

MEDICINE

Advances in Heart Care

The American College of Cardiology, at its meeting in Washington, D. C., heard reports on research involving the heart and the circulatory system.

► THE EXACT location of a dangerous leak between the two sides of the heart can now be found with a new dye injection method performed without opening the heart.

The technique was reported by Drs. Eugene Braunwald, Herbert Tanenbaum, Robinson Baker and Andrew Morrow, National Institutes of Health, Bethesda, Md.

The dye is introduced into the left side of the heart after threading a needle harmlessly down the patient's throat and into his windpipe. The heart's left side lies just below the main fork of the windpipe, where the puncture is made.

Once in the left heart, the dye is pumped through the aorta and carried with the blood to all parts of the body. A tiny photoelectric cell is attached to the patient's earlobe to measure the intensity of the dye reaching the tiny arteries of the earlobe and the time it takes for it to travel there from the heart.

If the heart is normal, there will be a gradual increase and then decrease of the dye through the arteries of the earlobe. This is registered on an oscilloscope as a smooth ascending and descending curve.

But if a leak exists between the two sides of the heart, then the dye curve will show two peaks because some of the injected dye has been immediately shunted through the hole and sidetracked to the lungs and was delayed in reaching the ear.

The shape of the curve in relation to the location of the injection shows the surgeon exactly where the hole is.

Hormone Cures Ulcers

► A POWERFUL kidney hormone, called Tubulin, that causes blood vessels to expand and can cure destructive skin ulcers was reported by Drs. Benjamin Jablons, Anthony J. Schilero and Terecita T. Estrellado of Goldwater Memorial Hospital, New York, to the meeting.

Tubulin is produced by animal kidneys and causes a prolonged vasodilation or expansion of the blood vessels in the extremities of the body, Dr. Jablons explained in an exhibit.

It is particularly useful because of its prolonged effects, with blood vessel expansion, vasodilation, lasting up to ten days. Currently used vasodilators are effective only for much shorter periods and, in addition, many of them cause unwanted side effects which Tubulin does not, he said.

The hormone was tested on 35 patients with long-term ulcers. Injections of it cured 23 completely during the first trial. Six

cases had recurrences but their ulcers then responded completely to a second trial. In the three cases of diabetic gangrene studied, the hormone was ineffective.

No tolerance to the extract develops, therefore constantly increasing doses of it are not necessary, Dr. Jablons reported.

The search for the hormone grew out of a study of twin brothers who underwent a kidney transplanting operation. One of the twins was healthy and had two normal kidneys while the other was dying of kidney disease. When one healthy kidney was transplanted into the sick twin, there was striking reversal of the high blood pressure and vascular or blood vessel disease caused by the damaged kidneys.

This and other studies indicated high blood pressure and vascular diseases develop when an important substance or mechanism of the normal kidney is absent, Dr. Jablons explained.

The active substance, or at least one of them, Tubulin, was subsequently isolated from normal kidneys, he said.

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EDUCATION

Women As Engineers

► "YOU CANNOT be an engineer, you cannot even overhaul your automobile engine!" That is the sort of cold water thrown on the girl who wants to study engineering, Miss Alva Matthews of Columbia University told a conference on the Education of Girls for Careers in Science and Engineering held in Harriman, N. Y.

Alva Matthews was one who refused to be driven away. She is now a civil engineer teaching engineering at Columbia University.

"And don't let anyone tell you that a transit is too heavy for a woman to carry," she said.

The first of what Miss Matthews called "dropping out" times comes at the very start of the college course. That is when they spring the auto repair bromide. Next is the "sophomore slump," when you move from the liberal arts study to the engineering curriculum. Then the pressure comes from male students and instructors, who do not welcome the feminine invasion of what they regard as an all-male world. Later comes the discouragement of the difficulties of the course itself, with hindrance from male students who want to be "quite informal."

The final hurdle comes when, near gradu-

● RADIO

Saturday, June 8, 1957, 1:45-2:00 p.m., EDT
"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Mr. Frank A. Howard, consultant on research and patents, Standard Oil Company of New Jersey, and president of the Sloan-Kettering Institute for Cancer Research, New York City, will discuss "Organizing for Technical Progress."

BACTERIOLOGY

Fungus on Skin and Hair Produces Penicillin

► FUNGI found on human hair and skin are actively producing penicillin and possibly other germ-killing antibiotics, scientists at the University Medical School, Debrecen, Hungary, report in *Nature* (May 18).

This continuing action by various types of parasitic fungus may account for the allergic reactions many people experience when given doses of penicillin for medical treatment, the authors suggest.

Bits of skin and hair known to be harboring the fungus growths were put on culture plates of bacteria. Most of them slowed down the growth of the surrounding bacteria and some were later found to be producing penicillin.

Fungus infections attack the skin, bronchi, lungs and many other organs of the body. Among the conditions they cause are ringworm of the scalp and athlete's foot.

The research was reported by J. Uri, S. Szathmary and Zs. Herpay.

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ation, the girl meets the army of talent scouts, sent by employers to invade the campus offering employment. These, too, discourage the girl student.

Attention to science interests and education should come much earlier than the college years. It should start in elementary school. This was the suggestion made by a group of winners of the Science Talent Search conducted by SCIENCE SERVICE who were invited to the Conference to comment on Miss Matthews' address.

Three of the group are high school seniors and were STS winners this year. A fourth won in 1955 and is now a sophomore at Cornell University and the fifth, also a high school senior, was an honorable mention this year.

The group included: Mary Ellen Harman, Cornell University; Merry A. Margolish, New Rochelle High School; Sandra Lee Michael, Erasmus Hall High School; Kulikki Kay Sprenk, Forest Hills High School, and Paula Mayer, Erasmus Hall High School.

The Conference was held under the auspices of the Columbia School of Engineering with the support of the Hebrew Technical Institute.

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