

New X-Ray Cancer Treatment

By HOWARD W. BLAKESLEE
Associated Press Science Editor

The University of Illinois College of Medicine has a beam of X-rays the shape of a pole.

This is something new in beams of any kind. Other beams are fan-shaped. This beam is used to treat cancer and comes from a betatron, a new high-energy electrical machine producing 25-million volt X-rays.

The rays are invisible, but photographic film reveals their peculiar formation.

The betatron is a box, higher than your head, sheathed in metal, none of the inner works visible. Shoulder high on the betatron face is a round hole, big as your wrist. A yard in front of the hole Dr. John S. Laughlin sets up a target, a sheet of photographic film.

When the film is developed it shows a round, black disc, the same size as the hole in the betatron's face. The edges of the black spot are sharp as if cut by a knife. The X-rays went through bunched, as rigid as if they had the form of a long, round pole.

This betatron beam reaches a cancer with the accuracy of a surgeon's knife. The rays drive so hard that they pass through skin and surface tissues without causing much damage. As they hit the tissues the rays produce electrons, but these too travel so hard and so fast that they cause little surface damage.

The greatest burning effect is deep below the skin. This makes the pole-shaped beam a new cancer tool.

Aiming this invisible beam is difficult. The target is an unseen place inside the body. The bullets are invisible. Only the patient can be in the room when the betatron fires.

Models of the cancer patient have to be made for aiming. To date marksmanship has been only on heads and necks. The model heads are exact reproductions of the patient's lines and contours, perfect enough to be prize-winning sculptures. The model is set in the position the patient will occupy, and surveying fixes this position down to the smallest fraction of an inch.

Phantom heads are made of scores of thin layers. Between each layer is a sheet of photographic film. The beam is shot into this phantom, and the film records the X-ray strength and damages at every depth.

The patient sits or lies in the measured position. He feels no pain, in fact he doesn't feel the ray at all. But he cannot wear a collar button. He must not wear his glasses. Because either metal might become radioactive.

Occasionally when these 25-million volt rays strike something they are captured somewhat like a billiard ball in a corner pocket. In this capture they often transmute the atoms they strike. This is the same transmutation as done in



GORDON GRAY, Secretary of the Army, visits his home state of North Carolina and congratulates Leon M. Gibson, State Chairman for USO, upon the development of USO activities in this state where already, since reactivation ten full-scale USO Clubs and other facilities are in operation to serve men and women of the Armed Forces and Veterans in Hospitals.

Dry Cleaning At Home Can Be Dangerous Undertaking

Home dry cleaning is dangerous, especially during the winter months when the activities of housewives are more confined to the house, says Miss Evelyn Wiggins, home demonstration agent for the State College Extension Service.

Records of the National Safety Council show that home dry cleaning with flammable cleaning fluids has disfigured or fatally

atomic piles, and creates the same kinds of radioactivity. Because of this the walls of the betatron room are covered with materials that do not transmute readily. This induced radioactivity is no risk to the patient, but could interfere with accuracy in the instruments.

Dr. Roger A. Harvey, radiologist in charge of treatment, refuses predictions. Four persons have been treated. The first was at the University of Illinois, Urbana, where Dr. Donald W. Kerst, inventor of the betatron has several of these machines. There a 22-million volt beam was focussed on a deep brain cancer upon which conventional X-ray surgery had failed. The patient died of another cause before the treatment was completed, but an autopsy showed the cancerous tissue almost completely destroyed, without apparent damage to surrounding tissues.

burned many persons and has caused houses to be burned to the ground or demolished by explosions.

"It is much safer and more effective to have your cleaning done by a commercial dry cleaning establishment," the home agent declares. "Never, under any circumstances, should gasoline, naphtha, or kerosene be used for garment cleaning purposes," she adds.

Miss Wiggins explains that a fluid may be marked "non-explosive" and still be flammable. It is imperative that only a non-flammable cleaning fluid be used, she asserts.

For persons who must dry-clean at home, the National Safety Council recommends following these safety rules at all times:

Store cleaning fluids outside the house in a marked container. Do they dry cleaning outside the house, where toxic and other vapors will be quickly dissipated. Keep hands out of solvent—use a suction washer.

Avoid getting cleaning fluid on clothing or exposed parts of the body. Dry garments or articles outside before taking them into the house.

Keep children at a safe distance from the cleaning operation. Observe these precautions even in removing spots from garments.

Questions AND Answers FOR Veterans

Q—I am a World War II veteran and intend to go into business for myself. How much of a business loan will VA guarantee?

