

## MEDICINE

# Penicillin Prevents Syphilis

**Mold chemical acts as a prophylactic agent against germs before the disease develops when injected in rabbits. More research is necessary before success is sure.**

► PENICILLIN may be the long-sought "magic bullet" which not only cures syphilis but prevents the disease. It works in rabbits and probably will work in man.

Discovery that penicillin may become a prophylactic against syphilis was made by Drs. Harry Eagle, Harold J. Magnuson and Ralph Fleischman of the U. S. Public Health Service, the Johns Hopkins School of Hygiene and the University of North Carolina.

One or two tiny doses of the yellow mold chemical, injected within a few days after exposure to syphilis, would prevent the disease from developing if humans respond as the rabbits in Dr. Eagle's laboratory at Johns Hopkins have.

## Germs Checked

The germs of syphilis, called spirochetes, are stopped by the penicillin after they have invaded the body but before even the first sore of the disease has developed.

Whether penicillin will prevent syphilis from developing in people who become infected with its germs will not be known for at least two years. Doctors could have the answer in three or four months if it were not for the prudish, hush-hush attitude many people still have about this disease which attacks a quarter of a million Americans every year.

To get the answer quickly, it would be necessary to shoot living syphilis germs into human bodies, as they were injected into the rabbits. Then half the human rabbits would be given penicillin. The other half would not. If none of the first group got syphilis, and most of the second group did, it would prove that the penicillin prophylactic treatment had been successful. Those who got syphilis could later be cured by regular eight-day penicillin treatment now used for syphilis.

Stopped by prudery from making this quick, critical test, Dr. Eagle is already planning for the two- to three-year test. This will be made by trying to reach contacts of syphilis patients who come

to the clinic. The contacts wanted are the men and women, boys and girls who were exposed to the disease by the patients, not the ones from whom the patients got the disease. These contacts who probably have caught the germs but have not yet developed the disease will be given the prophylactic doses of penicillin. But it will take a long time to find and treat enough of them so that the results will be conclusive.

## Many Needed

It will be necessary for large numbers because, for one thing, not every contact would necessarily get syphilis. There is no way of knowing which ones would get the disease until the first sore appears. The most sensitive tests for syphilis now available do not give positive results until a week or 10 days after the primary sore appears. The time between the invasion of the germs and the development of the disease, called the incubation period, is 21 days. This period has been set from histories of

cases in which the doctors were able to learn the date of exposure and germ invasion and the date of the first symptoms.

Studying the effects of various doses of penicillin given to rabbits during this incubation period led to the discovery of the prophylactic action of the mold chemical. The rabbits were given a definite number of syphilis spirochetes. Then different-sized doses of penicillin were given at different times after the germs. From these studies Dr. Eagle and associates found that the amount of penicillin needed to cure syphilis is related to the number of organisms invading the body and the time after the invasion the penicillin is given. The greater the number of organisms, the more penicillin is needed. Details of these studies are reported in the *Journal of Experimental Medicine* and were discussed at the conference on venereal diseases held at U. S. Public Health Service headquarters in Washington.

A military application of the discovery, if human trials prove successful, is one scientists are already speculating on. Soldiers likely to be exposed to syphilis could be given prophylactic doses of penicillin as they returned from leaves, as they were given sulfathiazole to check gonorrhoea on returns from leaves during the war.

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**PENGUINS ON ICE**—Formally dressed and curiously staring, these birds are making tracks on Pack Ice in Antarctica.