

RADIOLOGY

Cancer Treatment Helped By Oxygen Pressure

➤ RADIATION TREATMENT of 100 patients with various types of cancer has been "highly encouraging" under oxygen pressure, the Chicago meeting of the Radiological Society of North America, was told.

The first patients treated by Dr. Orlist Wildermuth of the Tumor Institute of the Swedish Hospital, Seattle, were suffering from what were believed to be incurable tumors. Although there were few cures, the reduction of pain and general "sparing" of the patient was dramatic.

Dr. Wildermuth's technique—under three atmospheres of oxygen pressure, which means about 15 pounds to the square inch at sea level—is simple and practical as well as effective.

The effect of the pressure is to force oxygen into cancer cells that lack a normal oxygen supply and are on this account resistant to radiation.

With complete oxygen saturation, many tumors thought to be resistant to radiation, or given to recurrences after treatment, can be destroyed entirely with about half the normally required radiation dose.

Eleven patients with cancer of the esophagus recovered the ability to swallow almost immediately. Other patients, with cancers of the pancreas, mouth, throat and the lymph nodes, responded well to the lesser radiation dose.

These cancers are poor subjects for radiation ordinarily because of the sensitivity of the surrounding tissues.

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CONSERVATION

Man Threatens Nature With Smog and Pollution

➤ MAN WILL REALIZE his own highest potential by working with nature, not destroying it.

Today the man-made weapons of smog-filled air, troubled waters, pesticides and drying wetlands are threatening nature with destruction, Secretary of Interior Stewart L. Udall, told the annual meeting of the National Audubon Society in Miami.

Only a conscious and directed effort to combat these weapons against nature and make more people aware of the importance of conservation can let our great chain of life endure, he said.

More and more, research is coming up with evidence that very few forms of life are unnecessary, he said. Many a creature once dismissed as insignificant has taken its place as a necessary link along the path to some higher, more complex form of life.

Man is only a tiny part of the abundant living complex on this earth, Secretary Udall said.

"The invisible amoeba, the brilliant monarch butterfly, the acres of green plankton and the jeweled hummingbird—all spin a continuous cycle of life and regeneration.

"Only by examining the biological communities of our gaudy coral reefs, our silent forests, our grasslands and deserts

and seas can man discover his own true place in the natural scheme of things," he said.

Secretary Udall described the "mature concern" for conservation that he encountered in his recent trip to Africa. He believes the people of that land are sophisticated in the "highest sense of the word" in regard to their natural resources. They have the chance to skip over the trial and error period encountered in many conservation problems in the United States, and can move directly into conservation—or can make their own errors.

Describing the successful survival of some birds such as the trumpeter swan, whooping crane, Aleutian Canada goose, Everglade kite and our national bird, the bald eagle, Secretary Udall also told about the destructive efforts of technology everywhere around us—in the atmosphere, under the seas, in the wastes of uninhabited deserts and in the jungles of overinhabited cities.

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MEDICINE

Transplant of Male Gland Lasts 17 Years in USSR

➤ TRANSPLANT of a male gland from a person with organs of both sexes to a normal man who lost both of his testicles through injury is successful after 17 years, a surgeon from the Armenian Soviet Republic of the USSR told the third international Congress of Plastic Surgeons in Washington, D. C.

Medical history was made when this rare operation proved successful, Dr. A. D. Tokhian of the Scientific Research Institute of Traumatology and Orthopedics, Erevan, Armenia, said.

A predominantly female hermaphrodite was born with two testicles that were used in the transplant when both patients reached adulthood. One of the two male sex glands was ultimately rejected, but the other is still in place.

The two patients were not related but had the same blood types, Dr. Tokhian said. No drugs were used to overcome the immunity problem, which so often causes organs to be rejected after a short time.

It is an extremely rare operation to put testes into the proper position and connect them with the spermatic duct. Dr. Tokhian has performed 42 operations on both men and women who were congenitally malformed or injured. One man who had had an accident was given a new male organ from skin taken from his own abdomen and fitted with plastic.

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ENGINEERING

Instant Earthquakes Produced by Machine

➤ A MACHINE that produces instant earthquakes to shake up buildings, bridges and dams has been successfully tested at the California Institute of Technology, Pasadena. Four such machines, called vibration generators, are bolted to the structure to be tested.

