

MEDICINE

X-Rays Diagnose Breast Cancer Without Biopsy

➤ GREATER USE of X-rays to diagnose breast cancer should both save many women from needless operations and prevent cancer deaths, the American Medical Association was told at its meeting in Atlantic City, N. J.

In most cases X-ray examination will tell whether a lump in a woman's breast is cancer or some other condition, Dr. Helen Ingleby of the Jewish Hospital, Philadelphia, reported. In many cases the X-ray picture will also distinguish between various conditions that are not cancer.

Heretofore physicians have relied for breast cancer diagnosis upon examination of the breast plus biopsy, which consists of removal and microscopic examination of a tiny piece of tissue suspected of being cancer.

Dr. Ingleby based her new approach in the cancer fight upon studies she and Dr. Jacob Gershon-Cohen have made in which they compared X-ray pictures of the breast with sections of breast after surgical removal.

The cancers they found in the breasts were the same in location, size and shape as the shadows seen on the X-ray pictures taken before operation.

Now they feel they can tell a woman when the lump in her breast is a cyst, when it is due to glandular changes, and when it is due to cancer without submitting her even to the minor operation of biopsy in cases that do not require any operation. If the X-ray picture shows cancer, the Philadelphia scientists of course urge immediate removal of it.

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ENGINEERING

Boss to Blame if Workers Make Errors Day After Day

➤ THE BOSS is at fault if a workman continues to make the same error day after day. That is what the American Society of Mechanical Engineers meeting in Toronto, Canada, was told by W. F. McMullen of Canadian General Electric Company, Ltd., of Toronto.

Many workers make the same mistake over and over again because no one ever takes the trouble to correct them, he stated. It is management's duty to do this, he said. The boss should discuss a man's work with him at regular intervals to let him know how he is doing. To do this job intelligently, the boss should keep a continuous record of the individual's performance.

This record should show how the person is doing on his present job, what he can do to improve and what additional training can be given him to help him improve. Also it should show what his ultimate potential is and what he needs to move towards it.

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CONTROL BOARD—Closeup of the master control board of the UNIVAC. Dr. John W. Mauchly, one of the inventors, is leaning over the panel.

MATHEMATICS

Computer Figures Census

Electronic brain grinds out census data. UNIVAC is first computer designed to compile statistics as well as handle mathematics.

➤ THE FIRST electronic computing brain ever to be used in compiling census data is hard at work grinding out figures.

After almost five years of construction, the UNIVAC was unveiled to the public in Philadelphia. Although much smaller than the first of its family, the wartime ENIAC, the new electronic computer still fills a normal-size room.

The first electronic computer designed to compile statistics as well as handle complicated mathematical problems, the UNIVAC—Universal Automatic Computer—was constructed specifically for the U. S. Census Bureau.

Even during the dedication the electronic computer worked right along. Dealing with data compiled during the 1950 census, it figured out for Monroe County, Iowa, just how many men and women there are in the county, whether they live in the city or country, and the number of school years they completed.

The UNIVAC is 14½ x 7½ feet, and stands eight feet high. It was built by the

Eckert-Mauchly Computer Corporation, a division of Remington Rand, Inc., under the supervision of the National Bureau of Standards. Prof. J. Presper Eckert and Dr. John W. Mauchly who designed it are the same men who several years ago at the request of the Army developed the ENIAC, a machine much too large for commercial use.

In only one-thirtieth of a second the new electronic brain can make a statistical description of a baby under one year of age who did not fall in the census sample. It takes about one-third of a second to classify the complete description of a person who was an employed foreign-born male, the head of a household, a veteran included in the census sample who had changed his place of residence during the pre-census year, was between 25 and 35 years old, attended school but did not graduate from college, and was not the sole support of the family.

In the wink of an eye—about one-sixth of a second—the machine can completely describe a typical American citizen.

The census information about a person is fed into the machine on a magnetic tape. One and one-third inches of this narrow tape records the complete census description of a person in code numbers. Each second ten thousand of these digits are read off the magnetic tape by the UNIVAC.

Operation of the UNIVAC requires the coordinated functioning of 5,400 electronic tubes. The machine possesses a mercury memory in which can be stored for future use tens of thousands of electrical impulses, each group of seven representing a character. The machine automatically uses these stored characters, which may be letters or numbers, as needed.

When the UNIVAC completes its tabulation for a city or county, it again records its answers on magnetic tape. An auxiliary piece of equipment types off the statistical data, to be incorporated in the published results of the 1950 census.

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PUBLIC HEALTH

Leave Poison Ivy Alone; Home Remedies May Irritate

➤ LEAVE POISON ivy alone. This applies to both the three-leaved plant and its relatives that cause the poisoning and to the skin eruption itself. Home remedies may further irritate your already irritated skin, doctors point out, and in the process of applying the home remedy you may spread the poisoning to unaffected parts of the skin.

