

MEDICINE

Heart "Kick" Pattern

A clue to persons who should stop smoking may be seen in "kick" of the heart, first recorded in 1877. Effect is shown by pointer's movement when standing on spring scales.

► THE PATTERN of the heart's "kick" as it pumps blood through the body may give a clue to which persons should stop smoking to save their hearts.

This idea comes from a report by Dr. Isaac Starr of the University of Pennsylvania School of Medicine, Philadelphia, in the *Journal of the American Medical Association* (Aug. 14).

The heart's "kick" can be seen by anyone standing on a well balanced bathroom scale of the spring balance type. The quiver of the pointer shows the "kick" of the heart.

In fact, the first record of this movement was made, in 1877, by a scientist who became interested in the idea because he noticed that when he stood on spring scales to weigh himself, the pointer moved in time with his heart.

Smoking produces no effect on the heart "kick" record in healthy young persons, Dr. Starr reports. However, in some persons past middle age, smoking one cigarette may produce a temporary deterioration on the record of the heart's kick.

This pattern seems to suggest a state like that recorded from a patient in an attack of angina pectoris.

The fact that tobacco would induce an attack of angina in certain persons has long been known, Dr. Starr points out. But doc-

tors have heretofore had no way of detecting and have underestimated the harmful effects than can come without the typical pain of angina.

These harmful effects are very definite in most patients with a clinical picture of coronary heart disease, Dr. Starr says.

He wonders whether forbidding smoking might not have as great a beneficial effect on such patients as on those with the closely related diseases of the small blood vessels, for example, Buerger's disease.

Doctors now can study the heart's "kick" by instruments called ballistocardiographs. The movement of the body seen on the bathroom scale pointer can be measured and recorded in various ways.

The patterns of the heart's kick give doctors an idea of the strength of the heart's contraction. Age and various diseases change these patterns in fairly characteristic ways. So do some drugs.

The recoil of a gun, familiar to anyone who has fired one, gives a rough idea of the thought behind the ballistocardiographs. Dr. Starr thinks further study with these instruments will give doctors in the future a better idea of which hearts are really sound and likely to be long lasting, and also how medicines can help strengthen and protect hearts.

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BIOPHYSICS

Radioactivity of Tuna

► GOVERNMENT SCIENTISTS on a small, somewhat remote island near Beaufort, N. C., will soon begin investigation of the possibility that H-bomb explosions at sea might make eating tuna and other large ocean fish very dangerous.

The investigation is a result of the March 1 H-bomb test that injured fishermen and contaminated tuna on a Japanese vessel, Fukuryu Maru. When foreign importers became suspicious of all fish from the area the Japanese tuna industry was hit hard.

The government scientists, under Dr. Walter A. Chipman, will attempt to discover how quickly and to what extent fish collect the dangerous radiation, and in what manner they do so.

Radioactive materials from Oak Ridge contractors will be placed in the ponds in which the huge fish swim and in the foods they eat. This technique has been used in work with shellfish.

The shellfish work, on such seafoods as would be contaminated in an in-shore

atomic blast, will continue indefinitely, since atomic scientists keep producing new radioactive isotopes and incorporating new elements in bombs.

These seafoods, the tests have shown, are good accumulators of the deadly radiations. Much of the radioactivity seems to collect in the liver and muscle tissues of these animals.

As with the shellfish study, the Atomic Energy Commission will finance the work done by Fish and Wildlife Service scientists.

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METEOROLOGY

High Temperatures For Large Part of U. S.

► TEMPERATURES WILL be above normal until mid-September for a large part of the U. S., extending from New England to the Southwest, long-range weather

experts at U. S. Weather Bureau have predicted. The Ohio and lower Mississippi Valleys will have the greatest departures above the above-normal temperatures during that period.

In the northern plains and plateau regions, below normal temperatures are forecast, with the greatest departures from thermometer readings lower than usual expected in the Northwest. Other areas will have near normal temperatures.

Precipitation until mid-September will be subnormal in the East, South and Southwest, the meteorologists predict, and near or above normal for the Great Plains and Midwest. Precipitation for areas not mentioned will be near normal.

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AGRICULTURE

World Food Outruns Population Increase

► WORLD FOOD production is rising faster than population increase for the second season in succession, the Food and Agriculture Organization of the United Nations has determined.

There are surpluses in some regions and continued shortages and widespread malnutrition in others, the FAO warns.

Two problems in particular are matters of serious concern to the FAO:

1. How to reduce existing surpluses without unbalancing the trade in agricultural commodities.

2. How to insure continued agricultural expansion, on a selective basis, as regards countries and products in order to improve world nutrition as a whole.

While surpluses that exist principally in North America are chiefly of grain, the rise in total agricultural production is greatest in Western Europe and the Near East, with smaller gains in the Far East and Oceania. Food production expanded faster than population in all the less well-fed regions except Latin America.

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ENTOMOLOGY

Disease Might Control Desert Locust Plagues

► POSSIBILITY OF biological warfare against the desert locust, a destructive insect pest, particularly in the Near East, appears to be possible through use of a highly virulent disease discovered in experimental cages of locusts at the Anti-Locust Research Centre, London.

Dr. J. P. Stevenson of University College, London, in reporting the laboratory epidemic in *Nature* (July 24), does not suggest the use of this disease as a control measure, but he notes that the disease may be the same as that discovered by a French bacteriologist, Dr. F. D'Herelle, over 40 years ago in dead and dying locusts of Mexico.

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