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IN SCIEN

MEDICINE

Parkinson's Disease From 1918 Flu Epidemic

➤ THE INFLUENZA EPIDEMIC of 1918 is blamed for shaking palsy, or Parkinson's disease, still afflicting veterans from World War I.

It has been learned from Dr. Blaine S. Nashold Jr. of Duke University Medical Center, Durham, N. C., that "service-connected" disability had been granted to veterans with flu relationship in mind.

A 1927 American Medical Association book "Epidemic Influenza," by Dr. Edwin O. Jordan, then of the University of Chicago, states that the effect of flu on the nervous system is "hardly second" to that on the respiratory tract.

At the Boston Psychopathic Hospital in 1919, Dr. Karl Menninger, chairman of the board of the Menninger Foundation, Topeka, Kans., reported a series of 100 cases of mental disease associated with influenza.

To get more information on Parkinson's disease Dr. Nashold said scientists are probing into biochemical problems, as well as biostatistics and genetics, anatomy, physiology and clinical treatment. In this way they hope to unite the basic research attempting to establish causes with possible surgical and medical cure.

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SOCIOLOGY

Four-Generation Family Presents New Problems

➤ THE FOUR-GENERATION family is no longer a "rare bird" on the American scene.

Great-grandma and great-grandpa are taking their places with grandparents, parents and children in the family flock. And this means new problems to be solved, a specialist on aging said.

Even grandparents have trouble finding a place for themselves in today's family life, Theodore R. Isenstadt, director of the Family Service Association of America's project on aging, told a meeting of that organization in San Francisco.

But with the coming influx of great-grandparents the need to realign family life to fit the needs of the elderly is even greater.

Pointing to Americans' confusion about the elderly person, Mr. Isenstadt said:

"If he develops an interest in hootenanny singing, and even if sometimes . . . he indulges in a bit of 'suburban philandering,' this is acceptable, but when it comes to seeing what his place is as the eldest of three or sometimes four generations . . . he finds difficulty in establishing his role."

Greater understanding of "the institution of grandparenthood" is especially needed to deal with the increasing number of four-generation families.

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CE FIELDS

MILITARY SCIENCE

Early Warning System In Full Operation

► THE BALLISTIC MISSILE Early Warning System, an electronic fence across the top of the world, is now in full operation.

The third major radar base in this giant U.S. Air Force system went into action in Flyingdales, England, as a switch was thrown connecting it with companion bases at Thule, Greenland, and Clear, Alaska.

The new joint British-United States facility on the lonely moors ends a construction project begun six years ago when Congress approved the billion dollar defense system.

The invisible fence is 3,000 miles long, extending over all of the Eurasian land mass from which ballistic missiles could be launched against the Free World. The system is designed to detect an intercontinental missile attack on the United States or Canada and intermediate missile attack on England.

Each detection site is connected by a complex of land and undersea phone cable, microwave radio relay and tropospheric scatter transmission systems to the headquarters of the North American Air Defense Command at Colorado Springs, Colo., and to Strategic Air Defense Command Headquarters at Offutt Air Force Base, Neb.

Inside each of three 140-foot-diameter pale blue spheres at Flyingdales is an 84-foot radar. The radars are advanced models of the one that towers as high as a 15-story building in a meadow in Moorestown, N. J., in full view of motorists on the New Jersey Turnpike.

Every day, without exception, the system will be tested with imaginary missile attacks, planned by an Air Force strategy team and recorded on magnetic tape to be fed into the system's computers and light up displays as if a real attack were on.

Within thousandths of a second after receiving radar tracking data, the computers can determine the speed, distance and trajectory of missiles.

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MEDICINE

Eyesight of Newborn Well Developed at Birth

► THE EYESIGHT of newborn babies is much more developed than previously thought, a two-year study at the Medical School of the University of California, Los Angeles, has shown.

Eighty-five newborn infants, ranging in age from eight hours to ten days, were tested by Drs. Glenn O. Dayton Jr., Jules Stein Eye Institute, and Margaret H. Jones of the pediatrics department.

