

three days by three of eight patients whose cases are reported. A total of 22 patients have had burns treated in this way with "very satisfactory" results.

The casts do more than give the burned part rest and protection from further injury. They prevent swelling, which other scientists have recently reported as a harmful feature of burns, and prevent slowing of the blood circulation in the burned area. The preven-

tion of swelling also means that less plasma is being lost from the burned area, and in large burns this would lead to considerable saving in the amount of plasma that would have to be given the patient.

Applying the cast is relatively easy. The casts used for the burn cases are thinner and lack the bulky padding of casts for broken bones.

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#### MEDICINE

## Meningitis Stopped

**Epidemics of meningitis can be halted almost instantly by using sulfadiazine as a prophylaxis; methods for Army can be applied to civilians.**

► MENINGITIS EPIDEMICS can be stopped almost immediately by prophylactic use of sulfadiazine, Col. Dwight M. Kuhns and Capt. Harry A. Feldman, of the Army Medical Corps, reported at the wartime conference of the American Public Health Association, from their experience in the Fourth Service Command.

Chief difficulty heretofore in stopping a meningitis epidemic has been that, although the patients were isolated, it was impractical if not impossible to find and isolate all the healthy carriers of the germs.

Giving small doses of sulfadiazine to all the personnel of a single unit at the same time immediately after the first cases signal the approach of an epidemic will immediately eliminate all the carriers and at the same time reduce the attack rate, or new cases, almost to zero, the Army medical officers found.

Careful laboratory methods for detecting the carriers and identifying the type of meningococcus they carry are important, they emphasized. The type of germ predominating is a forecast of the extent and rapidity of the impending epidemic.

The laboratory and prophylactic methods worked out for the Army, they state, can be applied equally well to certain civilian groups, such as schools, orphanages, asylums, camps and the like.

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## Salmonellosis Danger

Ordinarily not considered a serious health problem, salmonellosis, or diarrheal diseases due to infection with salmonella, become a constant threat under war conditions, Dr. A. Daniel Rubenstein and Dr. Roy F. Feemster of Bos-

ton, Mass., warned. Paratyphoid fever is caused by some members of the salmonella germ family. Often infection with these germs is mild and the patient may not even see a doctor, but about half of 294 cases Dr. Rubenstein and Dr. Feemster studied were serious enough to require hospitalization. The disease may be fatal in the aged and debilitated.

The infections are spread through the population in small family outbreaks, the doctors believe. Almost half the patients are infectious and capable of spreading the germs for at least four weeks after onset of their illness, and often the infection persists for two, three or four months even though the patients are no longer sick.

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## Sterilization of Air

Fighting epidemics of influenza and similar air-borne disease by chemical sterilization of the air seems nearer to practical application as a result of studies reported by Burgess H. Jennings and Dr. Edward Bigg, of Chicago at the wartime conference of the American Public Health Association.

Triethylene glycol vapor can instantaneously kill all the bacteria in the air of a room of 10,000 cubic feet capacity, they report. The ability of this chemical, familiar as a relative of a popular anti-freeze mixture for automobile radiators, to sterilize the air has previously been shown in small, experimental chambers.

The studies reported show that it can be used in fairly large rooms of about classroom or hospital ward size, or offices in which a number of people work. Whether sterilizing the air in this way will keep infections from spreading has yet to be determined, but experiments so

far, the scientists state, "leave little doubt that this will be the case."

The triethylene glycol was used in the form of a vapor.

This vapor distributed itself readily throughout the room, in a manner similar to water vapor. Fans aided in a more rapid and uniform distribution. Maximum killing effect on the bacteria is obtained with a relative humidity of 35% to 40%.

One device used to generate the glycol uses the principle of atomization and can be incorporated into the pre-existing duct systems of air-conditioning units. Another device generates the vapor by heating a solution of the chemical.

The rate and concentration of the vapor generated must be determined by the number of air exchanges in the room air. For practical use, an instrument must be developed to control operation of the generator, starting and stopping it as the concentration of the glycol in the air changes, something as a thermostat regulates a furnace.

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## Shortening Convalescence

► SICK and wounded men of the Army Air Forces get well faster and go back to military duty in "top" physical condition as a result of the convalescent-rehabilitation training program in Air Forces hospitals, Brig. Gen. David N. W. Grant, the Air Surgeon, reported at the wartime conference of the American Public Health Association.

