

DENTISTRY

Do Not Drink Too Much Citrus Fruit Juice

► A WARNING against drinking too much citrus fruit juice with detrimental effects to the teeth and gums was sounded in Greenwich, Conn., by Dr. Henry Hicks.

Citrus fruits are high in vitamin C required for building connective tissue and bones. Moderate amounts of orange, lemon or grapefruit juice are not condemned by Dr. Hicks.

He states, however, that "it would seem that more than two or three oranges or one grapefruit per week is excessive, in view of the fact that vitamin C is obtainable from other sources."

He bases his warning on more than 50 cases of detrimental effects to the oral cavity, or mouth, noted during the last 15 years. These effects included hypersensitive teeth, bleeding gums and loose teeth. When citrus fruits were removed from the patients' diets, the mouth and gums returned to normal, Dr. Hicks states in his report to the JOURNAL OF THE AMERICAN DENTAL ASSOCIATION (July).

Dr. Hicks recommends that the current popular belief that drinking large quantities of citrus fruit juices is healthful should be carefully appraised.

Science News Letter, July 8, 1950

MEDICINE

Nerve Chemical Found In Nerveless Placenta

► A CHEMICAL usually associated with nervous activity exists in the nerve-free human placenta, which is the organ in the uterus that establishes communication between the mother and unborn child.

The chemical is "true" cholinesterase. There is also a "pseudo-cholinesterase." Existence in the placenta of the true cholinesterase was discovered by Drs. M. G. Ord and R. H. S. Thompson of Guy's Hospital Medical School in London.

Red blood cells, they point out, are the only other nerve-free tissue so far known to contain almost exclusively true cholinesterase.

Details of their findings are reported in the scientific journal, NATURE (June 10).

Science News Letter, July 8, 1950

VETERINARY MEDICINE

Chemical Prevents Poultry Blackhead Disease

► AN economical method of preventing the costly blackhead disease (enterohepatitis) of turkeys and chickens has been found in a new chemical synthesized in Stamford, Conn., at the American Cyanamid Co. laboratories.

Treatment for two weeks with small amounts of the new drug, trademarked Enheptin-T, chemically 2-amino-5-nitrothiazole, kept the poultry alive and flourishing even when purposely infected with the disease.

The drug could be used as a routine, long-term, continuous treatment, it was indicated by Drs. E. Waletzky, J. H. Clark and H. W. Marson in a report to the journal SCIENCE (June 30).

Science News Letter, July 8, 1950

PSYCHIATRY

Ice Pick Operation Helps Patients On "Back" Wards

► A BRAIN operation so simple that 15 can be done in one and one-half hours may help to clear the "back" wards of our mental hospitals, restoring the tragic patients partially if not fully to normal life.

The operation is the "ice pick" one devised two years ago by Dr. Walter Freeman of Washington, D. C. Medically it is known as transorbital leukotomy. A sharp, slender instrument like an ice pick is driven through the bony part of the eye socket into the front of the brain. The instrument is then swung through an arc of 30 degrees and withdrawn. The operation is believed to achieve its results by cutting connections between certain parts of the brain.

The value of the operation in relieving overcrowding in state mental hospitals was stressed by Dr. Matthew T. Moore of the University of Pennsylvania Graduate School of Medicine and Drs. Ralph L. Hill and Wilbur M. Lutz of the Wernersville, Pa., State Hospital at the meeting of the American Medical Association in San Francisco.

Improvement in 77 out of 102 patients at this hospital followed the operation, they reported. Twenty-five patients were able to go home.

Even a little improvement in schizophrenia patients, they pointed out, constitutes a major advantage in a state hospital in that such patients who have been nursing problems show improvement in behavior.

A large part of the patients were from the "back" wards and had been considered permanently nonsalvageable custodial cases. patients ill more than 10 years showed improvement.

There were two deaths, a mortality rate lower than that experienced in other types of operations in mental cases.

