

## MEDICINE

# Operation Gives Relief In Hypertension Cases

**Severing Sympathetic Nerves Permits Flow Through Smaller Arteries; Not all Patients Benefited**

**S**UCCESSFUL results in some cases from operation to relieve high blood pressure, performed on 300 patients in the past four years without a single death due to the operation, were announced by Drs. E. V. Allen and A. W. Adson, of the Mayo Clinic, at the meeting of the American College of Physicians in Cleveland.

Neither the operation described, however, nor present accepted medical treatment has entirely conquered this disease, which kills three times as many people each year as cancer, Drs. Allen and Adson pointed out.

Of the 300 patients operated on by cutting the sympathetic nerves to lessen resistance of the tiny arteries to flow of blood through them and thus to lower the blood pressure, follow-up information was available on 222. In 27 of these, "excellent" results were obtained, and in another 41 cases, the results were "fairly good." In 114 cases, the patients' blood pressure was reduced definitely and significantly for periods varying from two months to four years. Although the blood pressure in these patients subsequently rose to the high level before the operation, the doctors believe even the temporary lowering of the blood pressure was helpful. Many of these patients are still free from clinical symptoms, although the blood pressure is again high.

The operation should not be looked on as a last resort but should be performed early in the course of the high blood pressure condition, just as operation for cancer to be successful must be performed early, the doctors pointed out. Commenting on the drawbacks to both the operation and medical treatment for high blood pressure, they concluded:

"It is our impression that neurosurgical treatment (the operation) of essential hypertension has contributed substantially to the treatment of this disease. However, neither medical nor neurosurgical treatment has satisfactorily solved the problem of treatment of this malignant condition and it must be borne in mind that sympathectomy is indicated in only a small percentage of all patients with hypertension who have a progres-

sive disease. There is still great opportunity for advances in therapeutics."

*Science News Letter, April 13, 1940*

## Prevention of Anemia

**P**ERNICIOUS anemia, once hopeless disease whose victims now live out their normal lifespan, thanks to liver, can soon be prevented as well as cured. The method for doing this was announced by Dr. John M. Askey, University of Southern California School of Medicine, to the College of Physicians. Liver will be the preventive substance, as it is now the curative substance for the disease. But doctors will know which patients are going to develop pernicious anemia and will start the liver treatment in time to forestall development of the disease, Dr. Askey predicted.

"The scheme allowing the physician to suspect those who will later develop

the disease depends upon a peculiarly helpful finding," Dr. Askey said. "Lack of acid in the stomach means nothing important in an ordinary person, but in a person in whose family pernicious anemia is present it immediately puts him in the potential class. A person with acid in the stomach practically never develops pernicious anemia—even the relative with no acid may never develop the disease, but he must be observed.

"Studies of 61 relatives with stomach analyses led to the identification of ten as potential cases of pernicious anemia. Of these ten, two have developed early signs of the disease but are under adequate treatment. Several others have early signs and will be watched closely. Two relatives who refused stomach analyses three and five years later developed the disease, both with crippling disability which will permanently handicap them. It is this reluctance of normal relatives to have a stomach analysis done which is preventing accumulation of data which will help to solve the problem."

"Treatment now saves lives, but due to the insidious onset of the disease, patients often are not recognized early because they do not consult a doctor until the disease is far advanced. By the time the doctor sees them, 75% have developed damage to the nervous system, and in a small percentage there is damage



### SKID PREVENTION AT HOME

First aid to over-waxed floors: a robot "stand-in" that measures the slipperiness of floors to prevent dangerous falls invented by Edgar C. Barnes, Westinghouse industrial hygiene engineer. Slips and falls cause an estimated 350,000 industrial U.S.A. accidents each year and many home accidents. A man walking across a slippery floor is simulated by a miniature bob-sled supported on three little leather runners carrying a hundred-pound weight. Pulled by a spring balance across a waxed surface, the amount of pressure required both to start it and to keep it moving is read, telling how easily a person may slip and how far the slip will carry him.

to the spinal cord severe enough to cause crippling and disability which is not satisfactorily relieved by liver treatment."

*Science News Letter, April 13, 1940*

## Clue to Leukemia Problem

**A** CLUE which might lead to a successful attack on leukemia, rapidly fatal disease marked by too many white cells in the blood, was presented by Drs. Joseph Kaufmann and Louis Lowenstein, of Montreal, to the College of Physicians.

At present, they stated, no specific cause for the leukemias—there is more than one type of this disease—and no specific treatment exists. The disease terminates fatally, after an average duration of about 10 weeks, usually by exhaustion, anemia, hemorrhage, or an acute complicating infectious disease. Temporary slight remissions, when the patient seems better, may occur.

