

MEDICINE

Improved TB Recovery

Combination of modern anti-tuberculosis drugs and new knowledge of how best to combat the germ improves the outlook for recovery from the white plague.

► TUBERCULOSIS PATIENTS, both those returning from Korean POW camps to Army hospitals and civilians battling the white plague, can be given a better outlook for recovery, thanks to new methods for treating the disease.

The improved outlook does not depend alone on the modern TB-fighting drugs, though those play an important part. It comes also from new knowledge about the germs and new understanding of what the patients need to get them well.

Out in Denver, for example, doctors at the National Jewish Hospital are getting TB patients out of bed much earlier, in from eight to 10 weeks in some cases. They plan, however, to keep these patients in the hospital longer, for 16 to 18 months.

When these patients leave the hospital, they will be able to work an eight-hour day and engage in such leisure time activities as moderate dancing, bowling and even some swimming. On the former treatment schedule, calling for longer bed rest but getting out of the hospital in 10 months, patients were able to work only four hours a day and from 15 to 20 percent of them broke down and had to return to the hospital. Such breakdowns will not happen when the patient leaves the hospital under the new treatment schedule, the doctors believe.

The longer time spent in the hospital, but out of bed, will give them a chance to brush up on old skills or learn new ones so they are able to go back to earning a living.

Isoniazid, or INH for short, is the drug used for these patients. This new TB-

fighter is being widely used at various institutions for treating patients with TB.

This and other anti-TB drugs, however, can be used more effectively if doctors take advantage of new knowledge about the germ and its resistance to drugs. Such resistance is a matter of the germ's genetic constitution, not of contact with the drug. Some germs are born genetically constituted to have resistance to INH or other drugs, just as some people are born genetically constituted to have blue eyes. When INH or other drugs kill the non-resistant TB germs, those with resistance bred in them by natural processes can persist and breed more of their kind. Knowledge of this genetic factor comes from research by Dr. Vernon Bryson of the Biological Laboratory at Cold Spring Harbor, N. Y.

To take advantage of this situation, doctors should treat tuberculosis by hitting the germs hard right from the start, Dr. Edwin J. Grace of the Grace Clinic, Brooklyn, N. Y., says. He advises giving all three modern anti-TB drugs, INH, streptomycin and PAS (short for para-amino-salicylic acid), in large doses from the beginning, and in giving them by every possible route. For lung infections he says the drugs should be given in vapor inhalations, to get at the germs in the lungs, as well as by injection or by mouth to reach the germs through the blood stream.

With this new system, he found he could cure 12 out of 14 patients in eight to 12 months in office treatment, instead of having the patients in hospitals.

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Gamma globulin is especially indicated for pregnant women who are exposed to yellow jaundice, since they are highly susceptible. Expectant mothers also tend to get the disease more severely and go into labor prematurely. Thus, their protection is doubly important since one-half of infant deaths during the first 30 days of life are due to prematurity.

The studies were made at the Children's Medical Center and Beth Israel Hospital, with the aid of a grant from Playtex Park Research Institute. They are reported in the *New England Journal of Medicine*.

Science News Letter, September 12, 1953

CHEMISTRY

Insecticide Cleared Of Poison Charge

► THE INSECTICIDE, chlordane, now seems cleared of the charge of being poisonous to warm-blooded animals through experiments by Dr. L. Ingle of the University of Illinois.

The poisoning of pigeons and mice reported by some scientists as a result of breathing chlordane vapor, Dr. Ingle finds, was due not to chlordane, but to another chemical that was in some of the chlordane when it first was manufactured several years ago.

This chemical, an unreacted ingredient, is hexachlorocyclopentadiene. This ingredient has now been reduced in chlordane manufactured today to a point where there is no longer enough of it to produce "significant" vapor poisoning of mice, Dr. Ingle reports in *Science* (Aug. 21).

Science News Letter, September 12, 1953

PHYSICS

Indium Makes Solder For Many Materials

► BECAUSE IT sticks tightly to many metals and non-metals, indium, a soft silvery metal, is a versatile solder useful in laboratory and industry, Prof. Richard B. Belser of Georgia Institute of Technology reported to the American Physical Society meeting in Albuquerque, N. M.

Melting at the relatively low temperature of 155 degrees Centigrade, or 311 degrees Fahrenheit, indium has the dual ability of adhering to many metals when molten and continuing to stick to them upon solidification. Indium has been thus joined with 24 metals and 18 non-metals, including common industrial metals, glass, ceramics, quartz, mica, metallic oxides and silicious minerals.

Fluxes are not needed and actually prevent the soldering effect. Prof. Belser suggests that alloys with small percentages of silver and larger percentages of lead and tin will be useful for mechanical use, electrical connections, soldering to thin metal films, mounting piezoelectric crystals and sealing glass to metal.

Science News Letter, September 12, 1953

MEDICINE

Stop Jaundice Spread

► ONE IMPORTANT disease-fighting action of gamma globulin has been almost completely overshadowed this summer by its wide use for fighting infantile paralysis.

Ever since 1945 scientists have known that this blood fraction could protect against infectious hepatitis, or jaundice as the layman calls it. And in spite of the demand for G.G. for polio, some of the nation's supply was reserved for use in preventing hepatitis and modifying measles.

Fresh reports of this hepatitis-fighting action of G.G. came from Drs. Benjy F. Brooks, David Yi-Yung Hsia and Sydney S. Gellis, all associated with Harvard Medical School here. In a study of 81 families in the Greater Boston area, they found G.G., in doses one-fourteenth as large as

used for polio fighting, would protect members of a family from hepatitis that had attacked one member.

In families not given G.G. after the first member got sick with yellow jaundice, 48% were attacked, with 35% of the exposed children being stricken.

The great menace from yellow jaundice, or infectious hepatitis, is in the highly fatal cirrhosis, or permanent liver damage, that may result from it. Adults, especially those under 30 years of age, and those with chronic illnesses, appear to be particularly likely to develop this complication. Children, suffering from other illnesses which tend to lower their resistance, are prime yellow jaundice victims and should be protected, the doctors point out.