

MEDICINE

X-Ray Treatment Linked To Muscular Dystrophy

► EXTENSIVE X-ray treatment can produce effects resembling muscular dystrophy in patients.

Drs. Samuel S. Kurohara, P. Rubin, and L. Hempelmann of the University of Rochester School of Medicine and Dentistry, Rochester, N. Y., found striking changes in the blood and urine of patients complaining of radiation fatigue.

Tests showed large amounts of creatine in the urine, blood plasma and red blood cells of X-rayed people. The greater the muscle mass X-rayed, the higher the creatine levels. These results are similar to those found for dystrophic people.

Creatine is a fuel produced in the liver that is transported by the blood and used in muscles. When muscles function, they change the creatine into creatinine, which is rapidly excreted into urine. The amount of creatinine excreted depends on the amount of healthy muscle tissue present in the body.

In muscular dystrophy and other muscle wasting disorders, the sick muscles do not take up much creatine. Consequently, these patients with decreased healthy muscle mass excrete more creatine and less creatinine than healthy active people—the more advanced their disease, the more the ratio increases.

Apparently, X-rays paralyze the chemical reactions which enable muscle cells to take up creatine and, possibly, to convert it to creatinine.

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MEDICINE

Aid for Heart Cases Wins Praise of AMA

► A STATE-SUPPORTED program to help rural children with heart disease won editorial praise in the Journal of the American Medical Association, Jan. 6, 1961.

Physicians in every state in the Union read in this magazine how the Crippled Children's Service of the Idaho State Department of Health has saved 30 children from becoming "cardiac cripples" at a cost to the state ranging from \$70 per person for a screening examination to \$1,700 for a child requiring major surgery.

The editorial pointed out that "sparsely populated areas" do not have the resources for accurate diagnosis and surgical correction available in large urban centers near medical schools and large hospitals.

Drs. Frank L. Fletcher and Robert H. Wilkinson of Boise, Idaho, described the program, which has screened 182 children referred to the state service by their family doctor since 1953.

This is the kind of state-supported help that the American Medical Association, often accused of opposing any Government aid, approves, a Washington spokesman for the AMA told Science Service.

The AMA has never been against Govern-

ment aid to the needy, the spokesman said. It is only over-all programs that include persons able to pay that the organization opposes.

Hepatitis in an adult was attributed for the first time to Coxsackie B-5 virus in a report from New Orleans by Drs. William J. O'Shaughnessey and Howard A. Buechner. The virus was found in a 21-year-old pregnant woman who was critically ill for a week. Both mother and child survived the attack, which affected the patient's heart, kidneys, eyelids and nervous system as well as the liver.

A black eye, usually a subject for jokes, can mask a serious underlying injury, Dr. Leonard Doubleday of Houston, Texas, said. He advised X-ray examinations in all cases of this kind, pointing out that a blow can be hard enough to fracture "the floor of the bony socket" that contains the eye. Unless the fracture is detected, the eye will recede into the socket and double vision will occur.

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TECHNOLOGY

Wiring Automated; Machine Corrects Itself

► A HIGH-SPEED automatic device for wiring complex electronic panels on transistorized computers can attach 750 wires to a 20-by-30-inch panel in two and one-half hours. This is about ten times the speed attained by operators wrapping and wiring by hand.

Directed by punched cards, it cuts the spaghetti-thin wire from a spool, skins it, routes it and wraps the bared lead around a pair of bronze pins, all in a five-second operation. It also checks its own work by stopping for repairs if a wire is not connected properly.

The machine is being produced by the Gardner-Denver Company, Grand Haven, Mich., and is called the Wire-Wrap.

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ROENTGENOLOGY

New Fluoroscopic Device Shows Different Angles

► A NEW fluoroscopic device makes it possible for a physician to "see" body parts from a continuous succession of different angles while the patient remains stationary on the X-ray table.

Charles P. Davis, of the Westinghouse Electric Corporation X-ray department, Baltimore, Md., said that an X-ray tube installed within the table of the unit is not fixed in one position as in conventional apparatus, but is free to swing through a maximum arc of 40 degrees—the first time this feature has been available.

It is an optional feature of a new radiographic-fluoroscopic table recently developed by Westinghouse. The new table is equipped with a motor-driven table chassis that will move from a horizontal position to an upright stance in either direction.

