

MEDICINE

Heart Killer Stopped

By surgically creating an artery leading from the aorta, patients with coronary heart disease can get the much needed supply of blood blocked off by the disease.

► A SURGICAL operation to stop the great killer, coronary heart disease, was announced by Dr. Claude S. Beck, Western Reserve School of Medicine, Cleveland, at the meeting in Chicago of the Society for Vascular Surgery.

The coronary disease, in which the arteries supplying the heart muscle are blocked is the most common form of heart disease, the one that strikes men in the prime of life. Angina pectoris is one form of it. "Blue baby" and other heart conditions for which successful operations have recently been devised are less common.

Dr. Beck's operation consists in creating a new artery leading off the aorta, main artery of the body which carries blood from the heart to the smaller arteries which supply all parts of the body. It is the first time an artery has been created leading from the aorta.

The artery is made from a piece of vein grafted to it and is connected to a vein of the heart. The vein is used to

pipe in a new blood supply to the heart.

By turning a vein into an artery, surgeons can "give protection to the heart" which otherwise would die bit by bit from lack of blood to nourish it. With the new operation, it is possible to give the heart muscle even more blood than it needs, and Dr. Beck cautioned against giving too big a supply.

"There is a ceiling," he said, "to the amount of blood the heart muscle can take."

The operation so far has been performed on only one human patient, who died. He had a severe form of the disease. But the operation has been done on hundreds of dogs in the course of perfecting it.

"We are approaching the time when we may be able to do some good to these coronary heart disease patients by operation," Dr. Beck declared. He foresees many such operations being performed by himself and other surgeons.

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chance for survival were found to be shortness of breath, clouding of the senses and clammy sweating and hiccupping.

People who have had generalized hardening of the arteries or who have collapsed following an attack of heart failure, and those who have had diabetes, ulcers of the stomach or rheumatic fever have little likelihood, the doctors found, of return to useful life after a coronary attack.

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Penicillin May Prevent Rheumatic Fever Attacks

► HOPE that rheumatic fever, greatcrippler of children's hearts, may in the future be prevented appeared in a report from Drs. Benedict F. Massell, James W. Dow and T. Duckett Jones of Boston, at the meeting of the American Medical Association in Chicago.

At the House of the Good Samaritan in Boston, they have been giving penicillin pills three times a day for ten days to little rheumatic fever patients who had streptococcus germs in their throats. In

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New Facts on Heart Ills

► TOBACCO, coffee and irregular or scanty meals apparently have no effect on the outlook for patients who have had heart attacks. At any rate, "it was impossible satisfactorily to determine any effect" in 240 patients, four physicians reported to the American Medical Association meeting in Chicago.

The physicians are Drs. F. Tremaine Billings, Jr., Bernard M. Kalstone, James L. Spencer and George R. Meneely of Nashville, Tenn.

In spite of the old impression that overweight persons are more prone to heart and blood-vessel disease, only one-third of the group studied were overweight. The immediate mortality, that is, deaths within 30 days after the heart attack, was slightly but not significantly lower among the heavyweights than among the normal-weight persons. The underweight persons had a slightly higher immediate mortality. Almost three-fourths of the overweights had high

blood pressure, which probably protected them from a fall in pressure after the heart attack.

Contrary to popular impression, farmers are almost twice as likely to die within 30 days after a heart attack than doctors, lawyers, and tradespeople. The explanation is that farmers and country people generally are only half as likely to be brought to a hospital within 24 hours after a heart attack. Patients brought to hospitals within 24 hours have a better chance of surviving than those brought in between 24 and 96 hours afterwards.

Right now and for the next two months is the season for fewest heart attacks. December, January and February, the cold months, are the time when heart attacks are most numerous and heart deaths most frequent. Immediate mortality is lowest, however, in March, April and May.

Ominous signs foreboding a poor



FIRE-FIGHTING SUIT—Made of aluminum foil laminated to a smooth cloth base, tests showed that the wearer could come within two feet of a 1500-degree fire with his body temperature rising only one degree. The suit reflected more than 99% of all heat rays. The helmet window is a one-way mirror reflecting rays directed at it from outside.

about three-fourths of the young patients, these dangerous germs were completely eradicated. In almost all, the germs were "suppressed" if not completely banished.

Similar doses of the mold chemical, the doctors believe, would prevent the strep germs from getting a foothold in the throats of the children and thus prevent rheumatic fever attacks. The prevention doses would be given when there was an outbreak of strep sore throats in the child's school or family or the community generally.

