

MEDICINE

TB Prophylactic Drug

Daily doses of isoniazid may prevent tuberculosis. Treatment with the drug, already used to fight the disease, protected guinea pigs from TB infection in laboratory tests.

► HOPE OF preventing tuberculosis by daily prophylactic doses of the drug isoniazid, is now seen as a result of studies by Dr. Carroll E. Palmer and Mrs. Shirley Ferebee of the Public Health Service.

Isoniazid is already widely and effectively used in treatment of tuberculosis. Its possible preventive role was hinted when doctors found that it would stop tuberculosis infection in children from getting worse and spreading to the brain, to cause tuberculous meningitis.

At the Milwaukee meeting of the National Tuberculosis Association, the Public Health Service scientists reported that they had completely prevented tuberculosis in guinea pigs by isoniazid treatment.

The pigs were given isoniazid in their daily drinking water. After four and a half weeks of this, they were inoculated with heavy doses of virulent tuberculosis germs. Isoniazid was continued for another ten weeks.

The guinea pigs were completely protected from this heavy infection by the isoniazid. Only seven percent of untreated

animals given this big dose of TB germs survived 10 weeks, but among those treated with the smallest dose of isoniazid, 36% survived this period. Those getting larger doses not only survived but, when the drug was stopped after 10 weeks, the animals were still completely protected six months later.

During the course of treatment and infection, the animals got as much immunity to tuberculosis as comes from B.C.G. vaccine, Dr. Palmer said.

Nurses, medical students and doctors, particularly those in tuberculosis sanatoria, are likely to be the first humans to get prophylactic doses of isoniazid. They are constantly exposed to the germs and many of them come down with the disease as a result. Taking small doses of the drug every day while they are working with TB patients might protect them.

Specific plans for this have not yet been made, but Dr. Palmer told SCIENCE SERVICE the results of the guinea pig studies "look so good" that he and his associates are going to see what program can be developed.

The questions of dosage and how long and how regularly to give the drug must yet be worked out.

Protection from daily doses of isoniazid might also be given members of a family when one member develops tuberculosis. It might be particularly helpful when the TB patient is home temporarily from the sanatorium. During these visits the rest of the family might be protected by taking isoniazid every day.

Some patients now are allowed to stay at home while under treatment with isoniazid. It seems likely that this home care might be extended to more, if prophylactic doses of isoniazid could be used to protect the rest of the family.

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MEDICINE

Advise Removal of "Balloons" on Lungs

► WHEN A patient gets "balloons" on the surface of the lungs, the balloons should be removed, Drs. C. A. Burnett and C. J. Stringer of Ingraham Chest Hospital, Lansing, Mich., advised at the meeting of the National Tuberculosis Association in Milwaukee.

The balloons are air-filled cysts, blebs or bullae. They have frequently been reported in connection with certain chest diseases, particularly emphysema which is characterized by distention of the air sacs of the lungs.

The balloons can seriously interfere with heart and lung efficiency and may cause the air sacs of the lung to become compressed. This can pave the way for infection.

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ELECTRONICS

Color TV Without Camera

► A NEW system to telecast live color programs without a TV camera was shown for the first time.

Developed by Allen B. Du Mont Laboratories, Inc., Clifton, N. J., the system should allow small TV stations to broadcast their own live color shows economically.

The reverse of conventional color TV pickup, the new system uses a scanner that flashes a tiny, flying spot of light over the stage. The conventional camera is a light-receiving device.

The system was demonstrated at the meeting of the National Association of Radio and Television Broadcasters in Washington.

As the spot of light skips rapidly back and forth over the stage, covering the scene line-by-line, "buckets" stationed around the studio register the reflection. The buckets contain two red, one blue and one green light-sensitive multiplier phototubes. These separate the light into its fundamental colors for TV transmission.

Thus, as the beam hits the green dress of a performer, the reflection is picked up by

the green-sensitive multiplier phototube which transforms the light to an electrical signal. When the impulse is sent out and picked up by your color receiver, it will reproduce a green dot on the TV screen.

Dot-by-dot and line-by-line, the system builds up the picture. But it is done so fast that to the eye it seems a smooth-flowing picture.

Different angles are obtained by moving the scanner, which on the surface looks and is operated like a TV camera.

A quick-flashing "sync-lite," similar to that used by photographers, alternates with the light spot from the scanner in quick succession. The room therefore seems light. But to the multiplier phototubes, which are made sensitive only between flashes, the room is dark.

A small crew can run the "Vitascan" setup, as it is called. Many stations already have the scanner, which contains a flying-spot cathode-ray tube, for use in televising black-and-white movies.

The system is ready for production.

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COLOR TV PICKUP—Four light-sensitive tubes in the "bucket" of the new color TV system pick up the flying light spot from the scanner.