If the itching is very bothersome, better consult your doctor. He may give you something to relieve the itching, or he may prescribe only a protective bandage.

The new anti-histamine drugs help a few poison ivy sufferers—about one in 10. For ivy poisoning, it is better to take these in the form of pills rather than to use an ointment containing anti-histamine chemicals. This is because the ointments have a high sensitizing index, and with the skin already in a sensitized state, the ointment is likely to make matters worse instead of better.

If you have been in contact with poison ivy, poison oak, or poison sumac, scrub your hands and other parts of the skin carefully with soap and water. Remember that clothing, shoes, garden implements and the like may also have gotten the poison on them, so launder or otherwise thoroughly clean these also. Dogs and other animals that have been running in the underbrush may have come in contact with the plant and may be carrying some of the poison. Smoke from leaf rubbish fires, if poison ivy has been a part of the rubbish, can be a source of trouble to the sensitive.

"Shots" for protection against ivy poisoning have been disappointing and are still not recommended practice.

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PSYCHIATRY

Psychiatry Is Cheaper

More patients should get psychiatric treatment in beginning of their illness to speed their recovery and reduce over-all cost.

➤ PSYCHIATRIC TREATMENT should be given to more patients because in many cases it is less costly than other forms of treatment, Dr. Eugene Ziskind of Los Angeles declared at the meeting of the American Medical Association in Atlantic City, N. J.

This may come as a surprise to many who have heard of the high cost of psychiatric treatment. But Dr. Ziskind's point is that about one third of the patients seen by physicians have ailments due to or related to a mental or emotional disturbance.

Getting treatment for this primary factor of the sickness in the beginning will save money in the end by getting the patient well faster and preventing chronic invalidism with its "unending expense."

Often, he said, psychiatric treatment in the beginning does not even require a greater initial outlay of money because of a saving in the cost of X-ray and laboratory tests and even hospitalization.

Doctors at the Cedars of Lebanon Hospital Psychiatric Clinic, where Dr. Ziskind is director, are finding this approach helpful, he said, in showing not only the scientific soundness of psychiatric treatment for many ailments but "the fact that it is less costly than other forms of medicine."

"It is extremely urgent," he declared, that psychosomatic illness be checked at the earliest possible moment. The physician, seeing the patient in the earliest stages of symptom formation, is in an opportune position to treat these cases successfully. At the initial appearance of the illness the causative factors are close to the surface and are readily uncovered.

"When psychogenic factors are of recent onset the prognosis (prospect of recovery) is relatively good and a cure not difficult to obtain. The prospect of preventing chronic states, many of which are incurable, is an insistent argument for the earliest possible approach to psychogenic illness."

He emphasized that treatment in the first stage is not for the psychiatrist, but is one which the general practitioner usually can carry out. The major obstacle, he pointed out, was the physician's lack of time.

"Proper psychotherapy requires that the doctor grant the patient an initial interview of considerable length and that he receive the patient for return visits of 30 to 40 minutes duration, at times for several such sessions," he said.

Science News Letter, June 23, 1951

MEDICINE

Predict Common Cold Cure

➤ A CURE for the common cold, an increase in the world's food supply and a method for utilizing the sun's energy may be expected within the next 50 years through further researches in bacteriology, Dr. Walter J. Nungester of the University of Michigan predicted in his presidential address to the Society of American Bacteriologists meeting in Chicago.

Dr. Nungester admitted that he was doing some "crystal ball grazing." But he pointed to advances in bacteriology over the past 50 years, including some of the fundamental research work reported at the present meeting as basis for his prediction.

He previously published a discovery by himself and his associates which may help explain why pneumonia so often follows attacks of the common cold.

Excessive mucus in the body's breathing tract can lower the ability of body tissue to resist infection, he and Drs. J. K. Bosch and Darwin Alonso find. (PROCEEDINGS OF THE SOCIETY OF EXPERIMENTAL BIOLOGY AND MEDICINE, April).

In healthy persons normal production of mucus plays an active part in protecting the body against disease. But when rats were given shots of pneumonia germs mixed with human mucus, their resistance was lowered by as much as 10,000 times. The same proved true when streptococcus germs were given in a preparation with human mucus.

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INVENTION

Outside Thermometer, Easily Seen, Is Patented

➤ IT WILL be easy to see the thermometer outside the window with an illuminated type on which patent 2,556,394 was issued to Kenneth W. Jackson, Sherrill, N. Y. This thermometer, a mercury tube type, has a translucent thermometer scale plate, and illumination from a flashlight bulb which is operated by a switch inside the window.

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