

masses of chestnut pollen grains, which have not previously been reported from less than 100 miles to the east of the bog. These were not from the same depth as the conifer pollens, but came from nearer the surface, especially at

the eight- and six-foot levels. This former chestnut forest, therefore, flourished at a later date than the very ancient conifer forest represented by the spruce-fir pollens.

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MEDICINE

## Penicillin on Battlefield

**Germ-fighting chemical proves itself of immense value in the control of infection in war wounds of armed forces in Sicily and North Africa.**

► **PENICILLIN**, the powerful germ-fighter from mold, has proved itself on the field of battle, it appears from enthusiastic reports of its use in treating war wounded in Sicily and North Africa now reaching the United States. The reports in the *British Medical Journal* (Dec. 11, 1943), and the *Lancet* (Dec. 11, 1943), another leading British medical publication, cover a special three-months investigation made by Prof. H. W. Florey, of Oxford University, Brig. Hugh Cairns and other medical officers in the British Army.

"There can be little doubt that the preventions of infection with pyogenic cocci (pus-forming germs) or its control in war wounds is within reach," the *British Medical Journal* account states in quotation, apparently, from the report to the War Office and Medical Research Council. This formal report is said to be for official circulation only, corresponding apparently to a "restricted" report in the United States.

For the first time, the editor of the *Lancet* points out, surgeons can now sew up a gunshot wound without fear of dangerous spread of infection to the blood stream. Heretofore it has been considered necessary to leave infected wounds open until all pus had drained out. The change means not only a saving of life and limb but also of valuable fighting man-hours, dressings, hospital service, equipment and transport services.

Wounds treated with penicillin healed from three to six weeks faster than otherwise, the experienced war surgeons who shared in the investigation agreed.

A way to save precious supplies of penicillin was also found by Prof. Florey and his colleagues. By applying penicillin directly to the wound as early as possible, they found, much smaller quantities are required to check infection than when the drug is given by injection into

muscles or veins after the wounded man has reached the base hospital with a well-developed infection. If penicillin were plentiful, however, the surgeons would prefer giving it by injection in nearly all cases since by this method the drug would be carried by the blood stream to all living tissues and prevent multiplication of germs in them.

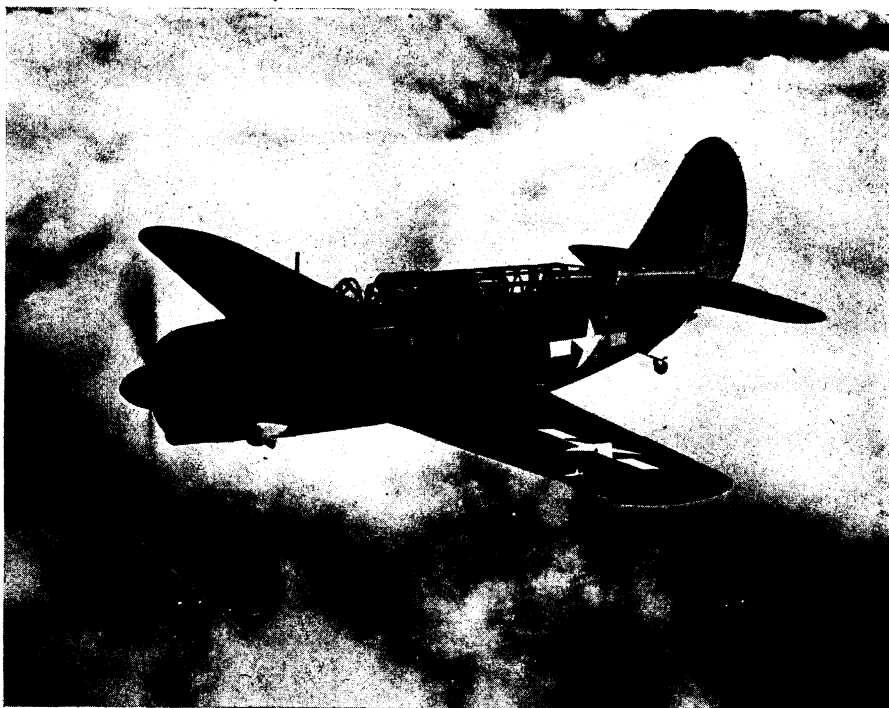
In some cases a powder of penicillin and a sulfa drug was dusted into the wound at the casualty clearing station. For the most part, however, penicillin

was not used this close to the battle field but was used at the forward base hospitals.

For flesh wounds, the preferred method, apparently, was to inject a solution of the calcium salt of penicillin through small rubber tubes. These were inserted into the wound after it had been surgically cleaned and decaying tissues cut away. Surgeons who do this preliminary job at the casualty clearing stations were warned not to cut away any more skin than absolutely necessary, so that the wounds can be sewed up after the penicillin application.

Wounds closed after this treatment may, after eight to 12 days, be found bathed in pink or green pus, but when this is wiped away, the wounds are seen to be clean and free from swelling or redness. Of 170 flesh wounds treated in this way at Tripoli and Sousse, most of them only three to seven days old when closed, only seven had to be classed as failures and those occurred early in the investigation before the technic had been fully worked out.

