

PHYSIOLOGY

Care for "Runaway Heart"

Doctors have found that they can slow down the heart's wild racing spells, which damage heart muscle, by increasing blood pressure.

► "RUNAWAY HEART," a condition known as arrhythmias where there are wild racing spells and other abnormal rhythms, may lead to serious heart damage if not properly treated.

This was reported by a team of Los Angeles cardiologists before the American College of Physicians meeting in Los Angeles. The team consists of Drs. Elliot Corday and Herbert Gold of the University of California at Los Angeles Medical School, John Williams, Cedars of Lebanon Hospital, and Lauro de Vera, now of the University of the Philippines.

The group described results of animal studies, using a new flowmeter developed by Cedars of Lebanon scientists and UCLA physicists, in which effects of abnormal heart rhythms on blood flow within the heart were measured.

The Los Angeles doctors said runaway heart, technically called ventricular tachycardia, decreased blood circulation within the heart by as much as 65%; irregular twitching heart (auricular fibrillation) by as much as 44%; and flutters and skipped beats by more than 20%.

It had previously been thought that arrhythmias did not affect the coronary blood flow, and these attacks had often been disregarded.

Arrhythmias should be considered a medical emergency, particularly in the case of the racing heart where blood flow is sharply reduced, and be treated accordingly. The doctors pointed out that heart nourishment is depleted during the racing spells and the heart thus may become severely damaged, especially if coronary arteries were previously narrowed by aging or other factors.

A new method of slowing the racing heart consists of raising the blood pressure with drugs. Arrhythmias causes a drop in blood pressure which drastically lowers the heart's blood supply. If blood pressure is raised, the racing spell can be broken within a few seconds, the doctors have found.

The drug they use for this purpose is a relatively new one, noradrenalin. It works instantly, whereas older heart regulatory drugs such as digitalis and quinidine require up to three hours to take effect. In that time, permanent damage to the heart often occurs.

The investigators said they had also found the answer to a baffling problem posed by ventricular tachycardia. Sometimes this runaway heart takes a mild form which does not disturb the patient too much. There are times, however, when it takes a critical form that brings on shock, collapse and death in a few hours.

The critical form, it was found, originates in the upper rim of the heart. It then

generates waves which severely interfere with heart muscle action by pushing blood in an opposite direction to the normal course.

Mild tachycardia starts in the heart's lower tip. It then produces waves which correspond to the normal upward pumping action of the muscle and thus interferes little with the blood flow. What causes the condition to originate either at the lower or upper part of the heart remains a mystery.

The Los Angeles doctors said that prompt treatment of arrhythmias, particularly the runaway heart variety, would reduce the mortality rate from coronary heart disease considerably.

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NATURAL RESOURCES

Western Water Excellent, Prediction for 1958

► SNOW-WEARY western farmers can look forward to a bumper crop this year as water supplies for almost all irrigated areas of western states are expected to be good to excellent in 1958.

This is the prediction of Homer J. Stockwell, snow survey supervisor, and Norman S. Hall, snow survey leader, of the Soil Conservation Service, in *The Reclamation Era* (May), issued quarterly by the Bureau of Reclamation, Department of the Interior.

Large areas of California and the Southwest hold snowpacks approaching a maximum of record and only in a few small areas of the western mountains is the snowpack less than normal. Violent storms at the end of March and in early April contributed a record increase for such a short period.

Reviewing conditions since a year ago, the forecasters note precipitation has generally exceeded normal for the past ten months. Streamflow from 1957 snowmelt exceeded demands, encouraging substantial reservoir storage, thus adding to the current bumper water supply. Winter rainfall has left irrigated soils wet, which will further reduce the demands for early irrigation water.

The scientists warn, however, that the excellent supply should not encourage the careless use of water.

Currently, increasing long-term demands in many areas of the West exceed the supply, and every effort must be made to use available water as beneficially as if shortages were expected. Adequate use is desirable for maximum production, but waste will aggravate drainage problems and decrease soil fertility, and next year's snowpack might well be less plentiful.

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GOLDEN MAZE—A maze of gold-plated taper pin connectors is part of the Daystrom System being installed as part of the digital computer at the Sterlington Steam Electric Station near Monroe, La. All "hot" vacuum tubes are replaced by transistors. An operator checks the connectors on one of the computer's printed circuit cards. The computer will give an automatic record of operating conditions at the station without reading dials or recorders, Daystrom engineers report.

ENTOMOLOGY

Hot Frogs Entice Mosquitoes to Feed

► WARMED-UP frogs and toads are a boon to hungry mosquitoes. They are preferred 100% to amphibians at room temperature.

Experimenting with the cold-blooded frogs and toads, Edwin R. Willis of the pioneering research division, U. S. Army Quartermaster Research and Engineering Center, Natick, Mass., found mosquitoes were attracted to them when they were artificially warmed. Many mosquitoes even probed the warm board on which the animals were tied.

A wet, warmed-up lizard is also more attractive than a dry one, the researcher found. The lizard's heavily scaled skin prevented most of the mosquitoes from feeding.

Given a choice, however, a mosquito will take a human hand instead of a warmed-up toad.

Apparently the heat lost by an animal to the surrounding air is the stimulus to which host-seeking mosquitoes respond, Dr. Willis reports.

Details of the experiment appear in the *Annals of the Entomological Society of America* (May).

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