive of Polio

New Spray Recommended by Scientists at University Of Michigan Must Be Administered by Trained Person

PARENTS anxious to protect their children against infantile paralysis by the newest preventive method may have a zinc sulfate pontocain solution dropped or sprayed into the child's nose by a physician specially trained in such work.

This is the advice, given in response to an inquiry by Science Service, of Dr. Max Peet of the University of Michigan, who with Drs. Dean H. Echols and Harry J. Richter have devised a new technique for giving the solution which should make it more effective.

The solution contains one per cent zinc sulfate, one-half per cent. sodium chloride and one per cent. pontocain. The latter is a local anesthetic used because the zinc sulfate solution is irritating and may cause smarting and running of the nose and even headache. The solution was devised by Drs. E. W. Schultz and L. P. Gebhardt of Stanford University. It is said to be more effective than the alum-picric acid spray devised by Dr. Charles Armstrong of the U. S. National Institute of Health because in tests on monkeys it protected the animals for a longer period of time.

Chief difficulty with the nasal spray method of protecting against infantile paralysis is that the spray does no good unless it reaches the olfactory area, far at the back of the nose. The virus that causes infantile paralysis enters the body at this point, travelling along the nerve of smell to the nerve centers of brain and spinal cord. The spray hardens the tissues, keeping the virus from passing through.

Special Atomizer

Ordinary atomizers do not reach the olfactory area in the human nose, although they may in the monkey nose. Dr. Peet and associates have found that an atomizer with a long, thin metal spray tip will get the solution onto the olfactory area. The child's head must be tilted backward at about 45 degrees while the atomizer is used. This spray procedure must be carried out by a physician specially trained in the technic. A nose and throat specialist would know

how to do it but neither parents nor the physician unfamiliar with such technic can do it safely and satisfactorily.

The method cannot be used for children under eight unless they are very cooperative. For these Dr. Peet advises dropping the solution into the child's nose when the child is lying on a table with his head hanging over the edge. The child's head should then be kept in this position for about two minutes. This method is not quite as certain to give protection but is, Dr. Peet says, the only one applicable in uncooperative children.

The zinc sulfate pontocain spray causes a little discomfort to children and more to adults.

"We are now trying different solutions to eliminate all discomfort. One is

quite successful," Dr. Peet told Science Service, "but its value has not yet been determined by monkey experiments."

No Let-Up

The Middle West and New England are still in the grip of infantile paralysis, reports from state health officers to the U. S. Public Health Service show. For the week ending Sept. 4 there were 612 new cases. This figure does not include New York State exclusive of New York City. Reports from that state have not yet been received but will probably swell the total considerably above last week's figure of 621, as New York had 64 cases the previous week.

Largest number of new cases were reported from Illinois, 106. Other states with large numbers were: Ohio, 31; Michigan, 34; Indiana, 11; Wisconsin, 23; Massachusetts, 44; Maine, 19; Connecticut, 10; Colorado, 20; California, 38; Pennsylvania, 19. Texas, where the epidemic struck first, reported 36 cases. Health authorities believe the epidemic is now dying out there. Figures for the preceding two weeks in Texas were 34 last week and 51 the week of August 21.

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MEDICINE

300 to 500 Respirators Are Available Throughout U. S.

BETWEEN 300 and 500 respirators or so-called iron lungs for treatment of infantile paralysis patients are available at institutions throughout the United States. At least seven unorderd respirators are on hand and could be shipped within a day or two.

The respirators are manufactured by two concerns: the Warren E. Collins Co. of Boston, Mass. (555 Huntington Avenue), and J. H. Emerson of Cambridge, Mass. (22 Cottage Park Avenue).

One of the manufacturing firms reports that orders for respirators come chiefly when there is an epidemic of infantile paralysis, despite their best efforts to interest hospitals in advance of epidemics so that they will be supplied when the need arises. During a normal year this firm's production runs from 20 to 30 respirators, while during an epidemic year it may run as high as 80, mostly within a month or two. The firm tries to anticipate epidemics and adjust

its production to probable demand. This firm is now making two respirators a day to meet the demand of the present epidemic.

The price of respirators ranges from \$1,000 to \$2,450. The higher figure is for the orthopedic model, which is large enough to admit a patient who must have his arms in airplane splints.

The respirators work on a very simple principle. They are large tanks in which the patients rest with their heads outside the tank. A negative pressure or partial vacuum is created in the tank which forces air to be sucked into the lungs through the nose. The pressure in the tank then changes, forcing the air out again. The alternating changes in pressure go on mechanically, and take the place of the patient's breathing muscles which cannot perform this function because they have been paralyzed by the disease.

Philadelphia is the best-equipped city