

MEDICINE

Stop Frothing at Mouth With Alcohol

➤ GIVING THE patient alcohol vapors to inhale will stop frothing of the mouth which sometimes becomes a serious complication during operations, Dr. Ruth Weyl, anesthesiologist, of the Chicago Medical School and Mount Sinai Hospital, Chicago, reported at the meeting of the Illinois State Medical Society in Chicago.

The mouth frothing comes when fluid collects in the lungs and starts foaming. The danger is that foam blocks the small bronchi, or air passages, in the lungs. This causes a lack of oxygen and puts increased pressure on the artery serving the lungs.

The alcohol vapor apparently stops the foaming action.

Of the seven cases Dr. Weyl reported, two had been operated on for heart abnormalities, two for cancer, one for a stomach obstruction, one for a hysterectomy and one for sterilization.

Acute heart attacks were complications in three cases, the heart of one stopped during operation and another developed a respiratory obstruction.

"In all seven patients the response to the treatment seemed dramatic," Dr. Weyl said. "The output of foam stopped, the color improved and the acute suffocation due to oxygen want could be avoided."

The frothing, in each instance, was eliminated in about 20 minutes.

Science News Letter, May 28, 1955

METEOROLOGY

No Large-Scale Effects From Seeding Clouds

➤ NO LARGE-SCALE effects from seeding clouds were discovered by New York University scientists who reported on the most extensive experiments to influence weather ever made.

Dr. Jerome Spar, the meteorologist who directed the "Project Scud" studies, said they were aimed at finding out "once and for all" if artificial cloud seeding could influence developing storms, by increasing or decreasing their intensity, or by changing their direction.

"The most careful statistical evaluation," Dr. Spar said, "lent no support to the theory that seeding can make, break or change a storm in a big way." There may have been changes so small that they were not detected, he said.

During nine months in 1953 and 1954, 30 tons of dry ice and 250 pounds of silver iodide were thrown into the atmosphere between Florida and Massachusetts on 18 occasions, chosen by chance. In 19 other cases, also chosen at random, no seeding was done. The seeding and non-seeding situations were paired, and results compared.

The pairing system and conducting experiments over two winters insured against results being affected by freak weather, Dr.

Spar said. The East Coast was selected for the experiments because storms are spawned in that region quickly and violently.

Times for the missions, both seeding and non-seeding, were selected on the basis of forecasts promising cyclogenesis, or storm development.

The study was called Project Scud after the type of low-flying gray cloud associated with cyclogenesis. It was sponsored by the Office of Naval Research and information on the project was classified until recently.

Science News Letter, May 28, 1955

NUTRITION

Concentrated Juices Eliminate Refrigerator

➤ KEEPING CONCENTRATED juices in the refrigerator may be a thing of the past.

A "superconcentrated" grape juice and a "superconcentrated" apple juice have been developed that can be kept on the pantry shelf for at least a year without losing flavor or becoming spoiled. The fact that the juices can be stored without refrigeration is seen as cutting the cost of such juices for the housewife.

Products of the U. S. Department of Agriculture's Eastern Utilization Research Branch at Wyndmoor, Pa., the super juices are made by processing fresh fruit juice to "strip it" of its flavor essence. It is then concentrated and the essence restored.

The secret of the super juices' storage capacity is that they are packed at 180 degrees Fahrenheit and then cooled quickly. In this manner they can be stored in glass or tin equally as well.

Science News Letter, May 28, 1955

INVENTION

Invention to Improve Titanium Recovery

➤ BETTER AND safer production of titanium appears possible with the granting of a government patent for a new method of recovering large, pure titanium crystals.

Recovery of the substantially pure titanium metal is based on the inventor's discovery that large crystals can be deposited on a heated surface from a liquid bath containing unstable halides, such as titanium dichloride or titanium dibromide. Julian Glasser of La Grange, Ill., the inventor, claims that crystals collected by this process are relatively large, well in excess of 100 microns in diameter. Their increased size thus makes them more stable to air, oxidizing gases and other reactants.

The production of the light and strong metal has been difficult and hazardous in the past because of titanium's habit of combining with both the oxygen and nitrogen in the air.

The titanium recovery method was granted patent No. 2,706,153. Mr. Glasser assigned his patent rights to the Kennecott Copper Corporation of New York, N. Y.