The clue which the Montreal doctors believe worthy of further investigation in the hope of gaining useful knowledge for fighting the disease is the question of an arrest of maturation, or growing-up, of the white cells at a certain level, possibly analogous to an arrest of red blood cell development in pernicious anemia.

*Science News Letter, April 13, 1940*

## Monthly Weight Gain

**A** REGULAR gain in weight of about two pounds during one week in every month, with subsequent loss of this gained weight, occurs in about 50% of women as a result of monthly variation in sex hormone activity, Dr. George W. Thorn, Johns Hopkins School of Medicine, announced at the meeting of the American College of Physicians.

This weight gain, unexpected and perplexing, has caused much discouragement to women on reducing diets and even to the physicians prescribing the diets, Dr. Thorn pointed out. The two pounds gained is due in part to retention of excess quantities of water and salt, as a result of the regular change in sex hormone activity.

More important than the explanation of the discouraging weight gains of women on reducing diets is the explanation this finding gives of apparent increase in severity of kidney disease in women. Rapid appearance of dropsy in these patients may lead the physician and patient to think the kidney condition has grown worse unless the possible relationship between the appearance of the dropsy and the sex hormone cycle is appreciated. Women patients with

liver disease complicated by dropsy may have a similar monthly increase and decrease in the dropsy.

Striking but temporary retention of salt and water in both male and female dogs following injection of large quantities of crystalline sex hormones added to the evidence for the role of the sex hormones in causing this regular monthly salt and water retention with weight increase in women.

The finding also has a bearing on treatment of women with Addison's disease, condition due to disease or failure of the adrenal glands. One of the female sex hormones, Dr. Thorn reported, can prolong the lives of animals that have no adrenal glands.

*Science News Letter, April 13, 1940*

## Study Lessons of War

**D**ETERMINED that if America should go to war again, her soldiers and sailors and flying men shall be protected from germ enemies at least, members of the American College of Physicians are concentrating on war-time medicine.

Military experts from the U. S. Army and Navy have been called in to tell these peace-time doctors how to fight the war diseases that generally kill more fighting men than bullets do.

Sulfanilamide and related chemicals which American doctors have been using to save pneumonia-threatened lives are expected to cut the toll from two of war's deadliest diseases—gas gangrene and meningitis. This last disease is worrying English doctors who report that it has already increased greatly since the beginning of the war. Mindful of the devastations of this disease during the last war, these doctors are "apprehensive of a considerable epidemic in the near future."

Meningitis among soldiers and sailors is essentially a disease of recruits. Crowded barracks and poor ventilation resulting from the black-out and bitter cold weather this winter are thought to have contributed to the alarming increase already noted in the number of cases in England. Providing adequate space in sleeping quarters, especially, helps to keep down the number of cases, doctors have learned, and sulfanilamide and sulfapyridine, given at the first sign of the disease, will save the lives of most of the victims. Deaths could be reduced to fewer than five per 100 cases by prompt use of these medicines, it is said.

Typhoid fever and other intestinal germ diseases such as dysentery, and even typhus fever were well controlled

among American troops during the World War. U. S. Army and Navy medical officers are less worried about these diseases in future wars than they are about the respiratory diseases. The latter group includes colds, pneumonia and influenza. Sulfapyridine will help to save lives from pneumonia, and C.C.C. successful experience with an anti-pneumonia vaccine suggests that American soldiers may go into future wars vaccinated against this disease, although no definite announcement to that effect has yet been made.

Influenza, which ravaged troops and civilian population alike during the World War, has yet to be conquered. Practical methods of dealing with this disease so far as possible, and for handling the special medical problems of flyers and submarine crews were discussed.

*Science News Letter, April 13, 1940*

## Sulfathiazole Best

**S**ULFATHIAZOLE, new chemical remedy of the sulfanilamide group, is the "drug of choice" for treatment of pneumonia, Drs. Harrison F. Flippin and Leon Schwartz, University of Pennsylvania School of Medicine, reported after trial of sulfathiazole and sulfapyridine in treatment of 100 patients with each remedy.

In the sulfathiazole treated group there were 12 deaths, in the sulfapyridine treated group there were 15 deaths. Of the entire group, nine patients died within 24 hours after admission to the hospital and these deaths, the doctors stated, cannot therefore be fairly charged to failure of either of the chemical remedies.

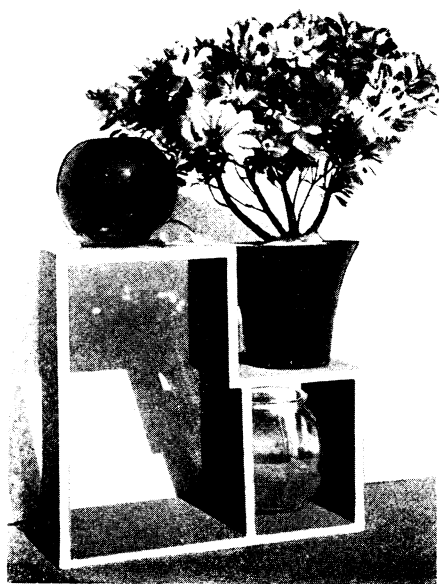
Most significant difference between the two chemicals is the matter of toxicity. Nausea and vomiting, distressing feature of sulfapyridine treatment, are much less frequent and less severe when sulfathiazole is used for treating pneumonia patients, and sulfathiazole appears to be less toxic in other respects also.

