

MEDICINE

Smoking, Not the Nicotine, Raises Blood Pressure

Tests on Ten Normal Men Show Same Results Whether Cigaretts Were Made of Tobacco or of Corn-silk

IT'S the smoking, not the nicotine, that raises the blood pressure of cigaret smokers, Dr. Willis F. Evans and Dr. Harold J. Stewart, of the New York Hospital, have discovered.

Their findings, which seem to have smoked out the "Demon Nicotine" myth of the old anti-cigaret propaganda, were reported to the American Society for Clinical Investigation in Atlantic City.

Tests were made on 10 normal men who smoked different types of cigarets. In all except four instances there was a moderate decrease in the amount of blood allotted to the tiny blood vessels near the surface of the body, a rise in blood pressure, faster heart beat and chilling of fingers, toes and body surface. But these changes were of essentially the same magnitude and lasted as long regardless of whether the men smoked regular cigarets, commercial denicotinized cigarets, fully denicotinized cigarets, corn-silk cigarets or smoked cigarets through a water pipe.

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German Measles Serious

GERMAN measles, which some of its victims may now be calling Nazi measles, is a far more serious disease than has been supposed, Dr. Mark P. Schultz, of the U. S. Public Health Service, declared.

An attack of German measles can bring on rheumatic fever and heart disease, he reported.

First knowledge that this supposedly harmless childhood ailment could be a serious disease comes from England, where it has caused trouble in the Army, leaving its victims with rheumatic heart disease or arthritis. The English medical opinion is that the virus which causes German measles may have changed its character.

Most cases of rheumatic fever and rheumatic heart disease are started by hemolytic streptococcus germs. Some cases, however, are started by a variety of other things, and one of these may be German measles, Dr. Schultz said.

Among 50 Washington, D. C., school children who had German measles during a serious epidemic there last year, three were left with rheumatic heart disease, Dr. Schultz reported.

When rheumatic fever follows German measles in young adults, it affects the joints chiefly. In children the heart is attacked.

Every effort should be made, in view of these new findings, Dr. Schultz emphasized, to prevent the spread of German measles by quarantining those who have it or may be coming down with it because they have been in contact with a patient. This may interfere with troop movements and has therefore been hotly debated in England, but Dr. Schultz believes the quarantine worth trying.

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MEDICINE

Sulfa Drug Proved Harmful In Nasal Injections

EVIDENCE that sodium sulfathiazole, recently advanced as the long hoped-for beneficial treatment of sinus trouble, actually is dangerous is reported in the *Journal of the American Medical Association* (May 2).

A series of rabbits were given nasal injections of 5% solution of the sodium sulfathiazole by Dr. Charles E. Futch, Dr. Lloyd K. Rosenvold and Dr. Charles E. Stewart, Jr., of Los Angeles. They found serious damage to the animals' mucous membranes, the tissues that line the inside of the nose. After a week's rest from the nasal injections, "there was little recovery from the destructive process," they report. The 5% solution had been recommended as a nasal spray for human sinus infection.

The three physicians found the 5% solution and a 30% solution both highly alkaline, and suggest this may be a factor in causing the damage to the nasal mucous membrane. They express the hope that chemical combinations of the sulfa drugs which are non-irritant may be developed.

They warn, however, that chronic sinus trouble is too complex a disease to be cured with a single medicine.

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Deaths with Sulfathiazole

DEATH of four persons receiving sulfathiazole and extensive damage to their internal organs from the drug also is reported in the *Journal of the American Medical Association* (May 2).

From their studies of the four fatal cases, Dr. Max Lederer and Dr. Philip Rosenblatt of Brooklyn suggest how this valuable drug may be used more safely.

They warn against indiscriminate and uncontrolled use, and suggest examination of the urine during treatment for crystals and blood. A chill followed by sustained fever is a signal to discontinue the drug at once.

"Sulfathiazole," they conclude, "should be used only when definitely indicated and should not be continued longer than is absolutely necessary."

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ANTHROPOLOGY

Japan Was Once Ruled By Line of Women

JAPAN, where women are very decidedly "kept in their place" in modern times, was once ruled by women. The time was so near the dawn of history that definite written records are very scanty, but very early sources, part of them Chinese, tell of a great Queen Wo, who was succeeded by other female rulers, all of them marrying their own brothers and handing down the scepter from mother to daughter.

This is among the little known facts about the origins of Japan revealed by Carl Whiting Bishop, Smithsonian Institution archaeologist.

So powerful was the influence of the Japanese queens, and so firm the tradition of female dominance, that early Chinese records refer to Japan as "the Queen Country." Subsequently, however, their power was weakened and they were relegated to a religious position as high priestesses of the Sun Cult, while real power in the land was held by the founders of the line of the Mikados—who in their turn, centuries later, were likewise thrust aside by an ambitious oligarchy of aristocrats.

