

## PUBLIC HEALTH

**Spray-Dried Milk Causes 19 Food Poisoning Cases**

► **SPRAY-DRIED NON FAT MILK** solids reconstituted into milk for school lunches, caused 19 outbreaks of food poisoning in one month this year in Puerto Rico.

Experiments with adult human volunteers who drank some of the milk and had the same symptoms as the children of stomach pain, nausea, vomiting and diarrhea helped trace the outbreaks to the milk.

The poison produced by the staphylococcus is believed to have been responsible, although the staphylococcus germs themselves were not present in the dried milk in enough quantities to cause trouble.

It is believed the heat to which the milk is subjected during the processing to dry it may kill the germs, reducing their number to a safe level, without destroying the poison they have already produced in the milk.

The studies were made by Dr. Rolando Armijo of the University of Puerto Rico School of Medicine, San Juan, Dr. D. A. Henderson of the Public Health Service's Communicable Disease Center, Atlanta, Ga., Dr. Rafael Timothee of the Department of Health, Puerto Rico, and H. B. Robinson, chief of the milk sanitation section, milk and food program, Public Health Service, Washington, D. C.

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## BIOPHYSICS

**Atom Smasher Replaces Knife to Destroy Gland**

► **RADIATION SURGERY** of the pituitary, the master gland of the body, has been performed in limited experiments with the high energy atom-smashing beam of the University of California's giant 184-inch cyclotron.

The preliminary treatment of 30 patients, reported to the American Cancer Society meeting in New York, is the beginning of an effort to determine whether atom-smashers can provide an alternative to surgery for the removal of this key gland.

The report was made by Dr. John Lawrence, director of the Donner Laboratory at Berkeley. His colleagues in the work, supported by the Atomic Energy Commission and the Donner Foundation, were Drs. C. A. Tobias, J. L. Born and Roland McCombs.

The removal of the pituitary by surgery has been used recently in women patients with advanced breast cancer. The idea is to stop production of pituitary hormones which stimulate the output of secondary sex hormones associated with some cancers.

The research with the cyclotron followed experiments showing that rat pituitaries could be excised by the 350,000,000-electron-volt proton beam without significant damage to surrounding tissue.

Of the 30 human patients, 26 had advanced breast cancer. Treatment was carried on between June, 1954, and September,

1955. Five patients were alive 13 to 19 months after irradiation.

Extensive destruction of the pituitary was achieved at the higher levels of irradiation. There was a consistent reduction in activity of the thyroid gland and in the output of secondary sex hormones—both results attributable to destruction of the pituitary.

Dr. Lawrence said the main question of the experiments to date, whether pituitaries could be destroyed by this method, has been answered affirmatively.

More patients must be treated and a longer time must elapse before the therapeutic effectiveness of the method can be evaluated. He noted, however, that some benefit was achieved by a small number of patients who showed either an arrest or regression of the cancer process for from one to 12 months.

The big cyclotron is not now operating, but is being modified for a new program of research beginning next year.

Science News Letter, November 24, 1956

## MEDICINE

**New Slow-Down Drug Heart Disease Weapon**

► **TESTS** on patients with a drug that may lead to a way of stemming heart disease have begun at the National Heart Institute, Dr. Daniel Steinberg of the U. S. Public Health Service reported at the Association of Military Surgeons of the U. S. meeting in Washington.

The drug slows down the body's production of cholesterol, a substance thought to be involved in artery and heart disease.

The body's output of this substance accounts for about two-thirds of the total amount found in the blood. The other third is taken in by eating cholesterol-containing foods.

Past methods of control have centered around dieting, but if the inhibiting drug works, heart patients will be able to eat everything they want, without worrying about the cholesterol found in fatty foods.

The drug, called delta-4-cholestinone, had been tried before on animals, but in the usual dosage had produced dangerous side effects on the adrenal glands.

By cutting the dosage almost in half, Dr. Steinberg has avoided all the bad side effects of the drug and still retained its powerful action against cholesterol production.

So far all experiments have been done on animals and have dramatically reduced the cholesterol level 20% to 40% over an eight-month period.