Patients were able to be out of bed within 24 to 48 hours and needed no nursing care after the immediate post-operative period.

As a result of their experience, the Pennsylvania doctors recommend that patients admitted to state hospitals should be offered the advantages of this operation when other forms of treatment have repeatedly failed.

Science News Letter, July 8, 1950



CHEMISTRY

Antibiotics in Cattle Stop Germs—and Cheese

► COWS treated with penicillin or streptomycin may stay healthy, but the milk they give will not make good cheese, dairy scientists have discovered.

Researchers from the Department of Agriculture and the Florida Agricultural Experiment Station reported separately last week that antibiotics seem to inhibit the starter mechanisms in milk which begin the transformation into cheese.

The discovery may be of future significance to the dairy industry, they told the annual meeting of the American Dairy Science Association, at Ithaca, N. Y.

Science News Letter, July 8, 1950

MEDICINE

Gastrin May Partially Cause Stomach Ulcers

► DISCOVERY of a stomach hormone, called gastrin, which could play a part in causing ulcers, was announced by Dr. Lester R. Dragstedt and associates of the University of Chicago at the meeting of the American Medical Association.

The hormone is produced by the lower part of the stomach, or antrum. It is only produced when the antrum is in contact with food. Its possible role in ulcer production was found in studies on dogs. Transplanting the antrum from the stomach to the intestines in these animals caused over-secretion of stomach juice in the rest of the stomach and formation of peptic ulcers.

The antrum-gastrin action is responsible for about 40% to 45% of stomach juice secretion and another 40% is due to nervous stimulation. In duodenal ulcer patients this nervous stimulation is markedly exaggerated and accounts for up to 80% of the total secretion.

Cutting the vagus nerves to the stomach brings immediate relief to ulcer patients and keeps them well. Of 509 patients who had this operation during the period 1943 to 1950, 408 or 80% are entirely well at the present time. They are back at their usual occupations without having to follow any diet or take any medicine.

Another 54 are apparently free of active ulcer disease but complain of some symptoms, so they cannot be considered entirely cured. Another 47 of the patients are considered failures.

Dr. Dragstedt's exhibit of the hormone discovery studies won the AMA Gold Medal for presentation of original work.

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CE FIELDS

MEDICINE

Brain Waves of Patient Control Anesthetic

► A NEW kind of electronic brain made its debut at the American Medical Association in San Francisco. This brain is for putting patients to sleep during operations.

It is operated by the patient's own brain waves, so that the patient is giving himself his own anesthetic and controlling the amount of it while he sleeps and the surgeon operates. The brain was devised by Dr. Reginald G. Bickford of the Mayo Clinic and has already been used successfully on more than 50 patients during operations.

Last year at the American Medical Association meeting, Dr. Bickford showed that brain wave records could be used by the anesthetist to gauge the degree of unconsciousness. With this as a guide, the amount of anesthetic could be increased or decreased as needed.

The new device goes a step farther and harnesses the brain waves themselves to regulate the amount of anesthetic being pumped into the patient's veins or into an ether vaporizer and mask. The brain waves are the fluctuations in electrical potential accompanying brain activity. As anesthesia deepens, this activity and the energy output of the brain waves grow less and less.

The machine does not do away with the anesthetist, but relieves him of much tedious work. It was called a milestone in the field of anesthesia by Dr. Charles W. Mayo of the Clinic's surgical division.

"It is the first time," he said, "that a purely automatic method of administering anesthesia has ever been attempted."

It may have value, he pointed out, in certain mental conditions or physical states in which a constant degree of controlled rest and relaxation may be desired.

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MEDICINE

Streptomycin Cuts Death Rate from Radiation

► RATS given a lethal dose of atomic radiation have been saved from death by the new wonder drugs, the antibiotics, in University of Chicago laboratories.

Streptomycin cut the death rate from radiation injury from 81% to 16% in one group of rats. It showed better protection against the internal infection which follows radiation than any other antibiotic tested, a research team headed by Dr. C.

