MEDICINE

Pill Checks Gonorrhea

A single pill of penicillin a few hours after exposure will prevent this venereal disease, it was discovered in tests made on Navy personnel.

➤ GONORRHEA can now be prevented by swallowing a single pill of penicillin within a few hours after exposure, Dr. Harry Eagle of the National Institutes of Health, U. S. Public Health Service, reported.

This may herald the conquest of one of the two major venereal diseases. The famous mold remedy has already proved its power to cure cases of gonorrhea. With an easy means of prevention now available, the chain of infection could be broken and the disease may in time be practically wiped out.

The tests showing the mold remedy's preventive power were made on Navy personnel. Associated with Dr. Eagle in the studies, reported in detail in PUBLIC HEALTH REPORTS (Oct. 29), were Lieut. (jg) A. V. Gude and Lieut. (jg) G. E. Beckmann, reserve officers in the Navy Medical Corps; Dr. George Mast, commander in the Navy at the time of the studies; Capt. J. J. Sapero of the Navy Medical Corps; and J. B. Shindledecker, chief hospital corpsman, U. S. Navy.

The penicillin pills used were the ordinary penicillin G mouth tablets made by eight different firms and now available on doctor's prescription. The pills were taken an average of two hours after exposure to gonorrhea. If taken as long as 12 to 18 hours after, it might be necessary to take two pills six hours apart, but this is not definite.

No complications which might work against the general use of penicillin pills for prevention of gonorrhea have appeared so far in the tests involving several hundred men. In the first 16 weeks of the study, the pills were taken as often as five times a week, with an average of slightly over once a week.

No sign of sensitization to penicillin has developed. The germs causing gonorrhea have apparently not developed resistance to the mold chemical. And there has been no case of simultaneous syphilis being suppressed by the preventive pill, only to flare up later as has occurred in penicillin treatment of gonorrhea.

The penicillin tablets were given, one tablet per man, to from 151 to 213 men as they returned to ship from shore liberty. The tablets given these men contained 100,000 units of penicillin. In the group there were five cases of gonorrhea over a 16-week period. In three cases there was reason to doubt that the men actually received penicillin.

Men in another group of approximately the same size, varying from 137 to 217, each got a placebo tablet that looked like penicillin but contained none of the mold chemical. In this group there were during the six-month period of the test 43 cases of gonorrhea, a rate of 11.9 cases of gonorrhea per 1,000 liberties with a sickness rate of 508 cases per 1,000 men per year.

In the group that got the 100,000 unit penicillin tablet there were 1.8 cases of gonorrhea per 1,000 liberties and an average sickness rate of 105 per 1,000 men per year.

When the penicillin-treated group had their dose stepped up to 250,000 units in a single tablet, during an eight-week period only one case developed among from 87 to 141 men taking 569 liberties. In that case the man said he had not taken the penicillin pill.

The 250,000 unit penicillin pills were then made available to the entire station on a voluntary basis. During an eight-week period, involving 225 men and 1,943 liberties, seven cases of gonorrhea developed. Of these, six were in men who did not request the penicillin pills on returning from liberty. The seventh developed a week after the man received the pill, but during this week the man had been A. W. O. L. for five days with repeated exposures to gonorrhea.

Science News Letter, November 13, 1948

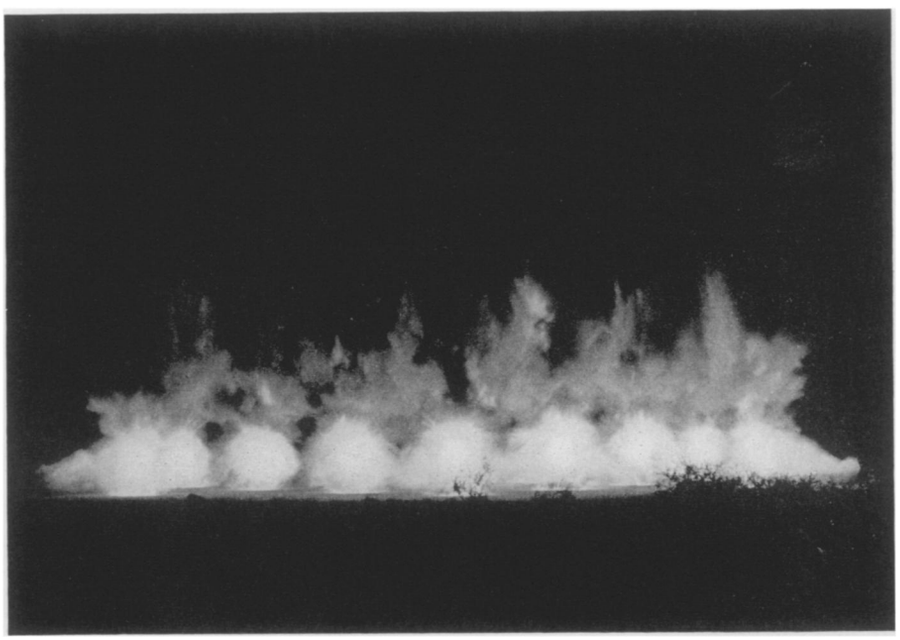
ENGINEERING

Improved Seismic Method Of Locating Oil Revealed

➤ AN IMPROVED method of locating probable underground petroleum deposits by the so-called seismic method was revealed by the Institute of Inventive Research, San Antonio, Texas. It is the work of Dr. Thomas C. Poulter, and utilizes "shaped charges" of explosive compositions which are set off above the ground, thus eliminating the cost of drilling shot holes.

