

MEDICINE

Extract May Save Babies

One in every 170 babies are threatened with Rh blood death which might be averted with a red blood cell extract being made in Baltimore and Pittsburgh.

► A RED blood cell extract which may save babies from Rh blood death is now being made in the Baltimore Rh typing laboratory, Dr. Milton S. Sacks, University of Maryland Medical School scientist who is head of the laboratory, announced at the meeting of the Southern Medical Association at Baltimore.

One in every 170 babies is threatened with this death, the Baltimore laboratory found in a study of some 30,000 expectant mothers.

The death is due to a condition called congenital hemolytic disease of the newborn. It occurs when the unborn baby has inherited Rh positive blood from its father while the mother has Rh negative blood. The mother develops antibodies to her unborn baby's Rh positive blood, just as a person develops antibodies against typhoid germs after vaccination. But these anti-Rh antibodies get into the unborn baby's blood and gradually destroy his red blood cells.

The blood extract Dr. Sacks is working on would neutralize the anti-Rh material in the mother's blood and prevent its harmful effect on the baby. It is made from Rh positive blood cells. It was first made and reported by Mrs. Bettina B. Carter of the Western Pennsylvania Hospital Institute of Pathology at Pittsburgh. Dr. Sacks emphasized that the work is still experimental, and he does not know yet whether the extract will be successful.

Chief weapon doctors now have for fighting the Rh danger is to test the expectant mother's blood so they can be prepared to handle Rh trouble in the baby when it is born. If the mother is Rh negative and develops strongly anti-Rh blood, it may be necessary to change the baby's blood when it is born. This is done by draining all its Rh positive blood and replacing it simultaneously with Rh negative blood.

Persons who have repeated transfusions

of whole blood as well as expectant mothers may have Rh trouble, Dr. Sacks pointed out. Most people, 85%, have Rh positive blood, but if one of the Rh negatives gets many transfusions of Rh positive blood, he will develop antibodies against the latter. Then, when he gets another transfusion of Rh positive blood, he may have a serious reaction.

Mrs. Carter and Dr. Joseph Loughrey, Pittsburgh obstetrician, have been using her red cell extract for a number of months. It has been given to expectant mothers to prevent development of Rh trouble in the babies before they are born and has also been given to babies with this dangerous condition after they were born.

Results have been promising with both methods of giving the extract. It may therefore become both a cure and a preventive. But Mrs. Carter, like Dr. Sacks who has been following her work, says that it is still experimental.

Science News Letter, December 6, 1947

MEDICINE

Lead Poisoning Cured By War Gas Antidote

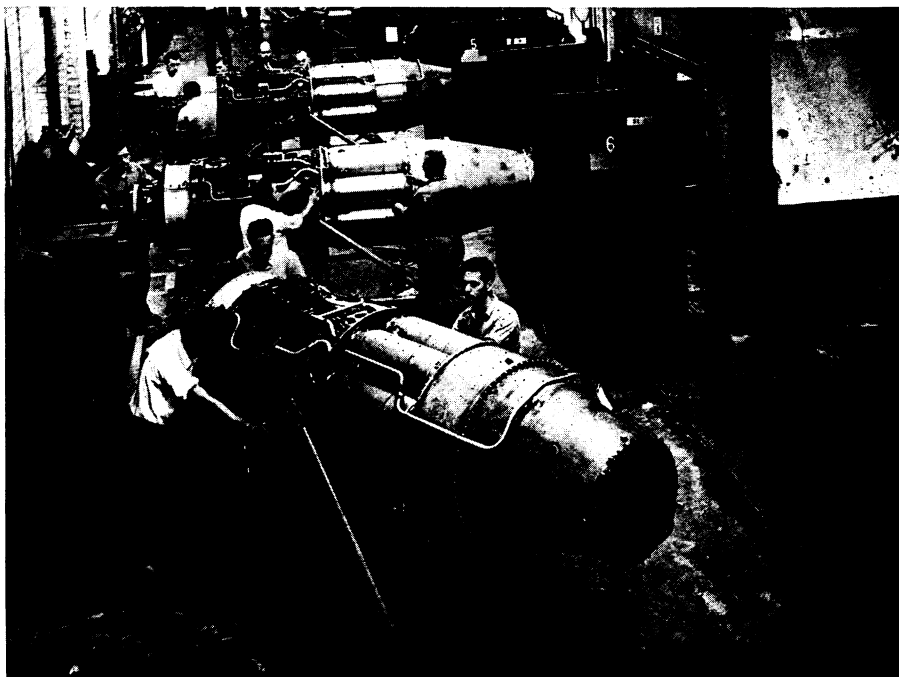
► LEAD poisoning, once rated a hopeless disease afflicting painters, has been cured by use of a chemical developed during the war to combat war gas.

