

MEDICINE

Lung Cavities Healed

► SKIN grafts are being used successfully to heal giant cavities of the lungs of tuberculosis patients at Grace Dart Home Hospital in Montreal, Canada.

In this procedure, developed by Dr. Arthur Martin Vineberg, the cavities are treated by drainage, much as an abscess would be. Then the cavity is opened further through the drainage opening and its walls and "floor" are covered with skin grafts.

"Gradually the boundaries of the cavity are lined with skin which grows out to meet the skin on the surface of the chest wall. The cavity thus becomes obliterated, leaving a defect in the chest wall," Dr. Vineberg states in a report to the *Society for Experimental Biology and Medicine*.

The first patient to receive this new treatment was a 52-year-old man with far advanced tuberculosis of both lungs. He had giant cavities at the apex of each lung. Drainage was established on the left side, but the patient's poor general condition prevented further collapse therapy to rest the lung, the usual treatment in such cases.

Skin grafts were applied on four occasions, with a 75% take of the graft on each occasion. The cavity on the left side grew smaller and gradually was covered with skin and the bronchial openings which at first were large gradually closed.

At the time of the patient's death, three months after the last graft had been applied, there was no sign of an open bronchus. The surface skin on the chest wall showed a depression about one and one-half inches in diameter which entered into the lung. The cavity seemed to be completely covered by skin.

Dr. Vineberg bases his operation on considering a tuberculosis lung cavity as a

chronic lung abscess. There is this difference, he points out: When a lung abscess is drained, the surrounding lung tissues fill in the defect, but in a tuberculous lung the tissues are usually diseased and cannot expand to fill the space occupied by the cavity. So he uses skin grafts to do this job of obliterating the cavity.

The operation has been performed on two other cases successfully and in both the cavities seem to be healing.

Science News Letter, October 22, 1949

PHYSICS

Improved Magnetometer Is Developed

► AN IMPROVED magnetometer, the instrument used trailing and under an airplane to locate submerged Nazi U-boats during the war, has been developed at the Naval Ordnance Laboratory, White Oak, Md., it is revealed in *SCIENCE* (Oct. 7), official publication of the American Association for the Advancement of Science.

The instrument is described by E. O. Schonstedt and H. R. Irons, of the laboratory staff, as a modified form of the airborne magnetometer developed by the Navy and industry during the war. It continuously records geomagnetic information from which all magnetic components may be determined.

The basic feature of the new magnetometer, they state, is that it now determines the total magnetic field vector: instead of only the intensity. This is done by measuring the intensity and the direction of the total field vector with respect to a set of coordinate axes stabilized with respect to the surface of the earth.

The sensitive measuring element of the magnetometer is a saturable inductor which is excited by a current of sufficient amplitude to saturate its permalloy core. A current is generated by the inductor, the amplitude of which is proportional to the strength of the magnetic field along its axis.

Science News Letter, October 22, 1949

SCIENCE NEWS LETTER

VOL 56 OCTOBER 22, 1949 No. 17

49,400 copies of this issue printed

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., NORTH 2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change, please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

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Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical Literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., Pennsylvania 6-5566 and 360 N. Michigan Ave., Chicago. STAtE 4439.

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Question Box

ASTRONOMY

What is the latest theory of the origin of the earth? p. 259.

ELECTRONICS

What type of new television receiver has been demonstrated? p. 263.

GENERAL SCIENCE

What military occurrence was concurrent with the Soviet atomic explosion? p. 262.

Who won the Nobel Peace Prize? p. 259.

Photographs: Cover, American Red Cross; p. 261, New York Zoological Society; p. 263, Battelle Memorial Institute; p. 266, Marjorie Van de Water; p. 267, Hamilton Wright.

MEDICINE

How are the lung cavities of TB patients now being healed? p. 260.

What is the newest radiation hazard? p. 268.

METEOROLOGY

How are USSR-USA "weather relations"? p. 262.

PSYCHOLOGY

How can potential suicides be spotted? p. 268.

What is one of the causes of the war threat to the U. S.? p. 261.