Science News Letter, May 28, 1955

IN SCIENCE

GEOPHYSICS

Predict Quantities of Earth's Rare Isotopes

➤ CALCULATION OF which of the earth's rare isotopes were present when the earth was formed and which have been formed by cosmic ray bombardment since then was made in Caracas, Venezuela, by Dr. Serge A. Korff, physicist at New York University.

Isotopes are varieties of the same chemical element having slightly differing weights. The proportion of the existing isotope formed by cosmic rays, Dr. Korff reported to the South American Congress of Chemistry meeting, tells whether the isotope was present when earth was "born."

Of the eight rare isotopes he studied, only helium three, tritium and carbon 14 were found to have been produced entirely by cosmic rays. Carbon 14 is the valuable isotope by which archaeologists date remains of once-living things, human and animal bones, plants or fossil-containing rocks.

Since earth's formation, Dr. Korff calculated, cosmic rays have produced a thousand billion atoms of tritium in every cubic centimeter of air. Tritium is the triple-weight isotope of normal hydrogen and disintegrates into helium three, a rare isotope of helium weighing three-fourths as much as normal helium.

Since there are now only about ten million atoms of helium three in each cubic centimeter of the atmosphere, or one three-thousandth as many as have been produced in the earth's history, the rest have escaped into space.

Only very small proportions of the rare isotopes of sulfur, silicon, aluminum, sodium and magnesium were produced by cosmic ray action, Dr. Korff's calculations showed.

Science News Letter, May 28, 1955

TECHNOLOGY

Radiation Detector Works From Hypodermic

➤ A RADIATION detector that can be placed in living flesh in a hypodermic needle was revealed.

The counter could be used in connection with radiation treatment of cancer, and in tracer experiments on living subjects.

Components of the device are small enough to fit in a case 1¼ inches in diameter and 5¼ inches long, David T. Williams of Battelle Memorial Institute told a meeting of the American Institute of Electrical Engineers in Columbus, Ohio.

Cadmium sulfide crystals are used in the conduction-type counter, sensitive to beta particles.

Science News Letter, May 28, 1955

CE FIELDS

PUBLIC HEALTH

AEC Reports Fall-Out From Nuclear Tests

► THE TOTAL radioactive debris from all A- and H-bomb explosions between 1951 and Jan. 1, 1955, falling out on the United States is low when compared to the radioactivity normally present in the earth's crust, two Atomic Energy Commission scientists said.

The average value of the accumulated fall-out is 61 millicuries per square mile, Drs. Merril Eisenbud and John H. Harley reported in *Science* (May 13). It varies from a figure of 21 in Arizona to 120 in New Mexico.

They compare this total for artificial radioactivity added to the atmosphere to that contributed by the naturally occurring radium 226, which varies from 100 to 1,000 millicuries per square mile.

A millicurie is one-thousandth of a curie, the unit by which radioactivity is measured, and equals 37,000,000 atomic disintegrations per second.

Drs. Eisenbud and Harley also reported that the amount of radioactive strontium from fall-out is "minute" compared with radioactivity usually present in the earth's surface.

Strontium 90 is of particular interest because, being chemically similar to calcium, it may be deposited in human bone. Its half-life, the time required for its radioactivity to drop to one-half of the original value, is 25 years.

Science News Letter, May 28, 1955

SURGERY

Operate on Heart Ten Hours Before Baby Born

► SUCCESS IN a heart operation performed ten hours before the patient gave birth to a baby has been reported.

The operation consisted in opening the mitral valve between the left auricle and the left ventricle.

It is the first such case reported, the doctors stated in the *British Medical Journal* (May 14), though the feasibility of the operation at all stages of pregnancy has previously been suggested.

The patient was a 35-year-old woman. The baby, born alive and weighing eight pounds, four ounces, was her ninth.

Drs. T. C. J. O'Connell, surgeon, and Ristead Mulcahy, heart specialist, of St. Vincent's Hospital and Coombe Lying-in Hospital, both in Dublin, report that the patient seems in "quite good" general condition and is leading a normal active life as she was before the start of her last pregnancy.