Complete recovery of a lead-poisoned sailor followed his treatment with BAL, or British Anti-Lewisite, the medical profession was told by Dr. James G. Telfer, U. S. Public Health Service surgeon, in a report to the *Journal of the American Medical Association* (Nov. 29).

BAL has proved effective previously in treating poisoning due to mercury, arsenic and other heavy metals. The BAL chemical literally pulls the lead out of the bones and tissues of the victim's body.

The patient was a boatswain who mixed all the paint used on board his ship, making a special effort to get "good lead paint." He mixed the paints in a small, poorly ventilated space and also stated that he sometimes ate without washing the paint off his hands. He was brought to the U. S. Marine Hospital in San Francisco because of his vomiting, diarrhea and cramps.

Lead poisoning was suspected because of his "pasty" appearance, presence of a "lead line," consisting of a narrow margin of tiny gray or black spots near the edge of the gums, pain in the abdomen



JET ENGINES—These torpedo-shaped power-plants are used in 10 different types of jet-propelled military aircraft, ranging from single-engine fighters to a series of two, four, six and eight-engined bombers. The Navy's Douglas Skystreak is among the aircraft powered with this jet engine, known in the Air Force as the J-35.

and his exposure to lead. It was only after he received injections of BAL that the diagnosis of lead poisoning was confirmed, since the drug increased the discharge of lead from the points of concentration in the body.

This action of BAL's is an aid to diagnosis, since the amount of lead ex-

creted can be measured by laboratory methods and thus confirms what is only suspected on the basis of a physical examination.

Two weeks after the first injections of BAL the patient again received the drug. Treatment lasted for five days, after which he was well and was dismissed.

Science News Letter, December 6, 1947

MEDICINE

Lessen Appendix Hazard

A striking reduction in deaths from ruptured appendix has resulted from improvements in caring for patients but delays in seeking treatment are still killing many.

► IMPROVEMENTS in caring for patients operated on for ruptured appendix have brought a striking reduction in deaths, but delay in calling a doctor and going to the hospital is still killing many, Drs. Edward S. Stafford and H. William Scott of the Johns Hopkins University School of Medicine and Hospital told members of the Southern Medical Association meeting in Baltimore.

Twenty years ago, patients operated on at Johns Hopkins for appendicitis with perforation, or rupture, of the appendix, died at the rate of 18.8%. Today the death rate for this condition is 7%.

Four factors are chiefly responsible for this saving in lives, the surgeons stated. In order of importance these are:

First, injection of fluids and salts into the patient's veins; second, decompression of the stomach and intestinal tract by the Miller-Abbott tube or other suction apparatus; third, improved recognition and treatment of the complications of ruptured appendix; and fourth, treatment with sulfa drugs and penicillin.

More lives might be saved, the sur-

geons suggest, by use of anti-blood clotting chemicals or tying off a vein in the leg to prevent pulmonary embolism or, as it sometimes popularly called, a clot in the lungs. This condition caused seven of 26 deaths in patients with abscess around the appendix at the time of operation. Most of these patients who developed pulmonary embolism were over 50 years of age.

