

MEDICINE

# Wound Healing Watched

Glass slide imprint of wound surface, showing cells, exudate and bacteria, provides simple and reliable way to follow healing process.

By NICOLAI KRAINOV

By wireless from Moscow

➤ A SIMPLE and reliable method of wound examination which enables the surgeon to determine the character of the infection, to follow up the healing process, to check the efficacy of medical treatment and, what is particularly important, to forecast the outcome has been devised by Dr. M. P. Pokrovskya.

Dr. Pokrovskya is known throughout the Soviet Union as a thoughtful, self-sacrificing scientist, who did not hesitate to vaccinate herself to test the effectiveness of an anti-plague serum she prepared.

During the present war she has engaged in the study of wounds and has succeeded in showing that the appearance of one or another kind of cells, their number, vitality and interrelations are processes obeying certain regularities.

"The discovery of Dr. Pokrovskya," says Academician N. Burdenko, "suggests a new method which enables the surgeon to foretell the issue of the affection."

Dr. Pokrovskya makes a glass slide imprint of the wound surface which contains not only the exudate but also the exudate cells and in this way the course of the healing process can be visualized as in a mirror.

The imprint is made by laying the glass slide on the surface of the wound. The imprint thus obtained of the cells, bacteria, exudate and so on is then stained and examined under the microscope.

Surgeons who apply Dr. Pokrovskya's method told me they admire it very much as it enables them to prescribe infallible methods of treatment and to predict the course of the healing process. It is particularly noteworthy that while dressing the wound the surgeon can make and interpret (or read) the imprint in fifteen minutes, determining what kind of cells the wound contains that day, and whether its symptoms are alarming or favorable.

In reading the preparation the surgeon notes, for example, that there have appeared in the wound exudate Unna's

plasma cells. He knows that this signifies a prolonged healing. These cells appear when molecular disintegration of the tissue begins. They never make their appearance when the healing process goes on at a high rate.

Dr. Pokrovskya's method proved very valuable in treating gas gangrene, a grave infection requiring prompt treatment as the toxin exerts a very strong depressory effect upon the organism. Bacteriologists are sometimes unable to

identify the wound fast enough, so it is easy to understand the significance of the imprint method which gives the necessary answer in fifteen minutes.

Here is one such case: Gas gangrene has developed in a wounded patient. "Perfringens" bacillus has been isolated from the wound and a grave septic state has begun. After consultation, it is decided to amputate. But in the imprint macrophages have appeared, their number increasing with every new imprint. The operation was postponed and the patient recovered. He owes his leg to the method of Dr. Pokrovskya.

The method has attracted the attention of Soviet scientists and by means of it study is being undertaken of the medical significance of such anti-bacterial agents as phage, sulphidin, streptocide, X-rays and so on.

*Science News Letter, November 14, 1942*

MEDICINE

# New Vaccine in View

Research brings nearer the development of a more powerful anti-typhoid fever vaccine, report of Public Health Research Institute reveals.

➤ A STEP toward development of a more powerful anti-typhoid fever vaccine has been taken in research by Dr. Jules Freund, New York City Health Department Bureau of Laboratories. Results so far of Dr. Freund's work on both typhoid and diphtheria are announced in the first annual report of the Public Health Research Institute of New York City by Dr. Otto A. Bessey, director of the Institute.

By injecting killed tuberculosis germs and lanolin-like substances into animals, Dr. Freund has discovered, their production of typhoid fever-fighting antibodies is increased in response to invading typhoid germs.

"In a way, this means production of a more potent vaccine against typhoid," Dr. Thomas Rivers, director of the Hospital of the Rockefeller Institute and now Commander in the Medical Reserve Corps, U. S. Navy, as well as chairman of the Institute's scientific council, explains.

"Whether this method actually gives a more potent vaccine for protection of people against typhoid fever, however, cannot be stated until field experiments have been made."

Efforts to increase the potency of diphtheria toxoid by the same methods

are now being made by Dr. Freund.

Nutrition studies are another project of the Institute, which is said to be the only municipal organization of its kind in the world.

Nutritional assays of foods sold in New York City markets will be undertaken in order to find out whether, when the housewife buys foods for their vitamins and minerals, the foods contain the amounts of these essential diet factors she expects them to contain on the basis of food value tables. Meat, vegetables and other foods may vary widely in their vitamin and mineral content according to their region of growth because of the differences in soils in various parts of the country.

*Science News Letter, November 14, 1942*

Sheep breeders get a higher percentage of twins from ewes fattened during the breeding season.

The islands of the south Pacific fighting front were once part of a huge mountain chain, now sunk below the sea.

Experiments with various vitamin treatments for Wisconsin crops showed no beneficial effects on wheat, barley, clover or alfalfa; some vitamins even causing stunting.