

MEDICINE

Test Blood Stickiness

A simple technique has been developed which will indicate to the doctor which patient is susceptible to having a blood plug form in the veins.

► YOUR doctor may drip your blood to see how quickly it gets sticky in a new, simple test devised to forestall complications that produce a blood plug in your veins. This possibility is the promise of a new technique revealed by Dr. John N. Shadid of Washington, D. C., to the Medical Society of the District of Columbia.

Doctors always fear that following a fractured hip, injury to a leg or an operation, a blood clot will form which may plug the lungs or brain and either incapacitate the patient or cause death. As a precaution against this, patients have been made to get out of bed shortly after surgery.

Dr. Shadid's test would be an invaluable adjunct to present procedures. It would tell doctors ahead of time by the stickiness of the patients' blood who would need treatment to check this dangerous development.

Here is how it's done: A small amount of blood is withdrawn into a syringe. The time it takes 15 drops of blood to drip from the needle is timed by a stop watch. A viscosity or stickiness index is worked out by dividing the time it takes distilled water to drip, into the time it takes blood to drip through. If the blood is in its normally fluid state it should take about 90 seconds.

The test was first given to 75 normal

people ranging in age from 18 to 89 years. The viscosity index in these subjects varied between 4 and 5.5. These figures were arrived at after at least three tests were made on each person.

Sixteen other patients who were known to have diseases in which there was a blocking of a blood vessel by a clot, showed extremes in test results. The stickiness of their blood ranged from over 7.5 to a state where the blood clotted before there were 15 drops. The test was repeated for several days until the blood viscosity suddenly or gradually dropped to normal. These patients had been receiving treatment mainly with heparin, a drug which prevents blood-clotting.

Ten patients with conditions that might produce a blood clot also received the test. Two of these patients showed by the viscosity index that they might develop a blood clot, while the others were within normal range.

In conclusion, Dr. Shadid stated that the test is useful in picking out those patients who might need anticoagulant treatment and in determining the type of treatment, particularly when to give and when to stop anticoagulant treatment.

He proposes to make further tests on patients and present a report in the future on the results.

Science News Letter, May 21, 1949

a curie should be discharged per liter (1.1 quarts) of water. And no scientific institution should let more than 200 thousandths of a curie of radioactive material get into a main sewer in a week.

This report on interim recommendations for disposal of the isotopes lists only iodine with an atomic weight of 131, phosphorus 32 and carbon 14. These three elements account for 90% of the activity of the radioactive isotopes which have been shipped to scientists thus far.

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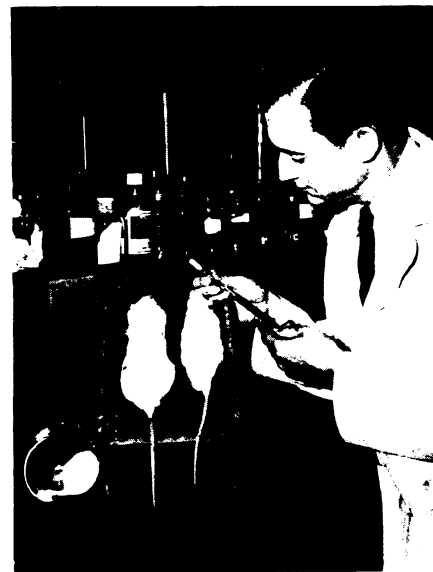
CHEMISTRY

Chemical Methods Can Preserve Works of Art

► HOW modern chemistry can preserve art treasures, restore them or even show up fakes was described by Prof. Colin G. Fink of Columbia University.

Dr. Fink, who is associated with the Metropolitan Museum of Art in New York, explained that chemical methods are used at the Metropolitan Museum to keep harmful dust from settling on art pieces and remove or neutralize destructive acid particles.

A method of restoring corroded ancient bronzes has been developed by the Columbia chemist and is now being used in museums throughout the world. This technique reverses the corrosion process



BROTHER RAT LACKS VITAMIN B—The rat on the right has been fed a diet lacking in Vitamin B-12 while the one on the left has had adequate amounts of it. The effect of the vitamin on growth is clearly shown in these experiments being made at the University of Wisconsin biochemistry department.

NUCLEAR PHYSICS

Packaging Atomic Wastes

► A CEMENT mixer may be a part of the atomic-age laboratory equipment of the scientist who uses the radioactive by-products of the atomic bomb.

The cement mixer would do the job of a garbage grinder or the kitchen sink. One method of getting rid of radioactive waste materials, explains an Atomic Energy Commission circular, is to make concrete.

Radioactive waste materials are put in the liquid used in making the concrete. The hardened concrete is then stored away, dumped in the ocean or buried on land. The method of disposing of the radioactive concrete which should be used depends on the material.