The program has been in operation for the past seven months, General Grant reported. During this time approximately 16,000,000 man-hours in physical and educational training have been given and the teaching rate at the present time is about 2,500,000 man-hours per month.

The sick soldiers are reconditioned physically by a planned and organized physical rehabilitation program. At the same time, the many hours of convalescence that are usually wasted are used for the educational program designed to disseminate knowledge and thereby make these men better soldiers. If the man can not go back to military service, he is helped by this program to return to productive civilian life.

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## Vaccine Affects Wassermann

► PREVIOUS vaccination against smallpox may cause a false positive reaction to the Wassermann test for syphilis, Dr. J. M. Lubitz of Chicago warned.

A large proportion of service men successfully vaccinated against smallpox gave such false positive reactions, he found. Since large numbers of Americans are vaccinated against smallpox at least once in their lives, and since the Was-

sermann test is now "accompanying the average citizen from the 'cradle to the grave,'" Dr. Lubitz declared that many mistakes in diagnosis may be made unless physicians and health officers are aware of the possibilities.

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## CHEMISTRY-NUTRITION

## Tips for Coffee Makers

Only four ounces actually used out of each pound of coffee bought; expert gives advice on best methods of brewing and storing.

➤ HERE ARE TIPS from an expert on how to brew and store your coffee properly to improve its taste and give you full purchase value. Prof. Leslie H. Backer, professor of chemistry at the Stevens Institute of Technology in Hoboken, N. J., points out that of all the coffee we use, only 25 per cent is soluble in water. Thus in a pound of coffee, we actually use only four ounces. In order to obtain the fullest benefits of these four ounces, we should treat coffee with the delicacy it deserves.

Coffee should be well ground for use in a particular type coffee maker, and the ground coffee should never be in contact with water for more than five minutes.

Prof. Backer emphasizes that in making coffee with a glass vacuum coffee maker, water should be boiling before the upper bowl is put on. When the water rises into the mixture it should be stirred in one direction and then in the other for thirty seconds.

In the drip method, clear water should

be steadily poured through the coffee. One drip operation is sufficient, as his experiments have shown that actually five per cent less extraction is obtained when the water is poured through the second time. A pot should be obtained that fits the needs of the entire family, and then used to full capacity.

If you have a percolator, preheat the pot or start with hot water before putting the coffee into it.

Keep coffee pots scrupulously clean. Oils that remain on the pot from previous brewing decompose in air and after 24 hours emit a vile odor in addition to having a bad taste. If a filter cloth is used, wash it well in cold water and keep it under cold water until used again. This prevents the air from getting at any of the fatty oils that may have remained on the cloth.

Since 15 per cent of the coffee is fat, it should be treated as one would butter and other fats. Coffee should be kept in tightly covered jars or containers in a refrigerator. High temperatures tend to decompose the fats and destroy the coffee's value.

Moisture and odor are easily absorbed by coffee. Prof. Backer exposed a one-pound jar of coffee to air in hot weather and found it to be 17 ounces on reweighing.

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**COFFEE BREW**—To determine the percentage of extraction in a coffee brew, Prof. Backer first draws 50 cc. of the brewed coffee into a pipette, from a measured amount of the brew. The coffee is emptied into a porcelain dish and placed in an oven where the heat drives away the water. After it is cool, the coffee extract remaining in the dish in solid form after the evaporation is measured with a delicate balance to calculate the percentage of extraction.

## PUBLIC HEALTH

## Physical Fitness Improved Under War Conditions

➤ THE GENERAL physical fitness of American college men has improved under war conditions if the men studied by the department of physical education at Syracuse University are typical.

The average physical fitness score at the university this year shows a 23-point improvement over last year. This year's score of 114.2 is five points higher than the best for any year during which the record has been kept.

Out of every hundred men tested this year 88 are as healthy or healthier than the average of those tested last year, the college records show.

The physical fitness rating is essentially an indication of strength. Final averages consist of scores made on tests of arm, leg and back power, hand grip and lung capacity.

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A new type of piano contains only 35 pounds of metal, a saving of about 150 pounds; the heavy plate is made of laminated plywood instead of metal.