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IN SCIEN

NUTRITION

Sodium Contained in Salt Keeps the Weight Up

► YOU CANNOT lose weight, even on a diet, if you retain sodium in your body. (Salt is sodium chloride.)

An Atlanta doctor reports in the Archives of Internal Medicine, Jan., 1962, that carbohydrate metabolism, the conversion of starches and sugars into energy, has a direct bearing on the body's retention of sodium. This probably will have an effect on the current fad of carbohydrate diets.

This previously unrecognized relationship of carbohydrate metabolism and sodium retention, Dr. Walter Lyon Bloom of Piedmont Hospital, Atlanta, Ga., states, "could be important" in formulating a low-salt diet and in the treatment of obesity, diabetes, heart failure and high blood pressure.

In a study involving 20 obese patients, Dr. Bloom found that a diet of carbohydrates almost completely halted the excretion of sodium.

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BIOLOGY

Plants Again Mantle Area Scarred by Nuclear Blasts

► NUCLEAR BLASTS, although immediately destructive to plants, appear to have little effect on the return of hardy, pioneer-type vegetation.

At the Nevada test site, where more atmospheric detonations of nuclear weapons have been made than at any other location in the free world, only the mechanical and thermal characteristics of nuclear explosions seem to have affected vegetation.

A pair of biologists from the New Mexico Highlands University in Las Vegas examined shot areas in the desert test site and found that vegetation two miles beyond "ground zero" had no visible harmful effects.

They also found that plants within a range of one-half mile were eradicated by heat and shock of the blast, but with the next growing period the plants were springing up within the central area and the intermediate area beyond.

Few of the plants found in the intermediate and central areas around "ground zero" are native. The Russian thistle, however, is abundantly growing throughout the central and peripheral regions.

Bunchgrass, burrobrush, a species of salt-bush, stickleaf and tumbleweed are some of the pioneer plants which are crowding back into the shot areas to complete the desert scene.

Drs. Lora M. Shields and Philip V. Wells report their findings in Science, 135:38, 1961.

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CE FIELDS

ASTRONOMY

First Comet of 1962 Sighted by Amateur

► THE FIRST COMET of 1962 has been spotted. It is the Harrington-Abell comet which reappears every seven years.

The comet, now located in the constellation Orion in the southern evening sky, will be closest to the sun by March 9. It was rediscovered by a Los Angeles amateur astronomer on Jan. 2 by telescopic means. The comet was of 16th magnitude and can be seen only with very powerful telescopes.

Periodic comets, such as the Harrington-Abell, are luminous heavenly bodies traveling in an orbit around the sun, reappearing when they come close to the sun. Some comets are only seen once after which they disappear, possibly leaving the solar system or fading out.

Discovery of the comet was reported by the Harvard College Observatory, Cambridge, Mass., clearing house for astronomical information in the Western Hemisphere.

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MEDICINE

Household Air Purifiers No Help to Sinus

► HOUSEHOLD AIR purifiers commonly sold in retail stores are not effective in preventing or treating respiratory ailments, sinus trouble or allergy conditions, the Food and Drug Administration said in announcing the results of a court action involving the nationally promoted Puritron line of such devices.

FDA said that a Federal court decree filed in the District of Columbia drastically limits the health benefits which may be claimed for household air purifiers.

The case involved two types of Puritron devices seized in a Washington, D. C. retail store in October, 1959, on charges that they were misbranded by false and misleading therapeutic claims in their labeling. Both contained small air filters with electric fans to circulate the air and ultraviolet lamps capable of producing a small amount of ozone gas.

Experiments conducted by FDA have shown that such devices have no significant effect in ridding the air of contaminants and dust and will afford no relief to sufferers of asthma, hay fever, allergies and sinus conditions. The Puritron device is similar to many other so-called air purifiers that the FDA has proceeded against.

Promotion literature which the court ordered to be condemned and destroyed claimed that the Puritron devices would provide adequate and effective treatment for relieving hay fever, asthma, sinus and allergies and for controlling stubborn forms of respiratory allergies; that use of the

Puritron will relieve "desperate sufferers"; that it is an advance in the field of allergy relief; that it allows sinus, asthma or allergy sufferers to breathe freely without fear of coughing, sneezing or wheezing; and that the Puritron is used by physicians and in hospitals, implying that the Puritron has an established position as an effective treatment. All such claims were found to be false and misleading in the decree issued on Dec. 20, 1961, by Judge Alexander Holtzoff.