That this would help is shown by the experience at the Good Samaritan when hemolytic streptococcus infection broke out among the ward patients. Before the use of penicillin, about half the rheumatic fever patients would have had another attack of their disease in such a situation. But in this outbreak everyone was given penicillin. The out-

break was checked abruptly and none of the patients had recurrence of rheumatic fever.

Except for its present high cost, penicillin given by mouth is better than sulfa drugs for preventing rheumatic fever attacks, the Boston doctors believe. Their reasons are that the sulfa drugs are potentially toxic and are less effective against streptococci. Only a few of the children getting penicillin had any toxic reactions, and these were "serum-sickness like" reactions.

Penicillin resistance is not likely to develop with the doses used, the doctors believe.

Encouraging as the results seem, they state that more studies are needed before definite conclusions can be drawn. But they seem enthusiastic about the possibilities of preventing rheumatic fever by penicillin.

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ASTRONOMY

Poison Gas in Atmosphere

Methane has been detected in the light from the sun which passes through the atmosphere to the earth's surface by new all-reflecting infrared spectrometer.

► THERE'S lots of the poisonous gas methane in the earth's atmosphere. At least there is enough to register its presence upon light from the sun as it passes through our atmosphere on its way to the earth's surface.

A new system of molecular bands in the spectrum of the earth's atmosphere has been identified as belonging to methane, poisonous "marsh gas," by astronomers of the University of Michigan. These bands were reported at Pasadena, Calif., to the joint meeting of the American Astronomical Society and the Astronomical Society of the Pacific.

The new all-reflecting infrared spectrometer of the University's McMath-Hulbert Observatory was used for the study. This apparatus employs a Cashman lead-sulfide cell, a hundred times more sensitive than the best thermocouple previously used.

Dr. Robert R. McMath, Dr. Orren C. Mohler and Dr. Leo Goldberg stated that they now have completely mapped with this instrument the solar spectrum in the region 8,000 Angstroms, practically infrared and invisible to the naked eye, to 25,000 Angstroms.

The new solar map shows not only a wealth of solar atomic lines of such

elements as hydrogen, iron, magnesium, sodium, silicon, carbon, aluminum, calcium and others, but also numerous well-resolved molecular bands originating in the earth's atmosphere.

Most of these "telluric" band systems come from carbon dioxide and water vapor, as expected. The four new methane bands are at wavelengths 16,600, 22,000, 23,300 and 23,800 Angstroms.

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Star's Magnetic Field

► WE MAY some day learn more about distant stars—what they are and how they continue to exist—because of observations reported at the meeting for the first time by Dr. Horace W. Babcock of Mount Wilson Observatory of the Carnegie Institution of Washington.

Not just a star's temperature and surface gravity, but also its magnetic field, he stated, affect the star's spectrum. It is only by fanning out this starlight into its various parts that we learn which elements make up a distant star, estimate how hot its various layers of atmosphere are and so on.

Dr. Babcock proposed to the joint meeting that fluctuations of a star's mag-

netic field account for hitherto unexplained intensities of certain spectral lines in some white stars. Such changes are also responsible for variations in the spectra of these and other stars, he said.

In stars with high magnetic fields, spectral lines of certain elements may be very much broadened and intensified in appearance, Dr. Babcock found. This discovery complicates matters for astronomers, but adds further to our knowledge of the mechanism whereby stars operate.

Dr. Babcock gave as an example the lines of ionized europium in the star known as HD 125248, where these lines vary enormously in intensity with a regular period of 9.295 days. Corresponding to this, the known polar magnetic field of this star also varies. In synchronism with the changes in the europium line, it reaches a maximum of about 7,800 gauss, the strongest magnetic field known in nature.

At maximum the overall width of this star's europium line at wavelength 4205 Angstroms is about .35 Angstroms, compared to only about .023 Angstroms when there is no magnetic effect.

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Fingernail Polish "Base" Damages Women's Nails

► A NEW medical mystery affecting women particularly was reported by Drs. James H. Mitchell, Douglas A. MacFayden and Bernard Jaffe, of the University of Illinois College of Medicine and Presbyterian Hospital in Chicago, to the American Medical Association.

Use of a "base coat" to make nail polish stay on longer has been causing strange damage to women's nails. The fingernails turn purplish blue, then white, and begin to separate from the fingers. As one physician facetiously put it, "The polish may stay on but the nails come off."

Whether the nails will recover and what causes the condition are unsolved mysteries. The Chicago doctors saw their first case in February this year. They have had reports of several hundred cases from doctors all over the country. The most widely sold brand of base coat has, naturally, caused the greatest number of cases. All brands probably are involved, since the trouble probably comes from a chemical ingredient used in all of them. So far, the ingredient has not been identified.

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