Pilot studies are now beginning on several human patients at the Clinical Center of the National Institutes of Health. They will be watched very carefully for any toxic reactions.

Dr. Steinberg believes it will be at least six months before any definite proof of the drug's value can be established. He hopes to find that this drug, or one like it, will control the blood's cholesterol level.

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## MEDICINE

**Long-Lasting Drug Cuts Arthritis Injections**

► **GOOD RESULTS** with a long-acting form of ACTH for patients with rheumatoid arthritis and other collagen diseases were reported by Drs. Harry E. Banghart and Richard K. D. Watanabe of Philadelphia at the Southern Medical Association meeting in Washington.

The long-lasting action of the drug eliminates the need for patients to have injections every six hours or even twice a day. The preparation does not have to be given more often than once in 24 hours, and four patients managed with one dose once a week. Two patients managed on one dose every two days.

The new preparation combines ACTH, the famous anti-arthritis pituitary hormone, with zinc hydroxide. It is easier to give, and patients can even give it to themselves.

Of 22 patients with rheumatoid arthritis that had not been helped by cortisone, hydrocortisone, gold salts or other treatment, 18 were helped by the ACTH-zinc hydroxide preparation. Seven of eight patients with lupus erythematosus, an ailment with fever, skin inflammation and other symptoms, were helped by the new preparation, as were some other patients with skin and connective tissue ailments.

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## SURGERY

**Steel Hinge Repairs Damaged Finger Joints**

► **FOR BADLY DAMAGED FINGER JOINTS**, there is now a stainless steel hinge that works without pain and improves the appearance of the injured hand.

Good results with it in ten cases were reported by Lt. Col. Earl W. Brannon of the U. S. Air Force Hospital, Lackland Air Force Base, San Antonio, at the Association of Military Surgeons of the U. S. meeting in Washington.

"In the large military hospitals," Col. Brannon stated, "we see a significant number of damaged finger joints resulting in permanent disability."

None of the attempts heretofore to correct this disability has been successful," he said.

The artificial joint consists of two parts jointed by a simple hinge joint that is locked by a half-threaded screw and nut. Each part has a stem by which it is inserted into the finger bone. The device is designed to prevent the unwanted rotation and instability that are common faults of other types of finger joint replacements.

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# CE FIELDS

## MEDICINE

### Fights Cold by Making Human Body Drier

► A NEW COLD TREATMENT has shown that a person can lose one to two pints of water from his body overnight if the weather is cold and dry, Dr. Guy T. Vise of Meridian, Miss., reported to the Southern Medical Association meeting in Washington.

By keeping accurate records of body weight from day to day, Dr. Vise found that very noticeable losses took place during cold, dry weather.

Dr. Vise reported on a new dehydration method he had used successfully to treat the common cold. In 90% of the cases he obtained excellent results by restricting fluid intake and using hot sweat packs for a two-hour period. The other 10% failed to respond to the dehydration and one big reason, he believes, was the high humidity on the day of treatment.

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## MEDICINE

### Relate Smoking to Lung Cancer and Tuberculosis

► A STATISTICAL RELATION between smoking and both lung cancer and tuberculosis is found in two studies reported in the *British Medical Journal* (Nov. 10).

The lung cancer findings are a second report by Drs. Richard Doll and A. Bradford Hill of the Medical Research Council. Five years ago they sent a simple questionnaire on smoking habits to all doctors in the United Kingdom.

Today they report that, among these more than 40,000 men and women, there has been "a marked and steady increase in the death rate from lung cancer as the amount smoked increases."

The mortality has been "substantially and significantly greater in cigarette smokers than in pipe smokers."

Among those who reported five years ago they had given up smoking sometime within the previous ten years or for more than ten years, there was a progressive and significant reduction in mortality with the increase in the length of time over which smoking had been abandoned.

The lung cancer death rate among those who had given up smoking ten years or more before 1951 was about a third that among those still smoking in 1951.

"Three other causes of death show a steady increase in mortality from non-smokers to heavy smokers," Drs. Doll and Hill report. These are chronic bronchitis, stomach ulcer and tuberculosis of the lungs.