Phillip Miller reported in the journal SCIENCE (June 30).

Results with aureomycin, golden-yellow mold-grown drug, were irregular. One experiment showed a significant reduction in the death rate. Another experiment showed none. A combination of penicillin and streptomycin, as well as the lesser known antibiotic chloramphenicol, were less effective than streptomycin alone.

The experiments supported the belief that much of the danger of atomic bomb attack lies in blood infection following intense radiation.

Dr. Miller and his associates, Carolyn W. Hammond and Marianne Tompkins, say that germ-killing drugs, to be effective, must be active against a wide variety of bacteria.

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AGRICULTURE

Weed-Killer Prevents Off-Flavor Milk

► WILD onions, weeds that make cows turn out milk with an off-flavor, may soon be tamed with a new weed-killer called maleic hydrazide.

Tests begun last November by a Department of Agriculture scientist, Vernon C. Harris, in cooperation with the Mississippi Agricultural Experiment Station, have begun to pay off. While the onions only turned yellow after the treatment, by May of this year they had died.

Work is still needed to learn how much of the chemical can safely be used on a pasture. It is not believed the substance would be toxic to cows grazing on sprayed areas.

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MEDICINE

Inaudible Vibrations of Heart Are Dominant

► HEART vibrations of low-frequency that cannot be heard by the human ear are the dominant vibrations produced by the heart's mechanical activity, Dr. Franklin D. Johnston of the University of Michigan reported at the meeting of the American Heart Association in San Francisco.

He has worked out a method of recording both these inaudible heart vibrations and the audible ones simultaneously with a record of the heart's electrical activity, or an electro-cardiogram. The method involves the use of equipment for separate registration of curves which represent the velocity and amount of in-and-out movement of the chest wall as a result of the heart's mechanical activity.

This is the first time, he said, that both types of records have been studied and distinguished clearly one from the other. The new method is expected to give valuable aid in diagnosing heart conditions.

Science News Letter, July 8, 1950

MEDICINE

Bacitracin Fights Amebic Dysentery

► BACITRACIN, the antibiotic drug first obtained from germs in the leg wound of a girl injured in an accident, is proving an effective weapon against amebic dysentery.

The antibiotic stops acute attacks of amebic colitis, and routs the ameba from the intestines. Ulcers heal and patients recover completely. These good results in eight severe cases are reported by Drs. Harry Most, J. W. Miller, E. B. Grossman and Neal Conan, Jr., of New York in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION (July 1).

Relapse occurred in one patient within nine months, and another three had reappearance of amebas but no symptoms. In one severe case bacitracin cured the patient after other anti-amebic drugs and antibiotics, including aureomycin, had failed.

Of 43 mildly sick patients or patients with amebic infection but no symptoms, 80% were apparently cured by one or more courses of bacitracin treatment. The probability of cure from a single course of treatment is 66%. The drug was given by mouth. Toxic symptoms were negligible.

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METEOROLOGY

30-Day Weather Forecasts 79% Accurate

► THE United States can now know what its weather will be 30 days in advance with an accuracy of 79%. This is the record of the extended forecasts of the U. S. Weather Bureau during the first three months since they were first made public.

From Feb. 17 on, the Extended Forecast Section of the Weather Bureau has made seven twice-monthly 30-day predictions which can now be checked with the weather as it actually was. In those seven forecasts, 31 predictions were made about the temperatures and the rain or snow in various parts of the country. Of these, 23 were correct, three were half right and half wrong, and five were incorrect.

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GENERAL SCIENCE

Cortisone Discoverers Get Passano Award

► DISCOVERY of cortisone and its application to the relief of rheumatic diseases brought the \$5000 Passano Foundation award this year to Drs. Philip S. Hench and Edward C. Kendall of the Mayo Clinic. The award was presented at the meeting of the American Medical Association in San Francisco.

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