Earliest inhabitants of the Japanese islands, Mr. Bishop states, were the Ainu, a very primitive race with light skins and wavy hair, sometimes though probably erroneously referred to as Asiatic

white men. They more likely represent a general primitive stock, older than any of the present-day well-differentiated races.

These Ainu were brave warriors, but they could not stand against the more numerous and better armed Mongoloid invaders from the mainland who arrived about 2,000 years ago. However, the resistance they put up had much to do with the development of the Japanese as a warrior people. There is also a

strong Ainu strain in the modern Japanese ruling class. Only about 20,000 pure-blooded Ainu remain, mostly on the island of Yezo.

A third racial strain, also strongly in evidence in the Japanese ruling caste, came later from China, partly direct and partly via Korea. This second wave of mainland incursion brought with it much of the basis from which Japanese culture developed.

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CHEMISTRY

Curare Is Now Isolated In Pure Crystalline Form

In this Condition It is Four Times as Powerful as In Extract and Strength Can Be Maintained Uniform

ONE of the deadliest of all poisons, used by South American Indians on their arrows to kill both game and enemies, will be made more reliable in medicine as the result of studies reported at the meeting of the American Chemical Society by O. Wintersteiner and J. D. Dutcher of the Squibb Institute for Medical Research.

The poison is known as curare, or more specifically as tube curare. It has long been known through study of arrow poisons obtained from the Indians, but because its source was uncertain, and because it was mixed with snake venoms and other foreign substances, its composition has remained a chemical puzzle and its medical use has been less dependable than physicians would like.

Like many other poisons, curare is a beneficial medicine when used in small enough doses. It is valued as a counteractant to metrazol, the shock-treatment drug now popular in medical circles, for "jolting" insane patients out of their unhappy state. Curare is also used in certain paralytic cases, to relax tightened muscles.

Messrs. Wintersteiner and Dutcher have succeeded in isolating the active principle of tube curare in crystalline form, which means they have obtained it chemically pure. In this condition it is four times more powerful than it is in the extract from which it was obtained. It is a white powder, and its chemical composition is expressed in the formula $C_{36}H_{44}O_6N_2Cl_2$. In such pure form, it is easily tested and its strength and

uniformity of action can be maintained.

Tube curare is obtained from a vine of the upper Amazon and Orinoco valleys, known as *Chondodendron tomentosum*. It has no common name, but it is related closely to the ordinary moonseed, a wild vine frequently found in American woods.

A second kind of curare, known as calabash curare, quite different from tube curare, comes from an unrelated group of plants, another species of which is the source of the common poison, strychnine.

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Manganese Strengthens

MANGANESE, the alloy metal that makes steel stronger, performs a like function in bone formation, it is indicated by researches reported to the American Chemical Society in Memphis by Willis D. Gallup of the Oklahoma Agricultural Experiment Station.

Poultry and game birds reared in confinement often develop a crippling disease known as leg-weakness or hock disease, which seriously damages their market value. This, Mr. Gallup has shown, is due to a lack of manganese in their diet. Manganese lack also causes a falling off in egg production, and an increase in the number of eggs that fail to hatch. Restoration of manganese to the birds' rations will not cure the disease once it has become established, but it will prevent its development. It will also raise the number of eggs produced and increase hatchability.

There is no danger of poultrymen and feed processors running into priority troubles on account of manganese, for very little of it is needed for poultry-feeding purposes. Exact ratios have not yet been determined, but the requirement seems to be less than ten parts of manganese in a million parts of feed. In this again, the role of manganese resembles the part it plays in steel production, where a few spoonfuls make radical differences in the quality of a batch of many tons.

Manganese in bone-strengthening foods does not even have to come from ores. Small traces of the metal exist in most soils, and become concentrated in green feeds and the outer coatings of grains.

Earlier researches by other workers have already shown that manganese has something to do with the formation and utilization of the B and C vitamins, also that an extreme manganese lack causes a lapse in the maternal instinct in animals. Because of the latter phenomenon, it received some years ago the nickname of "mother-love element."

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Vitamin May Harm

NICOTINIC acid, the vitamin that saves lives by preventing and curing the disabling "hard times disease", pellagra, can work harm as well as good, it has been shown in experiments reported by Prof. Jakob A. Stekol of the Vanderbilt University School of Medicine.

Prof. Stekol fed young male rats on a synthetic diet short in casein, one of the important protein foods. At the same time he gave them enough nicotinic acid to make up one per cent of their rations—far more of this vitamin than goes into the normal diet of either human beings or any experimental animal. The rats' growth was stunted. Curiously enough, parallel treatment of young female rats had no effect on their growth.

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Poison Cures Poison

A LITERAL case of poison against poison was laid before the Society by A. L. Moxon and H. D. Anderson of the South Dakota Agricultural Experiment Station. In parts of the Northwest, selenium poisoning is a serious problem in the livestock industry. The poisonous element exists in the soil, gets into plants which the animals eat, and cripples or sometimes kills them.

In careful experiments, Mr. Moxon