



**MECHANICAL HEART DEMONSTRATED**—Dr. C. H. Hughes, at left, of Harper Hospital, Detroit, is shown here demonstrating a new mechanical heart to Dr. Travis Windsor, at right, of Los Angeles. Using the device, surgeons can see vital heart valves for as long as an hour if necessary to complete the operation. The parts that come in contact with blood can be sterilized.

## SURGERY

## Surgeons See Heart Valve

► FOR THE first time in living patients, two vital heart valves have been exposed to direct view of the surgeon for periods up to one hour.

As a result, operations to correct heart valve defects, which heretofore have had to be done mostly by touch and feel, can be done with the surgeon seeing the structures for as long as he needs to complete the operation.

The means of giving the surgeon this prolonged view of the pulmonary and mitral valves is a new mechanical heart, devised by four Detroit doctors and built in the General Motors Research Laboratories division as a public service.

The stainless steel, rubber and glass heart went on display to the nation's doctors at the meeting of the American Medical Association in New York.

Four patients have already benefited from the new mechanical heart. It has been used on eight altogether, but the other four died. They were so sick that they were almost dead when the anesthetic was given. So the record of the mechanical heart is considered very good by its chief developer, Dr. F. D. Dodrill.

The mechanical heart is used to bypass the blood from either the left or right side of the heart so that it does not need to go through the valve the surgeon is operating on. It has been used on patients with defects of either the mitral or the pulmonary valves.

The mitral valve is on the left side of the heart between the auricle, which receives blood from the lungs, and the ventricle, which pumps this freshly oxygenated blood to the tissues. The pulmonary valve is at the entrance of the pulmonary artery to the right ventricle, where the veins deliver blood from the tissues to be returned to the lungs for fresh oxygen.

The mechanical heart is constructed so that all its parts that come in contact with the blood can be taken out of the apparatus and sterilized. It is also made so that, as it pumps, it does not smack down too hard on the blood flowing through it, and therefore, does not damage the blood cells.

Working with Dr. Dodrill on development of this heart were Drs. Robert A. Gerisch, Edward Hill and Aran S. Johnson of Harper Hospital, Detroit.

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## VITAL STATISTICS

## 1975 Population Put At 190,000,000 for U. S.

► IN ABOUT 25 years the United States will have a population of 190,000,000. That is the estimate of government statisticians.

The question of whether we will have the food, water, fuel and other resources to meet the needs of the extra 30,000,000 people added to our present population is one of the most critical facing our nation. It is discussed editorially by Robert C. Cook in the *Population Bulletin* (June).

Not only will there be 30,000,000 more people in the United States in 1975, but each person will probably want more things and more elaborate things. Even today the appetite of the average American for the country's natural resources is gigantic. He uses up about 18 tons each year.

By 1975, we will be short about 70,000,000 acres of having enough farm land to feed our own hungry mouths. To grow enough food to set the nation's tables, it will be necessary to eliminate the terrible toll now taken by insects and plant and animal diseases, and to develop still better crop varieties and animal breeds.

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## MEDICINE

## Vein Injections Relieve Blood Pressure Headache

► SEVERE HEADACHE from high blood pressure, and perhaps also some migraine headaches, can be quickly relieved for from five to more than 10 days by an injection of thiocyanate into the veins.

The good results with this new use of an old high blood pressure medicine are reported by Drs. Hubert Saint-Pierre, A. C. Corcoran, R. D. Taylor and H. P. Dustan of the Cleveland Clinic Foundation, Cleveland, Ohio, in the *Journal of the American Medical Association* (June 6).

Thiocyanate, the Cleveland doctors point out, has in the past been given high blood pressure patients by mouth and in doses that required careful watching to be sure the patient was not getting a dangerous, toxic accumulation of the chemical in his blood. They find they can give a dose that is "intrinsicly nontoxic" by injection into a vein and get good results in relief of headaches.

The 15 patients they report on had all been getting other pain-relieving drugs, ranging from aspirin to narcotic drugs, without relief. Seven patients got prompt relief for more than 10 days with a single thiocyanate injection. Three-quarters of the group got "gratifying and rapid relief," the doctors report.

Because high blood pressure headache and migraine have similarities, the doctors suggest trying this treatment also in migraine. Thiocyanate gives rapid headache relief, probably because of its sedative properties.

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