A—Veterans Administration will guaranty 50 percent of the loan up to a maximum of \$4,000 if the loan is for the purchase of business real property, or up to \$2,000 for a non-real estate business loan.

Q—Will VA guarantee a business loan for me on any type of business?

A—Veterans Administration will guarantee your loan, if the lender makes the loan, and it is to be used for any legitimate business purpose.

Q—I am paying my NSLI premiums by deduction from compensation. What will happen to my insurance if my compensation should be discontinued?

A—The insurance will lapse unless premiums are paid within 31 days from the due date.

Q—Will Veterans Administration pay for my part-time training for correction of a speech defect under Public Law 16?

A—Part-time training under Public Law 16 may be provided where the veteran's physical or mental condition is such as to preclude full-time training and the training afforded may restore employability.

Q—When is a veteran training under Public Law 16 considered to be rehabilitated?

A—When the disabled veteran has completed his course under the law prescribed to prepare him for his employment objective and his employability is restored.

Q—I understand that the special NSLI dividend will be computed to the anniversary date in 1948. What is meant by anniversary date?

A—Anniversary date of your policy is the date upon which it became effective.

Q—What income provision is attached to the pension I will get as the widow of a veteran who died of a wound received in battle?

A—As the widow of a soldier who died in line of duty, you are entitled to compensation regardless of your income.

TAILOR ON THE MOVE

A roving tailor cuts the cost of outfitting the 500 Illinois State highway patrolmen.

A mobile truck carrying the tailor visits each of the 14 division headquarters on the day patrolmen gather for monthly inspection. As the need demands, the men are measured for new uniforms, shirts, caps and coats.

Public funds are saved since neither state vehicles or gasoline is used to transport the men to Springfield for periodic outfitting as in the past.

EYE DEFECT

Astigmatism is a defect in the eye which causes blurs in parts of the vision.

"EASY DOES IT"

To remove obstinate, sticky films of dirt from wood furniture, make a solution of three tablespoons linseed oil, one tablespoon turpentine and one quart hot water. Mix thoroughly and let cool thoroughly. Wash a small area and dry immediately with a soft cloth. Repeat until entire surface is clean, then polish by rubbing with grain of the wood.

Old wax on furniture can be removed easily by applying a liquid wax to the surface and then wiping it off while still wet.

Vinegar, denatured alcohol or ammonia are good cleaners for mirrors and picture glass. Use one of them with water and wash the glass, but do not spot the frame as the finish may come off.

Silk and rayon lampshades may be washed if they are sewed rather than glued to their frames. Make

RECIPE OF THE WEEK

Cranberry-Apple Pie
(Makes 1 9-inch pie)
2 cups cranberries
1 cup diced apple
1/2 cup water
1 cup sugar
1/4 teaspoon salt
1 tablespoon butter
1 recipe plain pastry
Cook apples and cranberries in water until tender. Add sugar, salt and butter. Line pan with pastry and pour cranberry mixture into it. Cover top with strips of pastry, crisscrossed. Bake in a hot oven (450 deg.) for 20 minutes.

certain that any trimming is solution, before attempting to wash all the trim.

Washable window shades are easily cleaned by sponging with thick, lathery soap suds, then rinsed with a sponge. Hang on the window to dry, and do not roll until drying is complete.

Crushed spots on pile rugs and carpets can be brought up by applying a steam iron to them. While still damp, brush with stiff brush. Slipcovers look better and stay

clean longer if they are lightly starched. To starch easily and evenly, place starch solution in the washing machine. Rinse starch off ball trim or fringe, then dry in shade or indoors, away from artificial heat.

COVERED BRIDGES

Covered highway bridges still are in use. One at Wadstock, Windsor county, Vermont, recently was rebuilt as a preservative measure.

COLOR TELEVISION

One of the first demonstrations of color television was presented by the Bell Telephone Laboratories June 27, 1929.

TIPS ON COFFEE

Unless coffee is vacuum-packed, it's a good idea to buy it in small quantities—not more than a ten-day supply at a time. In its article on "How to Make Good Coffee", the December issue of Good Housekeeping magazine also points out that, whether it's made of glass or metal, a coffee pot must be kept sparkling clean. If a filter cloth is used in the coffee making, it should be rinsed thoroughly, scalded with hot water, and kept in water between uses.

The life span of the ant is between 10 and 15 years.

EARLY COURT ROOM

The U. S. Supreme Court building in 1789, first in the Capitol and after 1860 in the Old Senate Chamber. The building didn't get its own building.

The oldest Bible in service is one on which the title of the Supreme Court was sworn in since 1808.

POOR PA

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