Instead of having poor vision and aimless,

wandering eye movements, newborn babies can actually see most objects quite distinctly and are able to use the two eyes together to a remarkable extent.

This demonstration of remarkably good vision and well coordinated eye movements in the first ten days of life changes the previous concepts in this field. These former concepts held that use of the eyes together (binocular vision) and the ability to see small objects were not present in the first six weeks of life.

The UCLA study not only updates medical texts and thinking in the field of pediatrics but has specific applications in the field of ophthalmology. Knowing that a newborn infant has binocular vision and a well developed fixation reflex is an aid in evaluation and treatment of eye disease in the first days of life.

There is no need to delay therapy for conditions such as cross-eye (strabismus) until a child is several years old, Dr. Dayton said. Early diagnosis and prompt treatment will speed correction.

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ENGINEERING

New Automatic Hand For Engines Invented

► A NEW, AUTOMATIC HAND on the throttle of jet, marine and other engines was described to the American Society of Mechanical Engineers at Philadelphia by its inventor, Prof. Rufus Oldenburger, director of the automatic control center at Purdue University's School of Mechanical Engineering, Lafayette, Ind.

The new engine speed governor, basically a compact double governor, regulates engines so that they start more rapidly, run more smoothly, fail less often and operate more efficiently than with the dashpot governors, using pistons to measure velocity, now in use. The device may eventually be adapted for automobiles.

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PUBLIC HEALTH

Smoking, Air Pollution Linked to Emphysema

► THE LUNG DISEASE, emphysema, which is estimated to affect some 10 million persons in the United States, has joined lung cancer in being suspected of relationship to smoking and air pollution.

The aging lung was studied in an effort to find out whether emphysema symptoms had been caused by the mere fact of aging or by outside factors.

A single cigarette was shown to increase breathing difficulty in patients with chronic obstructive emphysema, Dr. Ian T. T. Higgins of the University of Pittsburgh told a symposium at Hahnemann Medical College and Hospital, Philadelphia. Referring also to chronic bronchitis and to coughing he said that aging persons who did not smoke had fewer symptoms as they grew older than smokers, in whom all lung symptoms increased. But Dr. Higgins said much more evidence is needed on the relationship of emphysema to aging and smoking.

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RADIOLOGY

X-Ray Movies Give Speech Defect Data

► SIDE-VIEW X-RAY movies of people talking are being used to study the mechanics of defective speech, Dr. Earl R. Miller of the University of California Medical Center reported to the Chicago meeting of the Radiological Society of North America.

The ability to watch how the tongue, palate and other parts of the speech mechanism work together should add important information on ways to detect and correct defects.

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SURGERY

Rare Artery Surgery Saves 72-Year-Old Man

► A 72-YEAR-OLD MAN has survived a rarely performed operation for rupture of the aorta—the main trunk line artery that carries the blood from the heart to the rest of the body.

Two other patients, moreover, have survived nearly two years and one and a half years, respectively, after surgery was performed, surgeons of the Albert Einstein College of Medicine, Yeshiva University, New York, have reported.

It was this critical condition—95% fatal—that cost Sen. Estes Kefauver his life.

Contrary to common belief, the majority of patients with acute dissecting aneurysms of the aorta do not die instantly, the surgeons explained.

A survey showed that only one-fifth of such untreated cases die within 24 hours of onset of symptoms.

Drs. Michael Rohman, Robert Goetz and David State, who reported this study, pointed out that there is "clearly often sufficient time to make a correct diagnosis and undertake surgery with a reasonable chance of saving the patient's life."

But the signs of dissecting aneurysms can mimic those of an acute coronary attack or a variety of other heart diseases—even those of digestive illnesses.

The Einstein report appeared in the Journal of Thoracic and Cardiovascular Surgery.

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MARINE BIOLOGY

Pink Muscles Found In Barnacles

► A PINK COLOR has been found in the muscles of barnacles, tiny sea creatures that look like miniature volcanoes clinging to rocks and ships.

The source of the pink color is hemoglobin, analyzed for the first time in *Balanus perforatus*, a common barnacle of southern Britain, southwest Europe, the Mediterranean and northwest Africa.

Eve C. Southward, Citadel Hill, Plymouth, England, reported the findings in Nature, 200:798, 1963.

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