

# Medical Sciences Notes

## PHARMACOLOGY

### New Drug Against Malaria

An experimental drug that destroys a drug-resistant malaria parasite in rhesus monkeys and holds some promise for use in humans was reported at the annual meeting of the Federation of American Societies for Experimental Biology in Chicago.

The compound is tetrahydrohomopteroic acid, or THHP for short, and is closely related to an anticancer drug called THHF for tetrahydrohomofolic acid, which was developed at Tufts University School of Medicine, Boston.

Dr. Roy L. Kisliuk, associate professor of pharmacology at Tufts, says he and his co-workers discovered the new drug during an investigation of THHF when they noticed that impure THHF had antimalarial activity. Further study revealed that THHP was the impurity, and that in pure form it was a potent weapon against the malaria parasite, *Plasmodium cynomolgi*.

"A fact of outstanding importance," Dr. Kisliuk points out, "is that THHP destroyed parasites resistant to pyrimethamine, a commonly used antimalarial drug."

All three of the drugs attack folic acid, a vitamin necessary for the growth of microorganisms.

## PUBLIC HEALTH

### Infection Acquired from Squirrels

Squirrel hunters are advised to wear rubber gloves when dressing their kill for dinner.

An infectious disease called leptospirosis, common in cattle and pigs but infrequent in man, has been transmitted to four hunters by fox squirrels, researchers at the University of Iowa College of Medicine, Iowa City, report.

Most cases of human leptospirosis in the United States have been caused by exposure to infected domestic animals, rodents and contaminated water. These are the first reports of infection by fox squirrels.

The four patients were two teenagers, a man of 36 and another 71. Symptoms included chills, fever, dizziness, nausea, vomiting, cramps and headache.

Drs. S. L. Diesch, R. P. Crawford, W. F. McCulloch and F. H. Top report on the cases in the April 13 issue of the *NEW ENGLAND JOURNAL OF MEDICINE*.

## POSTOPERATIVE EXERCISE

### Get Out of that Sickbed

Patients are allowed to get up from the operating table and walk back to their rooms following surgery for hernia in the groin, provided they have been given a local anesthetic, a Portland, Ore., surgeon reports to the Industrial Medical Association's annual meeting in New York.

Dr. Forrest E. Rieke says that active patients have far less pain, headache, nausea and vomiting. They leave the hospital two or three days earlier than those who have an extended period of rest after general or spinal anesthesia.

Dr. Rieke encourages most of these patients to engage in unlimited activity immediately following surgery and to return home the day after the operation. Many go back to work a few days after leaving the hospital.

## MUSCULAR IMBALANCE

### Prevention of Low Back Pain

More than 80 percent of pain in the lower back is caused by muscular imbalance due to lack of exercise, the annual American Industrial Health Conference in Chicago was told recently.

Dr. Hans Kraus, associate professor of physical medicine and rehabilitation at the New York University School of Medicine, and physician to the late President John F. Kennedy, said that every general medical examination should include testing of the strength of the muscles supporting the spine.

## PROSTHETICS

### Artificial Hand Has Grasp Control

A lifelike electromechanical hand that provides an amputee with automatic control of grasp is reported by the U.S. Army Medical Biomechanical Research Laboratory as a major breakthrough in hand design.

The grasping force is guided by a built-in piezoelectric sensing device located in the thumb. Piezoelectricity, a phenomenon exhibited by certain crystals, has been known for many years. When mechanical forces are applied to them, they produce electricity. When electricity is applied they contract or expand. Such crystals are commonly used in electronic devices.

To use the hand, the severely handicapped amputee depresses a microswitch by a muscle bulge or other motion that causes the hand to grasp an object with a force of about 10 ounces. The force has been pre-selected so the usual fragile objects a person is required to handle, such as ice cream cones and eggs, will not be crushed.

If, when the amputee lifts, this grasping force is not enough to lift the object and slippage occurs, the hand instantly tightens to securely grasp the object.

Six additional copies of the hand are being manufactured at the laboratory, located at Walter Reed Army Medical Center's Forest Glen Section in Silver Spring, Md.

## VIROLOGY

### Viral Leukemia Prevented

An experimental drug called statolon protects some mice against leukemia.

Dr. E. Frederick Wheelock of Western Reserve School of Medicine, Cleveland, Ohio, says a new approach to the prevention of virus-induced leukemia (so far demonstrated only in animals) could result from further study of drugs such as this one. Statolon is derived from one of the penicillin molds and is known to induce large amounts of interferon in mice. Interferon is a protein that cells manufacture to attack viruses and kill them.

He reports in the March issue of the *PROCEEDINGS OF THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE* that when the drug was given about a week before or after the mice had received leukemia virus, the majority of them were shielded.

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