Smoking may be "an important cause" of the breakdown of healed or quiescent tuberculosis in adults and may account for a considerable part of the excess of TB deaths of men over women in middle and old age," suggests Dr. C. R. Lowe of the University of Birmingham.

His study was made of smoking habits of patients in TB sanatoriums and clinics and of patients who came to the hospital with minor accidents or for operations other than for lung cancer or TB.

When the two groups were compared, there were very many fewer non-smokers and light smokers and very many more moderate and heavy smokers among the TB patients than among the others. This was true for both sexes at all ages over 30.

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## SURGERY

### Plastic Lenses Give Best Eye Protection

► PLASTIC LENSES give the best protection to the eye against small splinters traveling at high speed, Dr. H. W. Rose and G. M. Stewart found in studies at Randolph Air Force Base School of Aviation Medicine, Texas.

The small splinters are the kind involved in most of the cases seen in which a foreign body penetrates the eye, the scientists pointed out in their report to the Association of Military Surgeons of the U. S. meeting in Washington.

They used a helium gun to fire steel balls and splinters at unhardened, hardened and laminated glass lenses and plastic lenses to determine how these would keep the missiles from penetrating the eye.

Hardened glass, such as used by the Armed Forces and industry for protective glasses, is not broken by steel balls about 18 millimeters, or about three-quarters of an inch, in diameter at a velocity of 17 feet per second.

With the small splinters, however, hardened glass is broken and is inferior to unhardened glass. It then no longer protects but is a hazard because of secondary missiles.

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## NUTRITION

### Can Take Calories Out of Peanuts

► THE 84-CALORIE CONTENT of a handful of peanuts, about 15 to 17 nuts, can be cut to about 17 calories. It is done by a solvent bath process, developed by the U. S. Department of Agriculture, which removes the calorie-full oil without changing the appearance or destroying the protein content of the peanuts.

The de-oiled peanuts are a little lighter in color and taste milder and sweeter.

They will not be in stores until cost of processing on a commercial scale and other factors have been determined.

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## GENERAL SCIENCE

### Bird Hunting Stamp Shows American Ducks

#### See Front Cover

► THE DESIGN for the 1956-57 Migratory Bird Hunting Stamp is shown in the photograph on the cover of this week's SCIENCE NEWS LETTER.

Featuring a pair of American Mergansers flying low over fog-bound water, it was drawn by Edward J. Bierly, of Arlington, Va. The stamp is the 23rd to be issued in the Federal duck stamp series.

The design selected for each year's duck stamp is chosen by a judging committee of waterfowl authorities from among entries submitted by artists from the entire country.

A new stamp, issued each year by the Post Office Department, goes on sale July 1 and expires the following June 30. It sells for \$2.00 and is a required possession for any hunter more than 16 years old. More than 2,000,000 stamps are bought annually.

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## MEDICINE

### Quick Pain Relief Using Dipipanone

► SWIFT RELIEF of pain with few side effects can be obtained with a new drug, dipipanone, three physicians report in the current *British Medical Journal* (Nov. 10).

Chemically, the drug is related to methadone, one of the relatively new pain relievers.

When injected under the skin, dipipanone started to relieve pain within 10 minutes and its effect reached its maximum in 20 minutes. Pain was then relieved for about five to six hours.

The drug was given to 100 patients suffering from medical conditions such as pleurisy, coronary thrombosis, cancer, ulcers, sciatica and gallbladder attacks.

It was also given to 100 women after gynecological operations. For them it was considered more effective than any other pain-relievers, including morphine in one-sixth grain dosage. The drug gave complete relief of pain in 95 out of the 100 women after operation and in 67 of the 100 medical patients, with moderate relief in another 27 of these.

Although no withdrawal symptoms were seen after up to 80 effective pain-relieving doses, no conclusion can be drawn about the possibility of addiction to the drug, because in most of the cases the pain was short-lived and did not require prolonged use of the drug.

Doctors reporting the new drug are R. O. Gillhespy and E. Cope of the Dudley Road Hospital, Birmingham, and P. O. Jones of the Wellcome Foundation, Ltd. The drug has been trade named Pipadone by its manufacturer, Burroughs Wellcome and Co.

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