

MEDICINE

"Blue Babies" Saved

Stitching the lung artery to the aorta is a new system that saves babies that suffer from lack of oxygen in blood stream because the artery is so narrow.

➤ MORE "BLUE BABIES" may be saved by surgery through a new technic developed by Drs. Willis J. Potts, Sidney Smith and Stanley Gibson, of Children's Memorial Hospital and Northwestern University Medical School.

Two children have already been "tremendously" helped but a third died, they report to the American Medical Association (Nov. 16).

The new method consists in stitching the lung artery to the aorta, big artery leading directly from the heart and from which the body's whole artery system proceeds. In the original operation devised by Dr. Alfred Blalock and Dr. Helen B. Taussig of Johns Hopkins, the lung artery is stitched either to an artery supplying blood to the shoulder and arm or to one supplying blood to the neck and head. In the latter case, there is danger of not enough blood reaching the brain. This led the Chicago surgeons to work out the new method.

Dr. Blalock and associates and another surgical team had considered use of the aorta for the operation but concluded

from preliminary studies that paralysis of the legs might result. It would follow temporary anemia of the spinal cord resulting from clamping off the aorta and stopping blood flow through it during the operation.

This difficulty was overcome by a special aorta clamp devised by Drs. Potts and Smith. The flanges of this clamp enclose the aorta but pinch off only a small part of it. Blood continues to flow through the unpinched portion of the aorta, while the surgeon makes a three-eighths inch cut in the small pinched portion and stitches to this a similar sized cut in the lung artery.

A defect in the lung artery, present when the baby is born, is the cause of the condition remedied by the operations. The artery is so narrowed that only a little blood can be pumped through it. That little cannot pick up enough oxygen to supply the body. That is why the children are weak, pant on slightest exertion and after eating, and have deep blue colored skins.

Science News Letter, November 23, 1946



BETATRON—Exposure control ionization chamber is connected in the installation of the 20,000,000 volt betatron at the U. S. Army Arsenal at Picatinny.

the register of patents available for licensing by the U. S. Patent Office.

Rights to build and use betatrons will be granted without fee to educational and other non-profit institutions. Firms operating for a profit will be charged a moderate royalty. One such license has already been issued to the Allis-Chalmers Manufacturing Company.

A betatron has been ordered by the Manhattan District Project, and another by the University of Chicago. Both will be used in nuclear research.

A betatron consists of a massive electromagnet surrounding a doughnut-shaped glass vacuum tube in which electrons are speeded up until X-rays of 100,000,000 electron volts are produced.

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PHYSICS

Powerful Betatron X-Rays

➤ POWERFUL radiations from betatrons can be used for quick spotting of flaws in heavy steel, giving increased detail and greater speed than ordinary X-ray equipment. This promise of an important new tool for industry was emphasized as the new 20,000,000 electron volt betatron at the U. S. Army Arsenal, Picatinny, N. J., was demonstrated.

For industrial X-ray work, the betatron's radiations can penetrate 20 inches of steel in 20 minutes and detect flaws .002 inches wide and one thirty-second of an inch deep. By making enlargements on radiograph film directly, the machine speeds the time required for X-ray inspection.

One competent laboratory technician can operate the betatron, making it practical to X-ray with the betatron every piece of heavy equipment produced instead of the one out of 50 or 100 units

as is now done, it was predicted.

Housed in a special X-ray laboratory, the new betatron is reported to be ready for use by medical and research groups seeking to perfect methods of applying betatron roentgen and electron radiations to clinical therapy.

The betatron combines a transformer winding and an X-ray tube in a porcelain "donut." The machine was built by Allis-Chalmers.

Science News Letter, November 23, 1946

NUCLEAR PHYSICS

General Electric Ends Monopoly on Betatron

➤ VOLUNTARY termination of its patent-protected monopoly of the betatron, heavy-artillery piece among atom-smashers, was announced by the General Electric Company. Its seven basic patents on this machine are now listed in

ZOOLOGY

Rabbits Like to Eat Dried Stinging Nettles

➤ THISTLES, traditionally favored tidbit of donkeys, have prickly rivals in stinging nettles, which have been found to be good rabbit fodder. They have to be dried, however, before rabbits care to eat them, English rabbit-breeders have found. In recent experiments conducted by W. King Wilson of Harper Adams Agricultural College at Newport, Shropshire, rabbits fed on freshly cut nettles failed to thrive.

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