Laboratories can dump the radioactive materials down the drain but they are advised to follow some pretty technical rules in doing it.

Recommended ways of getting rid of radioactive wastes are listed in a Commis-

sion report for scientists using these forms of chemical elements, which are now available to them on a relatively large scale.

If you want to put any of these radioactive isotopes down the sink, you must make sure that the main sewer is getting plenty of water to dilute the chemical. And the plumbing should be checked regularly for radioactivity, especially before any repairs are made.

The quantity of radioactive material which can be safely discharged into a sewer is stated in terms of radioactivity rather than quantities of the element. The unit used is the curie. A curie, named for the famous French scientists who discovered radium, is the activity of a substance in which 37,000,000,000 atoms disintegrate each second.

In letting radioactive iodine go down the sink, only one-half of a millionth of

and cleans the piece without removing any of the metal.

Tools of modern chemistry, such as the electrolytic cell, the ultraviolet lamp, the chemical microscope and the X-ray tube, can be used to decide whether an art work

is genuine or a fraud or forgery, he pointed out.

Dr. Fink spoke to a meeting of the Minnesota section of the American Chemical Society at St. Olaf College, Northfield, Minn.

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PSYCHOLOGY

Roots of Crime in Home

► CRIME has its roots in bickering, nagging and other forms of tension in the home, Dr. David Abrahamsen, psychiatrist of Columbia University, told a New York forum on the Study and Prevention of Crime. He based his conclusion on a psychological study of 80 families of juvenile delinquents and criminals under a grant by the Josiah Macy Foundation. The first report of the project was summarized by Dr. Abrahamsen.

The family needs psychiatric treatment, as well as the offender, if the offender is to be cured of his criminal tendencies, the investigation revealed. Even in those cases where on the surface it appeared that the offender came from a reasonably happy home, the Rorschach ink-blot test of personality revealed that in almost all homes, the father or the mother and sometimes both needed psychiatric attention. In every one of the 80 homes studied there was hostility, nagging, bickering, all due to family tension. In one home the mother was found to be mentally ill, the father suffering from a compulsion, the brothers were neurotic and the only reasonably mentally well person was the offender himself.

In some cases the families did not want to continue treatment, but where cooperation was obtained the treatment resulted in remarkable reorientation of the offender to society.

The emotional atmosphere of the home is much more important from the point

of view of crime prevention than is the economic condition, Dr. Abrahamsen found. Many of the offenders came from well-to-do homes but where the family was torn by antagonism. And many poor families are happy and do not produce criminals, he pointed out.

There should be a law, he recommended, that if the family cannot provide a home reasonably free from hostility, the child should be taken away and given to foster parents who would make the child welcome and give him the peaceful atmosphere he needs.

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PSYCHOLOGY

Without Knowing the Brand Smokers Have No Preference

► IF IT WERE not for the brand name on the package, psychological evidence is that you would not have a favorite kind of cigarette. In an experiment reported in Springfield, Mass., to the Eastern Psychological Association by Dr. Edwin A. Fleishman, of the University of Maryland, ten persons smoked cigarettes on which the name was masked by a distinctively colored scotch tape. No stable preferences were established. The only brand smoked more often than the others was the least expensive.

Each morning each of those taking part

in the experiment received a box containing six different brands of cigarettes. All those of one brand were marked with the same color scotch tape, but the next day the colors were changed around. In the second week, the colors were not changed around from day to day.

Although all the clues for identifying the various cigarettes were available to the smokers, except for the brand name itself, they showed no stable preference for a favorite, nor a dislike either. They did form preferences and avoidances but these shifted from brand to brand.

Science News Letter, May 21, 1949

SCIENCE NEWS LETTER

VOL. 55 MAY 21, 1949 No. 21

50,300 copies of this issue printed

The Weekly Summary of Current Science, published every Saturday by SCIENCE SERVICE, Inc., 1719 N St., N. W., Washington 6, D. C., North 2255. Edited by WATSON DAVIS.

Subscription rates: 1 yr., \$5.50; 2 yrs., \$10.00; 3 yrs., \$14.50; single copy, 15 cents, more than six months old, 25 cents. No charge for foreign postage.

Change of address: Three weeks notice is required. When ordering a change, please state exactly how magazine is now addressed. Your new address should include postal zone number if you have one.

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Printed in U. S. A. Entered as second class matter at the post office at Washington, D. C. under the act of March 3, 1879. Established in mimeographed form March 18, 1922. Title registered as trademark, U. S. and Canadian Patent Offices. Indexed in Readers' Guide to periodical literature, Abridged Guide, and the Engineering Index.

Member Audit Bureau of Circulation. Advertising Representatives: Howland and Howland, Inc., 393 7th Ave., N.Y.C., Pennsylvania 6-5566 and 360 N. Michigan Ave., Chicago. STAt 4439.

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