

Search. Then, Jim found himself in a hospital with a fungus infection of the hands. Doctors diagnosed the trouble as due to handling the straw.

After treatments with penicillin and

aluminum acetate solution, his hands began to heal. Jim left the hospital just in time to pack for his trip to Washington.

*Science News Letter, March 6, 1948*

#### MEDICINE

## Save Six Out of Seven

➤ SIX out of seven babies and children suffering from tuberculous meningitis have been saved by treatment with streptomycin and promizole.

Their cases are reported by Drs. Edith M. Lincoln, Thomas W. Kirmse and Estelle De Vito of Bellevue Hospital and New York University in the *Journal of the American Medical Association* (Feb. 28).

The six children who survived this usually deadly disease have not been under observation long enough for their doctors to call them "cured." But they are all living three to eight months after the start of the treatment and they are all normal mentally with no signs of nerve damage except mild ones in two.

"Streptomycin," the doctors state in their medical report, "has revolutionized our attitude toward tuberculous meningitis. Before this antibiotic was discovered the outlook was hopeless."

Some patients have apparently been cured by the mold remedy alone. But in some cases reported by other physicians, although the disease was apparently arrested by streptomycin, the patients later relapsed and died. And some patients who survived were left with

extensive damage to the nervous system.

The decision to combine streptomycin with promizole was based partly on results of the combined treatment when given to laboratory animals. Using the two together, Dr. M. I. Smith of the National Institute of Health had reported, heightens the action of the two remedies beyond the expected value of either alone.

Promizole, which is in a way a relative of the sulfa drugs, brought encouraging results in the treatment of another kind of tuberculosis, the New York doctors had found. Promizole can apparently be given safely and effectively over a period of years, and can be taken by mouth, but it is slow to take effect. Streptomycin, on the other hand, acts quickly on the TB germs but cannot be given by mouth and is more toxic than promizole. It has also the disadvantage that the germs may develop resistance to it. By giving the two drugs together the doctors thought they might get the benefit of the peculiar advantages each has.

The results seem to bear this out and the doctors hope others will be encouraged to try the combined treatment.

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#### BACTERIOLOGY

## Expect to Conquer Viruses

➤ VIRUSES, the submicroscopic, almost-alive chemical compounds that cause many serious diseases in plants, animals and man, may some day be conquered with chemical weapons, as bacteria have been overcome by the sulfa drugs and such mold-derived compounds as penicillin and streptomycin. Experiments on the tobacco mosaic disease of plants, reported in *Science* (Feb. 27) by Dr. William N. Takahashi of the University of California, seem to point in this direction.

Dr. Takahashi used malachite green, a well-known synthetic dye, in very dilute solution on tobacco leaves inoculated with the mosaic virus. The num-

ber of diseased spots appearing on the treated leaves was a very small fraction of the number that appeared on untreated leaves used as controls.

In these experiments, the dye was used as a research tool rather than as a possible remedy. Dr. Takahashi knew that viruses can multiply only in living cells, and reasoned that they steal the use of certain enzymes, which are compounds used by the cell in its own life processes, to carry on the parasitic life of the viruses. He knew that malachite green blocks the action of some enzymes, and yet is not too poisonous to the whole plant. Results of his work are evidence in favor of his hypothesis. Further evi-

dence is found in the fact that malachite green has no effect on solutions of virus in water, with no cells or enzymes present.

Hitherto no chemical treatment has been effective against virus diseases, with few exceptions. However, if further research with other chemicals indicates exactly which enzymes in the cell the virus borrows for its own nefarious purposes, a long step towards the conquest of the viruses will have been taken.

"Meanwhile," concludes Dr. Takahashi, "the possibility that malachite green may be of some value in the chemo-therapy of virus diseases must not be overlooked."

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