The court also ordered destruction of a leaflet entitled "Important Medical Notice," which contained the statement: "Surpasses all expectations. Performs miracles for a dust allergy patient."—a *Pennsylvania Physician*." The Government charged this statement was false and misleading because it was not made by a physician and because the device will not accomplish the results claimed.

The manufacturer, Michael Electric Co., Inc., New Haven, Conn., admitted only the allegations concerning this leaflet but consented to the entry of the decree and payment of court costs and fees involved in two years of pre-trial litigation.

FDA said that the manufacturer has substantially revised the labeling claims but that retail advertising copy for Puritron devices continues occasionally to repeat statements that have been banned from the labeling. The agency cautioned dealers that air purifiers can be seized under the law for failing to provide adequate labeling directions for treating any diseases for which they are advertised to be effective.

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MEDICINE

Lung Cancer Rate High In Two Clean-Air Cities

► CIGARETTE SMOKING, not air pollution, is causing lung cancer in the relatively unpolluted cities of Venice, Italy, and Reykjavik, Iceland.

Since neither Venice nor Reykjavik has much air pollution from motor vehicles or industry, comprehensive studies of lung cancer were made in these cities and are reported in the *Lancet*, 2:1347, 1961.

In Venice, where more tobacco is smoked than in all of Italy, lung cancer leads the number of cancer deaths among men. In Reykjavik and other parts of Iceland the sale of cigarettes has increased along with the increase of lung cancer, statistics show.

The Venice study was done by Dr. E. L. Wynder of the Sloan-Kettering Division of Cornell Medical College, New York, and Drs. E. Ferrari and E. Forti of the Ospedale Civile, Venice. They said their findings "clearly suggest that cigarette smoking contributes significantly to the risk of lung cancer, even when air pollution from motor vehicles and industrial sources is slight."

In Reykjavik, Dr. Niels Dungal of the University of Iceland reported that lung cancer was rare in Iceland until ten years ago. It has increased especially in Reykjavik although the air of that city is "purer than that of any capital of Europe." (p. 1350).

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MARINE BIOLOGY

Deep-Sea Animals Avoid Crowding by Migrating

► MANY ANIMALS of the ocean depths may have migrated down ocean slopes to avoid crowding new populations.

Much like man, who pushes outward from urban areas, the spineless, bottom-dwelling organisms escaped the pressures of overpopulation and competition by newly evolved forms of animals during the Paleozoic and Mesozoic eras, or some 200,000,000 to 500,000,000 years ago, Dr. Robert H. Parker reports in *Deep Sea Research*, a scientific journal.

In studies of the faunas living on the continental slope of the Eastern Pacific by the Scripps Institution of Oceanography, La Jolla, Calif., Dr. Parker found living specimens of the mollusk which was formerly found only as a fossil. This and other evidence led to the conclusion of migration on the part of formerly shallow water animals.

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BIOLOGY

Deadly Range Plant Found in Southwest

► AN UNSAVORY PLANT proved deadly to sheep has been found growing in sandy and gravelly soil in Arizona, Nevada, Utah and southern California. The leafy herb has no common name.

Although no one knows whether sheep have eaten the plant, scientists learned about its powers by grinding the plant and feeding it through stomach tubes.

Less than three grams of the plant per pound of body weight killed sheep in two days. The livers appear to be most affected by the plant, it is reported in the latest issue of *Agricultural Research*, 10:7, 1961.

The research was done by the U. S. Department of Agriculture veterinarian, Wayne Binns, and other scientists in cooperation with the Utah Agricultural Experiment Station at Logan.

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MEDICINE

New Oral Penicillin Fights "Staph" Germs

► A NEW SYNTHETIC penicillin that is taken by mouth effectively combats "staph" germs and other similar infections.

Unlike its predecessor, Staphcillin, which can be given only by injection, the new penicillin, Prostaphlin, permits the physician to treat patients at home as well as in the hospital. It is known chemically as methyl phenyl isoxazolyl penicillin.

Dr. Paul A. Bunn and Jutta Amberg of the State University of New York, Upstate Medical Center, Syracuse, describes the favorable effect of the new synthetic drug in 22 cases of acute infections in the *New York State Journal of Medicine*.

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