Shaped charges go back to what physicists know as the "Munroe effect" which was announced to the world in 1888 by Prof. Charles E. Munroe. He found that if a hollow is made in an explosive cartridge on the side toward the object to be blasted, the effect is greatly increased. The hole can be conical or hemispherical in shape. The principle was well applied during the war in the bazooka rocket, which was far more effective in piercing armor plate than bullets.

In the seismic method of locating probable oil deposits under the earth, a seismograph similar to that used in observatories to record earthquake tremors is employed. But the tremors are man-made, and are rather minor. An explosive is detonated in a drill hole, the depth of which varies in



SEISMIC OIL EXPLORATION—Picture shows night explosion of 13-charge detonation covering 120-foot area. This new, above-ground explosion method is expected to be cheaper than conventional methods and to speed up search for oil.

different locations. Shock waves travelling downward deep into the earth are reflected back by certain structures if encountered. Experts, from a study of the recordings made by these reflected shock waves, are able to determine underground layers favorable to petroleum deposits.

Dr. Poulter's new method will provide economy in eliminating the need of boring holes, and it can be used in regions where boring would be exceedingly difficult, as in isolated mountainous country or in a search for oil under the sea. Dr. Poulter, who is associate director of Stanford Research Institute of Palo Alto, Calif., has tested his method against conventional procedures in various locations.

In his procedure, the charges in the explosive pattern are set on stakes relatively close to the ground and spread in a hexagonal design. Depending upon the type of records sought, comparatively light charges are placed from five to 85 feet apart and detonated simultaneously. The method may be used to produce an essentially flat wave front of low amplitude over a relatively large area.

Science News Letter, November 13, 1948

MEDICINE

New Way To Treat TB

➤ A WAY to improve streptomycin treatment for tuberculosis and bring its benefits to patients suffering from the very common, late type of the disease, fibrocaseous tuberculosis, has been discovered by Drs. Edgar Woody, Jr., and Roy C. Avery of Vanderbilt University School of Medicine, Nashville, Tenn.

The method is to give the famous mold remedy with another medicine, potassium iodide. The streptomycin would be given by hypodermic injection and the iodide in drops to be swallowed in water.

Success with this treatment in tuberculous guinea pigs is reported by the Vanderbilt scientists in the journal, SCIENCE (Nov. 5). The guinea pigs were all infected with the same dose of TB germs. It was a big enough dose to kill all the untreated animals. Of those treated with streptomycin alone, 46.1% died. Of those treated with streptomycin plus potassium iodide, only 14.3% died.

The scientists hope they can get a grant of funds in order to study the treatment in human patients. They feel pretty sure it will be successful.

Streptomycin treatment alone has not been too successful in this type of tuberculosis. The iodide acts to release the TB germs from the fibrocaseous tissue in which they become entombed in the lungs of patients in late stages of the disease. Once the germs are released, the streptomycin gets a chance to act on them.

Science News Letter, November 13, 1948

PSYCHOLOGY

Drawings Reveal Emotions In Children and Adults

➤ EMOTIONS in both children and older persons may be studied through analysis of their drawings, Dr. L. van der Horst, of Amsterdam, Holland, reported.

The very young child lives in intimate contact with his surrounding world, Dr. van der Horst told the Mooseheart Symposium on Feelings and Emotions in Mooseheart, Ill. It is as much a part of him as is the adult's body. The young child and his picture are one.

Between the age of four and seven, children draw because they need a motor outlet. It is not until somewhere between the seventh and tenth years that it is possible for the child to think of the object as apart from the self. It is then that the creative urge is revealed and the child begins to have a desire for drawings as symbols to portray his experience.

After the tenth year, the drawings are extended to include human relationships and the child's own imaginings begin to show up. It is even later that the child begins to demand of his drawing that it be an objective reproduction of his intention.

By studying a child's drawings and their linkage to his imaginative life and emotions, we find a new approach to the study of the child mind, Dr. van der Horst concluded.

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Question Box

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Photographs: Cover, U. S. Navy; p. 307, Institute of Inventive Research; p. 309, University of Texas; p. 311, General Electric Co.; p. 314, p. 315, Fremont Davis.

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