The patient had no history of rheumatic fever, which might have damaged her heart, and had had no trouble with her previous pregnancies nor had she been told there was anything wrong with her heart.

Decision to perform the heart operation as an emergency was made when she came to the hospital in labor with considerable trouble breathing, a persistent cough and blue color. She had had the cough and increasing distress on exertion for some time but had failed to report anything abnormal when she was at the clinic during her pregnancy.

She was given penicillin, digoxin for the heart, sedatives, morphine, aminophylline and streptomycin, but in spite of this her condition got worse and the doctors feared fluid would form in the lungs.

So they performed the heart operation and 10 hours later her baby was born without difficulty or distress to her.

Science News Letter, May 28, 1955

MEDICINE

Anti-Rheumatism Drug Giving Good Results

► GOOD RESULTS with one of two recently announced anti-rheumatism drugs were reported by Drs. Jack R. Dordick and Edward J. Gluck of Beth Israel Hospital, New York, in the *Journal of the American Medical Association* (May 21).

The drug, first named metacortandrocin, is now called prednisone and trade-named Meticorten by its manufacturer, Schering Corporation of Bloomfield, N. J.

Weight for weight, it is about four to five times more potent than cortisone or hydrocortisone, the New York doctors found in trial of it on 15 patients. Of these, 12 had active rheumatoid arthritis and one each had systemic lupus erythematosus, active rheumatic heart trouble and acute gouty arthritis with chronic gouty deposits.

Lessening of complaints and disappearance of spontaneous joint pain usually took place within 24 hours after the drug was started. In about the same time joint or muscle stiffness, particularly that on awakening in the morning, grew less and patients felt good.

Within a few days, muscle and joint pain or stiffness had cleared and at about this time function of muscles and joints improved. Patients had little or no distress or discomfort in getting dressed, washing or eating. Walking improved in seven of 12 patients and three of them discarded canes or crutches by the end of the second week.

The drug proved effective both as an anti-rheumatic and an anti-inflammation agent.

Side effects were less than with cortisone or hydrocortisone. Patients who had become refractory to these hormone drugs could be transferred to prednisone treatment with "marked benefits."

Science News Letter, May 28, 1955

MEDICINE

Vacuum Pack Method to Improve Eye Banks

► EYE BANKS will give better service in future, thanks to a vacuum pack storage method announced by two Army doctors in the *American Medical Association's Archives of Ophthalmology* (April).

The method is for storing pieces of cornea, which is the clear covering over the iris and pupil of the eye. When the cornea has been damaged by disease or accident, eyesight can be restored, if the eye is otherwise unharmed, by a transplant of undamaged cornea.

Storing corneas for some time without damage has been difficult in the past. Because fresh corneas are not always available, there has been need for stored ones.

By the new method, the corneas are dehydrated and vacuum packed in glycerine and stored at room temperature. Entire corneas from cats' eyes have been preserved by this method as long as four months. When taken out of storage and transplanted, they have remained clear for as long as 10 months.

In some cases it was hard to tell the normal eye from the repaired one.

The method was developed by Lieut. Col. Joel N. McNair and Col. J. H. King Jr. of Walter Reed Medical Center, Washington, D. C.

Science News Letter, May 28, 1955

TECHNOLOGY

Sodium Reactor Heat Offered for Sale by AEC

► HEAT THAT will be produced by splitting atoms of the sodium graphite reactor now under construction at a site 30 miles northwest of Los Angeles is being offered for sale by the Atomic Energy Commission.

Public, cooperative or private organizations can submit bids for the heat from the Sodium Reactor Experiment being built by North American Aviation, Inc. It is one of the five reactor systems with which the AEC is currently experimenting in its program for development of economically competitive nuclear power.

As required by the Atomic Energy Act of 1954, the AEC will give preference and priority to public bodies and cooperatives in contracting for disposal of the heat energy from the sodium-cooled reactor.

Heat generated will be removed by a primary liquid sodium circuit that will become radioactive passing through the reactor core. Heat in the primary system will be transferred in an intermediate heat exchanger to a secondary sodium system that will not become radioactive.

Peak heat load of the reactor will be about 20,000 kilowatts, permitting generation of approximately 7,500 kilowatts of electricity. Proposals should be submitted before June 13.

Science News Letter, May 28, 1955