

## MEDICINE

# Hypertensive Personality

High blood pressure people are mild and retiring, contrary to popular opinion. Low salt diet believed only effective in the mild form of the disease.

► CONTRARY to popular impression, the high blood pressure personality is not the explosive, desk-pounding type. Instead, it is the kind seen in a rather retiring, mild person who goes back three times to make sure he has turned out the lights or locked the door.

This picture of the high blood pressure personality emerged from a comparison study reported by Dr. Henry A. Schroeder of Washington University School of Medicine at the meeting of the American Foundation for High Blood Pressure in Cleveland.

In technical terms, Dr. Schroeder said the high blood pressure patients showed "subnormal assertiveness" and "obsessive-compulsive" traits when the personality patterns of 50 of them were compared with 50 psychoneurotic patients and 48 patients suffering other chronic diseases. He suggests the two traits may be important in the makeup of patients with high blood pressure.

The present widespread treatment with a low salt diet was found effective only in patients with the milder form of hypertension, a group of research specialists agreed.

Patients given a low salt and low protein diet for 90 days showed no significant change in their blood pressure level, according to Drs. William Goldring, Herbert Chasis, and Homer Smith, of the New York University College of Medicine. This diet, however, impaired their kidney function.

In another group of 25 patients on a low salt diet, less than one-third showed a significant response, reported Dr. Schroeder. The response was best in those who suffered with the less severe form of the disease, he stated.

Several drugs which will lower blood pressure are showing promise.

Tetraethylammonium chloride has been found of great value in diagnosing and determining the severity of high blood pressure in pregnancy. The disease is responsible for convulsions, which is becoming one of the greatest killers of women and unborn children, a research team of the University of Cincinnati—Drs. Eugene B. Ferris, A. Brust, and N. S. Assali—found.

Veratrum viride, which comes from the root of a North American plant, has proved highly effective in some patients, reducing the size of enlarged hearts and bringing heart function more nearly to normal, Dr. Robert W. Wilkins and his co-workers at the Massachusetts Memorial Hospitals discovered. Only between 10% and 20% of

the patients with high blood pressure fail to respond to this treatment, they pointed out.

Dihydroergocornine, a derivative of ergot, drug long used to check hemorrhage in childbirth, has lowered blood pressure for from eight hours to several days without producing serious toxic effects, Dr. Wilkins reported.

Priscol, a drug which dilates the small arteries, has shown encouraging results in patients not able to undergo surgery, Dr. Keith Grimson of Duke University Medical School disclosed.

Heparin, an anti-blood clotting drug found 20 years ago in liver extracts, is aiding in relieving the symptoms of eclampsia, convulsions brought on by high blood pressure in pregnant women. Dr. E. W. Page of the University of California Medical School, and other medical investigators working with the drug, have noted that many serious symptoms showed improvement. But the improvements last only as long as heparin is given, the patient needs constant attention, and the drug is expensive and carries a possible danger, Dr. Page cautioned.

A new method of studying high blood pressure in rats has been developed by Dr. Meyer Friedman, director of the Harold Brunn Institute for Cardiovascular Research, and his associates. The group has devised a special microphone which is applied to the tail of a rat, picking up the contractions of the arterial pulsation of blood in a sound detectable to the ear.

The first successful attempt to determine the rate of disappearance of digitalis from the blood and the daily rate of its excretion in the urine has also been made by this research team. They made this study by means of embryonic duck hearts.

The output of blood by the heart can be measured by a simple method perfected by Dr. W. F. Hamilton of the University of Georgia. A known amount of dye is injected into a vein and then samples are collected of blood from the arteries. The more dilute the dye in the arterial sample, the greater the blood flow. This information is important to the physician because the height of blood pressure is partly determined by the amount of blood the heart must process.

The Foundation recently announced \$78,000 in grants to hospitals, clinics, medical colleges and laboratories doing intensive research on high blood pressure and hardening of the arteries.

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**RADIATION "GUINEA PIG"**—*This wooden man is made up of layers of wood and other porous materials. Film to record X-ray penetration is being inserted in preparation for a radiation test.*

## PHYSICS

## Wooden Man Is Stand-In In Big Dose X-Ray Studies

► LATEST thing in the way of "guinea pigs" for medical investigations is a wooden man known around the laboratories of Massachusetts Institute of Technology as "Mr. Cruikshank."

He is used as a stand-in for studies of the effects of super-voltage X-rays produced by nuclear science machines such as Van de Graaff accelerators. He is the brain-child of Dr. John G. Trump, associate professor of electrical engineering, and Dr. J. Eugene Nelson of M. I. T.

This head and shoulders replica of a human head and neck is made of layers of wood and other porous materials. These are built up so as to reproduce as nearly as possible the densities of the bones, skin and other tissues of the human head.

Cruikshank's head is sliced along several cross sections so that films and other recording devices can be slipped in when needed. After he has had a dose of X-rays that doctors might contemplate using for cancer treatment, the films and other devices in his head tell how much radiation has reached their locations. This gives information on how far the X-ray dose would penetrate human tissue and thus whether it would be effective or dangerous.

Science News Letter, April 23, 1949