Despite the value of chemical treatment of pneumonia, the Pennsylvania physicians still feel that serum should be used with the chemicals in certain cases.

*Science News Letter, April 13, 1940*

## New Human Disease

**A** NEW disease which humans may get from animals, as they now may acquire undulant fever from infected animals, is probably on the way, Dr. L. A. Julianelle, Wash- (Turn to page 236)



### MODERN

*In this home gravel-culture setup, nutrient solution is fed from reservoir at left into the flowerpot; excess slowly drips into bowl beneath.*

*things in scientific gardening, send a three-cent stamp to SCIENCE NEWS LETTER, 2101 Constitution Ave., Washington, D. C. Ask for the Gardening Bulletin.*

*Science News Letter, April 13, 1940*

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ington University, St. Louis, warned.

Dr. Julianelle calls the new disease Listerellosis because it is caused by a bacterial species named *Listerella*.

More and more patients with a peculiarly fatal form of meningitis due to these germs are being seen, Dr. Julianelle said. Common and severe animal diseases due to these germs have been generally recognized since 1926. Dr. Julianelle believes the animals may serve as reservoir for the infection which is

right now in process of becoming a human plague. The germs fall into two classes, one characteristic of rodents and the other characteristic of ruminant animals such as cows. Both kinds of germs have been found in human patients.

Medical preparedness against this future plague is called for, Dr. Julianelle stated.

*Science News Letter, April 13, 1940*

## Hope for Thrombosis

**G**REATEST hope for victims of the heart disease, coronary thrombosis, lies in development of new drugs to dilate the tiny arteries of the heart, Dr. Fred M. Smith of Iowa City declared at the meeting of the American College of Physicians.

One such drug is aminophyllin, which can be injected directly into the patient's vein. Others are theobromine and theophyllin and Dr. Smith said that medical researchers are now trying to develop still more effective medicines of this type.

The outlook for patients with coronary thrombosis has improved remarkably within the past 10 or 15 years, he said. This is partly due to better methods of treatment and partly to the fact that the condition is being recognized more often and treated earlier.

In this form of heart disease, the larger blood vessels supplying the heart itself with blood may become blocked. The very small arteries in the same region then try to take over the job of carrying blood to the heart. If these little arteries called arterioles, succeed, the patient has a good chance of living out his normal life span. The new medicines Dr. Smith described are helpful because they dilate these small arteries and thus enable them to carry more blood to the heart.

Drugs are only one aspect of treatment of this form of heart disease, Dr. Smith emphasized. General care is also tremendously important.

*Science News Letter, April 13, 1940*

## Better Chemical Treatment

**T**HE CHEMICAL curing of disease, widely practised since the discovery of sulfanilamide, can develop along rational and presumably more effective lines as a result of discovery of the most powerful known germ-killing chemicals, substances produced by bacteria that live in the soil, Dr. René J. Dubos, of the Hospital of the Rockefeller Institute for Medical Research, predicted at the meeting of the Ameri-

can College of Physicians, Cleveland.

For his discovery of potent germ-killers produced by soil bacteria, Dr. Dubos received at this meeting the John Phillips Memorial Award of the College.

The new germ-killing chemicals can protect mice against pneumonia and against streptococcus infection, but it may be many years before they are ready for use in treating human patients.

In the test tube, the soil bacteria chemicals can kill pneumonia germs, streptococci, staphylococci, diphtheria bacilli and numerous other dangerous germs. One of the chemicals, grama-cidin, is so powerful that less than one grain of it (0.002 milligrams) can protect a mouse against 10,000 fatal doses of pneumonia germs or streptococci.

While the soil bacteria chemicals are very potent killers of one class of germs, called Gram positive, they are less effective against the Gram negative class of germs to which belong the gonococci and meningococci. When the differences between these two classes of germs which make them respond differently to Gram's stain and to the new chemicals are understood, scientists may have important knowledge for dealing with the general problem of antiseptics, Dr. Dubos said. Meanwhile, he indicated, chemical studies now in progress of the structure of the new germ-killers from soil bacteria may "suggest new lines of investigation for the development of chemotherapy on a rational basis."

*Science News Letter, April 13, 1940*

To help passengers find their way aboard trains these black-out nights, Germany is trying the *electric eye* device, which automatically turns on lights at the platform edge when a train pulls in.

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