

## MEDICINE

# Salt Water against Shock

Salt water for emergency treatment of shock is advised in event of atomic disaster. Drinking fluids would be limited to salt water for several days.

➤ DRINKING quarts of salt water daily as emergency treatment for shock in case of atomic or other disaster is advised by the Surgery Study Section, advisory body to the National Institutes of Health and the Surgeon General of the U. S. Public Health Service.

Dr. Frederick A. Collier, professor of surgery at the University of Michigan, is chairman of the group which is made up of professors of surgery and a few other medical authorities from various parts of the country.

The salt drink treatment should be "adopted for widespread use in any large-scale disaster involving the civilian population," the group recommends.

The salt water would be made of about one level teaspoonful of table salt and one-half teaspoonful of baking soda in each quart of water. Except in extremely hot weather, no other drinking fluid would be permitted during the first few days following the injury that caused the shock.

The solution is said to be quite palatable and burn patients, who are very thirsty, will consume a sufficient amount without urging. In some cases, when there is collapse of blood circulation in the small blood

vessels, the solution must be given by injection into the veins.

In case of an atomic bombing, 60% of the surviving population might suffer from burns in addition to other injuries causing shock. Other large scale disasters also are followed by large numbers of shock cases.

Whole blood and blood plasma or albumin are and will remain essential for the treatment of such patients. But in large scale disasters if blood supplies run low and if blood or plasma is not immediately available, the salt water treatment is expected to prove life-saving.

The salt water treatment should be included in Red Cross training programs so that all first aid personnel including firemen, policemen, air raid wardens and housewives will know about it and be prepared to use it, Dr. Leonard A. Scheele, Surgeon General of the U. S. Public Health Service, said.

The salt water treatment was worked out in 1943 by Dr. Sanford M. Rosenthal of the National Institutes of Health. Dr. Rosenthal's results, obtained with mice, were considered so promising that Dr. Collier, Dr. C. A. Moyer, dean of the Southwestern

Medical School of the University of Texas, and others tried it for human burn patients. Their results form the basis of the Study Section's recommendations.

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## AERONAUTICS

## "Squirting Gertie" Frosts Up Before Defrosting

➤ "SQUIRTING Gertie" is the familiar name of an Air Force airplane, equipped at the Wright-Patterson Air Force Base, Dayton, Ohio, which can coat itself with snow and ice at the will of the pilot while flying at high altitudes.

Attached to the outside of the plane, a C-54, is a maze of pipes with nozzles arranged so that they can shower the plane with a steady stream of water or produce a mist so fine that it becomes a fog. At high altitudes, this artificial fog freezes the instant it strikes the fuselage. A special propeller lying just behind the nozzle also becomes coated with ice.

The purpose of this plane is to study icing and de-icing problems. Two chief means are now used to protect planes for ice. One is mechanical, the other thermal. The mechanical method utilizes an expanding section located on the leading edge of the wing to crack the ice and allow the air stream to peel it off.

The thermal method relies chiefly on heating the airfoil surfaces with hot air to prevent ice from collecting. Tests are now being conducted to determine the feasibility of using combustion heaters which will warm the surfaces of the plane from the inside. One of the main problems in developing this method is to obtain light-weight and space-saving equipment.

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## CONSERVATION

## Low-Grade Fuels for Civilians Due to War

➤ POSSIBLE shortages of gasoline and fuel oils in case of extended war were discussed in Atlantic City, N. J., by leading petroleum producers and users at a meeting of the National Petroleum Association. No shortages may develop but civilians may have to use lower-grade products.

The military need for high octane components for aircraft gasoline will lower the octane level of certain motor gasolines, the group was told by C. M. Larson of the Sinclair Refining Company, New York City. Also, any national emergency requirements for certain components of other petroleum fuels will restrict or change such fuels for commercial and civilian usage.

The all-out war need for large quantities of jet fuel will cut deeply into the kerosene, range oil and other fuel production. The jet fuels require components used by diesel bus engines, in farm tractor



**"SQUIRTING GERTIE"**—"Gertie" is doing her bit by helping engineers fight the dangers of aircraft icing with experiments at Ypsilanti, Mich. The plane carries outside an elaborate maze of aerodynamically fitted pipes containing nozzles which can turn ordinary water into rain, snow, fog or mist. It creates only a minimum of drag, slowing down the plane to which it is attached by less than 10 miles per hour.