In case of gas gangrene, compound fractures and head and brain wounds, good results were also obtained.



**HELLDIVER**—This low-mid-wing monoplane, the latest of the Curtiss-Wright Helldiver series, proved its value in the attack against the Japanese stronghold at Rabaul in November. It was designed to carry a greater bomb load faster and farther than any similar aircraft type in the world. The bomb load is housed entirely within the belly of the fuselage, making the lines of the fuselage as aerodynamically clean as possible.

Valuable saving of manpower in highly trained troops such as parachutists was also achieved by use of penicillin in cases of gonorrhoea that resisted sulfa drug treatment. Many such cases occurred in Tunisia shortly before the men were due to go into battle. With penicil-

lin, they were cured in about 48 hours. Comparison between penicillin and sulfa drugs in treatment of war wounds was not made because the investigation was limited to learning as rapidly as possible how efficient penicillin might be and how best to use it.

*Science News Letter, January 15, 1944*

## PUBLIC HEALTH

## Flu Pandemic Not Likely

**Sulfa drug triumphs over the pneumonia which often follows an attack of influenza are largely responsible for avoiding a repetition of the epidemic of World War I.**

➤ THOSE who have been worrying, as most persons have each fall and winter since the war started, over the possibility of a world-wide influenza epidemic as devastating as that of 1918, may be reassured by a statement by the editors of the *New England Journal of Medicine*. (Dec. 9, 1943)

"Any epidemic in the near future is likely to be much less severe than was the pandemic of 1918," they declare. "This, of course, is only speculation," they admit, "but is based on significant observations."

The observations are: 1. The influenza of the last war had a high mortality but the deaths were accounted for chiefly by complicating pneumonias in which the hemolytic streptococcus was the germ most frequently encountered. The same was true of the epidemics of measles in Army camps during the last war.

2. During the 1940-1941 epidemic of influenza, the staphylococcus played an important role in complicating pneumonias but intensive treatment with the sulfa drugs gave quite encouraging results. The results, in fact, were so good that it was suggested that in the event

of another influenza epidemic it might be well to use sulfa drugs early in severe cases. This is especially recommended for patients with severe prostration, signs of tracheobronchial and lung involvement and presence of appreciable numbers of hemolytic streptococci and staphylococci in the sputum.

3. Another encouraging omen comes from recent reports concerning measles. Outbreaks of this occurred in the Army during 1943 but, unlike the 1918 experience, deaths were rare. This is attributed to widespread use of sulfa drugs in all cases with lung involvement.

"It is not unreasonable," the medical authorities comment, "to expect a similar low fatality rate from influenza occurring under like circumstances."

For the future, there is even more reason for confidence when supplies of penicillin become large enough for large-scale use, since this chemical from mold is especially efficacious in infections with the staphylococcus. This germ is being found in increased frequency in surgical conditions and in complications of other respiratory diseases, so may be expected to play a considerably greater role in future influenza epidemics than in any previous ones.

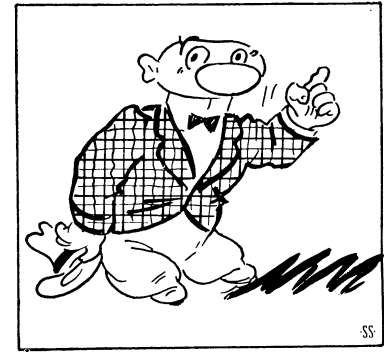
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## SAFETY

### Mexican Don Timorato Teaches Civilian Defense

➤ DON TIMORATO, hero of a popular comic book, has been enlisted in the service of civilian defense and is teaching Mexicans the correct thing to do in case of bombing.

The book was written by Jorge Pinó Sandoval, Mexico's most widely read columnist, and illustrated by Antonio Arias Bernal, Mexican caricaturist whose



cartoons have appeared in many American newspapers and magazines. Their idea for using the comic book to give easy, graphic lessons in civilian defense appealed to José Torres Navarrete, publicity head of the National Lottery, and that 160-year-old institution devoted to raising funds for the Department of Public Welfare and Assistance, has published the book.

Its title is *Don Timorato Y Las Bombas*, which translates literally into Mr. Scary and the Bombs. Sixty-four pages in black, red and green and a four-page cover portray the doings and misdoings of Don Timorato during a fictitious bombing of Mexico City.

When he does the wrong thing, it appears in red. In green, he is always correct. Sitting under an open window during an air raid is pictured in red. But when Don Timorato correctly lies on a mattress under a heavy table, with radio, first aid kit, food and water close at hand, the scene is pictured in green.

Much humor and wit appear in the book and Don Timorato has become a very popular character. Copies of the book are in great demand and go from hand to hand.

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## MEDICINE

### Penicillin Found to Help Relapsing Fever Cases

➤ PENICILLIN scored one hit and two misses in latest trials of its diseases fighting power. The hit is a lucky one for mankind, since it is against relapsing fever, a disease found in most countries and likely to become epidemic with the overcrowding and poverty that often follow war.

Hard on the heels of a report from the Mayo Clinic of penicillin's effectiveness against relapsing fever in mice comes a second report to the same effect from Harvard. This report, by Dr. Donald L. Augustine, Dr. David Weinmann