No improvement in dealing with the problem of appendicitis has been made by the lay public or by the physicians consulted by patients before coming to the hospital, the surgeons pointed out. The number of patients who delay going to the hospital and, therefore, the number with ruptured appendix has not changed during the period surveyed. Twelve of the 23 patients who died of ruptured appendix in the period 1939-1947 had been seen by a physician more than 24 hours before going to the hospital.

In contrast to the 7% death rate from appendicitis with rupture, there were only two deaths in over 1,400 consecutive operations for simple acute appendicitis without rupture.

Science News Letter, December 6, 1947

PHYSICS

Study Cosmic Rays in Alps

► THE high-altitude laboratory at Pianrosa, near Cervinia in the Italian province of Aosta, may become an international center for European scientists studying cosmic rays. This was suggested at a recent conference on cosmic rays held in Cracow, Poland, under the auspices of UNESCO.

This laboratory, which was prefabricated and transported to a site nearly

two miles high, includes both a large laboratory, 20 by 30 feet, and living accommodations for four persons. A cable railway connects it with a guest house 3,000 feet below. Food and materials are procured at the lower station and eight more persons can stay at the guest house. The unique laboratory is open all the year.

Director of the cosmic ray center is

a young Italian scientist, Gilberto Bernardini, who will be a visiting professor at Columbia University in New York during the first six months of 1948. During his absence, Prof. E. Amaldi, director of the Nuclear Physics Center in Rome, and Dr. Ettore Pancini will be in charge.

Like American scientists studying cosmic rays, the Italians at their mountain laboratory are seeking to solve the mysteries of the meson, also called mesotron, a high-powered, short-lived particle found only in cosmic rays.

Prof. Bernardini said that he would welcome research workers from any country and that they would find a very congenial atmosphere—in spite of the many limitations which present conditions in Italy impose.

Science News Letter, December 6, 1947

SCIENCE NEWS LETTER

Vol. 52 DECEMBER 6, 1947 No. 23

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.

Subscriptions—\$5.00 a year; two years, \$8.00; 15 cents a copy. Back numbers more than six months old, if still available, 25 cents.

Copyright, 1947, by Science Service, Inc. Reproduction of any portion of SCIENCE NEWS LETTER is strictly prohibited. Newspapers, magazines and other publications are invited to avail themselves of the numerous syndicate services issued by Science Service.

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.

SCIENCE SERVICE

The Institution for the Popularization of Science organized 1921 as a non-profit corporation.

Board of Trustees—Nominated by the American Association for the Advancement of Science: Edwin G. Conklin, American Philosophical Society. **Nominated by the National Academy of Sciences:** Harlow Shapley, Harvard College Observatory; Warren H. Lewis, Wistar Institute; R. A. Millikan, California Institute of Technology. **Nominated by the National Research Council:** Hugh S. Taylor, Princeton University; Ross G. Harrison, Yale University; Alexander Wetmore, Secretary, Smithsonian Institution. **Nominated by the Journalistic Profession:** A. H. Kirchofer, Buffalo Evening News; Neil H. Swanson, Executive Editor, Sun Papers; O. W. Riegel, Washington and Lee School of Journalism. **Nominated by the E. W. Scripps Estate:** Max B. Cook, Scripps Howard Newspapers; H. L. Smithton, Executive Agent of E. W. Scripps Trust; Frank R. Ford, Evansville Press.

Officers—President: Harlow Shapley, **Vice President and Chairman of Executive Committee:** Alexander Wetmore. **Treasurer:** O. W. Riegel. **Secretary:** Watson Davis.

Staff—Director: Watson Davis. **Writers:** Frank Thone, Jane Stafford, A. C. Monahan, Marjorie Van de Water, Martha G. Morrow, Ron Ross, **Science Clubs of America:** Joseph H. Kraus, Margaret E. Patterson. **Photography:** Fremont Davis. **Sales and Advertising:** Hallie Jenkins. **Production:** Priscilla Howe.