

MEDICINE

# More Amperes, Fewer Volts Seen For Cancer Treatment

## Proposed X-Ray Apparatus Would Secure Much Greater Energy Without Necessity For Extremely High Potentials

**H**OPE for improvement in the treatment of cancer appeared in a report by Dr. Arthur C. Christie of Washington, D. C., to the American Medical Association.

Wider use of X-rays and improvements in X-ray apparatus seem to be the lines along which medical scientists will advance in their fight against this great disease enemy.

"The possibilities of radiation in the treatment of cancer have not yet been exhausted," Dr. Christie declared. "There are indications now that further advances may be made in Roentgen apparatus."

These advances, he explained, will be such as to secure a much greater energy output by the use of tremendously high milliamperage, rather than by increasing the voltage. Voltage in itself is of no importance, he asserted. The results in treating cancer by X-rays are due to the amount of radiant energy that can be turned onto the cancer without permanently injuring the normal tissues around it.

The machines of high milliamperage which Dr. Christie discussed would take less space than the very high voltage machines now being used in a few cancer clinics. They would give the same results by enabling the operator to give the treatment at much greater distances from the patient, thus securing the proper relation between the surface and the depth of dosage.

Dr. Christie pointed out the benefits of radiation treatment as compared with surgical treatment of cancer, and emphasized that best results are obtained by both X-rays and surgery when cancer is treated in the early stages. He listed five additions to scientific knowledge in recent years which have improved the results in the fight against cancer.

First of these is perfection of the method of fractional X-ray dosage with high voltage over a long period of time.

Second he mentioned the better understanding of both the role of the nor-

mal tissue surrounding a malignant growth and likewise of the necessity of securing the proper relation between destruction of cancer cells and reaction of the tissues surrounding the cancer.

Third on his list is the increasing knowledge of the value of giving X-ray treatment before operation on cancer patients.

Fourth is a better appreciation of the ever-constant danger of injuring a cancer, and of the fact that such danger can be lessened by preliminary irradiation.

Fifth is the fact that physicians have a better grasp of the role played by the small lymph nodes throughout the body and of the necessity of preserving these as nearly intact as possible as a barrier to the spread of cancer cells, and at the same time destroying cancer cells already lodged in the lymph nodes.

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## Hay Fever Victims Must Not Adopt Nudist Cult

**H**AY FEVER victims who "go nudist" are courting disaster. Even if they resort to more conservative hot-weather comforts such as electric fans at night, or air-conditioned movie houses, they are still asking for trouble.

Such persons have poor regulation of body heat, and sudden drops in temperature are likely to bring on their trouble in aggravated form, explained Dr. Harry S. Bernton, professor of hygiene at Georgetown University, in a talk given under the auspices of Science Service over the Columbia Broadcasting System.

Dr. Bernton described the mechanism by which chilling of the skin provokes paroxysms of sneezing.

"When cold air strikes the skin, there is an immediate loss of heat. The warmer body radiates its heat to the colder environment. One of Nature's inexorable laws is the conservation of

## ANIMALS IN THE U. S. NATIONAL PARKS

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an address by

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George M. Wright

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Wednesday, June 27, at 3:30 p. m., Eastern Standard Time, over Stations of the Columbia Broadcasting System. Each week a prominent scientist speaks over the Columbia System under the auspices of Science Service.

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body heat. This is effected by the contraction or shutting down of the blood vessels in the skin—a mechanism quite analogous to shutting off the heat from a radiator by closing the valve.

"A diminished volume of blood now courses through the skin, whereas the excess of blood finds its way in part into the mucous membrane of the nose. Herein are located the so-called turbinate tissues or 'swell bodies,' which act very much like the ordinary sponge. Their volume varies with the volume of contained fluid. The engorgement of the turbinate bodies causes the familiar sniffing; and the consequent pressure upon the nerve endings in the nasal mucous membrane gives rise to sneezing. This is a common experience.

"The congestion of the 'swell bodies,' irrespective of cause, is indicated by sneezing, fullness of the nose, and nasal discharge. These reactions of the nasal tissues are more marked in the case of hay-fever subjects due to impairment of nerve functions. Therefore, the effects and symptoms are more lasting than in the normal person."

Hay fever is predominantly an American disease, Dr. Bernton stated. This is not because Americans are peculiarly susceptible, but because the ragweeds, which cause over 70 per cent. of all cases of hay fever, are exclusively American plants.

Ragweed pollen will not be flying until mid-August, so that the really heavy sneezing will not begin until then. Hay fever victims who are suffering their annual martyrdom at present are mostly susceptible to tree pollens, which cause the spring hay fevers, or to the first flowers of grasses and plantains, which are the principal provokers of summer sneezes.

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