

IMMUNOLOGY

Vaccine Aids Recruits

► FUTURE MILITARY RECRUITS can look forward to vaccine protection against an acute respiratory disease caused by adenovirus type 4, which puts large numbers of newly arrived men into the hospital every year soon after they get to camp.

A new vaccine produced by the National Institute of Allergy and Infectious Diseases, Bethesda, Md., and manufactured by the Wyeth Laboratories for experimental use, has been reported 100% effective in field trials with 135 Marine recruit volunteers at the Parris Island, S.C., and Camp Lejeune, N.C., Training Centers, where adenovirus epidemics are frequent in the winter.

Institute scientists, in cooperation with staff members of the D.C. Department of Corrections, had tested the live oral vaccine in capsule form on volunteers at the Lorton Reformatory, Lorton, Va., before the field trials.

There should be no danger of suspected cancer in this vaccine, as there was in another adenovirus vaccine taken from production by the U.S. Public Health Service. The former vaccine was contaminated by simian, or monkey virus, called SV-40, which had killed hamsters.

The present vaccine has two new features of technique. One is the special coating used to prevent the vaccine from being released at the normal site of adenovirus infection, which is the respiratory tract. The vaccine is released in the intestinal tract, where it causes a symptom-free infection that stimulates the production of protective antibodies.

The other new feature is that the live

virus is grown in cultures of embryonic lung cells free of contamination by the troublesome SV-40.

Civilians probably will not get this vaccine, as it is not known how important it could be for them. In any case, it is not available to general practitioners at this time.

Surgeon General Luther L. Terry, Public Health Service, and Rear Admiral Robert B. Brown, Surgeon General, Department of the Navy, reported the new vaccine April 20.

The field trial was conducted by physicians of the National Institute of Allergy and Infectious Diseases, the Parris Island Marine Recruit Training Center, the Naval Medical Field Research Laboratory, Camp Lejeune, and the Epidemic Intelligence Service of the Communicable Disease Center, Public Health Service.

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SURGERY

Neurosurgeons Save Time With Cutting Tool

► A NEW AIR-POWERED surgical instrument that makes hand tools and wire saws obsolete can now open a skull for brain surgery in two or three minutes instead of an hour.

Dr. Robert M. Hall, Pittsburgh, Pa., oral surgeon, demonstrated the instrument, called a Neurairtome, to members of the Harvey Cushing Society at its annual meeting in New York.

This is the fifth airtome that Dr. Hall has developed. The finger-tip-controlled, air-driven instrument weighs less than a pound. It develops one-sixth horsepower and rotates at speeds up to 24,000 revolutions a minute, cutting through bone by means of a rapidly spinning rotor blade.

The surgeon drills a single hole in the skull and inserts the blade of the Neurairtome through it, then completes a single circular cut in one continuous sideways motion. A metal guard, rounded at the tip, sheaths the whirling blade and prevents contact with the brain tissue.

In addition to the speed of cutting, Dr. Hall explained that the new instrument eliminates bleeding from the cut skull surface because the bone particles are burnished into the normally bleeding surface. Patients benefit by considerable cosmetic improvement, reduced anesthesia and faster recovery time.

The Neurairtome can be used in additional operations such as those that require cutting through the breastbone or ribs, although it was developed specifically for neurosurgery.

The entire instrument is sterilized in the standard manner of heating in an autoclave. The spinning rotor is driven by compressed air or bottled nitrogen. The exhaust gas is vented several feet from the instrument to remove it from the operation site.

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AIR TOOL SURGERY—The Neurairtome, an air-driven neurosurgical tool developed by Dr. R. M. Hall of Pittsburgh, removes the top of a skull in one simple circular motion, reducing an hour long procedure to just minutes and reducing the risk of brain operations.

PHARMACOLOGY

New Registry to Reveal Harmful Drug Reactions

► WITH THE NUMBER of new drugs increasing, a new registry is being established to make more knowledge available about harmful reactions.

Sponsoring the new Registry of Tissue Reactions to Drugs, to be located at the Armed Forces Institute of Pathology, Walter Reed Army Medical Center, Washington, D.C., are three health groups. For the first time, the American Medical Association, the Pharmaceutical Manufacturers Association and the U.S. Food and Drug Administration are cooperating in what they describe as a unique effort for the benefit of the U.S. public.

The tissue registry will augment information of the existing AMA and FDA drug reaction reporting programs. The purpose of the registry is to obtain autopsy or biopsy tissue specimens from suspected adverse drug reaction cases.

Studies by pathologists and other authorities will be reported each month to the three sponsoring organizations, and the pathological material will remain on file at the registry for further reference.

The cost of the tissue registry will be borne equally by each of the three sponsors. The cost of operation and administration is expected to be about \$100,000 in the first full calendar year of operation, which will be 1966. The fund will be administered by the Universities Associated for Research and Education in Pathology, Inc.

The original proposal for the establishment of a tissue registry was made by the drug research board of the National Academy of Sciences-National Research Council. Twenty-eight registries already exist as joint activities of the Armed Forces Institute of Pathology and sponsoring professional societies. Collectively the registries are known as the American Registry of Pathology.

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MEDICINE

Blood Salt Pinpoints Infant Oxygen Deficiency

► WHETHER A NEWBORN infant suffering from lack of oxygen was affected in the womb or after birth can be determined by measuring the lactic acid salt level in the baby's blood, according to two Czechoslovakian investigators.

Drs. K. Znamenacek and H. Pribylova found that high levels of blood lactate were associated with low oxygen.

Testing the blood of infants delivered normally, they observed rapid drops in lactate levels the first three days of life.

Babies delivered by cesarean section and showing signs of distress incurred in the womb tended to have persistently high levels which returned to normal much more slowly.

Metabolism in the mother and in the baby before and after birth, length of labor and manner of delivery all affect the oxygen supply, the physicians said.

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