

Says the head of the concern, name withheld by WPB:

"We realized that if we were to stay in business it would be necessary for our plant to convert to arms work for the Arsenal of Democracy."

Science News Letter, March 14, 1942

MEDICINE

Frozen Dried Blood Plasma Helps Bleeding Disease

FROZEN dried blood plasma, which is saving lives of soldiers wounded in the present war, offers new hope to patients with hemophilia, the hereditary disease in which the slightest cut or injury may cause dangerous or even fatal bleeding. This appears from a report by Dr. John B. Johnson, of the University of Rochester School of Medicine (*Journal, American Medical Association, March 7*).

Weekly injections into the veins of about four ounces (125 cubic centimeters) of plasma enabled a patient totally disabled by hemophilia to do light work. For the previous three years his activity had been greatly restricted because of recurrent bleeding.

Because of the limited supply of plasma Dr. Johnson has not attempted to give all his patients injections of it at regular intervals but he considers intensive treatment of incipient hemorrhages with plasma the most practical method of attempting to rehabilitate patients with hemophilia.

Transfusions of fresh whole blood have heretofore been considered the most effective treatment of hemophilia. Plasma, Dr. Johnson says, has the same ability as whole blood to shorten the clotting time of the blood, which in hemophilia is so prolonged that the patient is in danger of bleeding to death from small injuries. In addition, plasma has the following advantages: It is more readily available than whole blood, since it can be stored after suitable processing without losing its ability to reduce clotting time. It does not need to be typed or matched with the patient's blood.

"One of the most satisfying results of the type of management under discussion has been the elimination of the fear of tooth extractions in patients with hemophilia," Dr. Johnson states. "The removal of two or more teeth on three occasions in two patients was managed by the use of plasma alone."

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MEDICINE

Virus Theory of Human Cancer Gains Support From Research

Discovery of Why Virus Is Not Found in Some Cancers In Rabbits May Explain Failure To Find It in Humans

THE theory that cancer is caused by a virus, or germ in popular language, gains support from research on a type of virus-caused cancers in rabbits reported by Duke University scientists. (*Science, Feb. 27*)

Failure to find a virus in human cancers has argued against a virus cause of human cancer. But in rabbits cancers develop from warty growths that are known to be caused by a virus yet it is often impossible to find the virus in the rabbit cancer. The reason for this, which perhaps applies to human cancers also, has just been discovered by the Duke scientists, Dr. Frederick Bernheim, Dr. Mary L. C. Bernheim, Dr. A. R. Taylor, Dr. Dorothy Beard, Dr. D. G. Sharp and Dr. J. W. Beard.

The virus which causes the warts that turn into cancer in rabbits is probably a protein chemical which is "degraded"

by enzyme action in the cancer cells. The virus chemical is probably degraded or destroyed, as fast as it is formed in the warty cancers of domestic rabbits, which would explain why the virus cannot be found in these cancers. In cottontail rabbits, in which the virus usually can be found in the cancer tissue, the virus chemical is probably formed more rapidly than it is destroyed.

The enzyme or other factor which destroys the virus chemical probably is acquired by the body cells in the course of their change into cancer cells.

"It is an obvious possibility," the Duke scientists point out, that such a mechanism may prevent a virus cause being discovered in other cancers, if it does exist. Whether it exists and is destroyed before it can be detected, or whether it does not exist cannot be stated as yet.

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PUBLIC HEALTH

War Rise in Tuberculosis Predicted for Hungry Nations

Death Rates From Tuberculosis Already Increasing In British Isles Because of Poorer Nutrition

ARISE in tuberculosis in countries where war has caused a food shortage was predicted by Dr. Esmond R. Long, director, The Henry Phipps Institute, Philadelphia, in an address to the New York Tuberculosis and Health Association.

Dr. Long pointed out that already a rise in tuberculosis death rates has been recorded in the British Isles, attributed by public health authorities to poorer nutrition. He said proper nutrition is an important constitutional factor in resistance to this disease.

"During the first world war there was a serious rise in tuberculosis in the warring countries. Careful analyses in later

years credited a major share of this to malnutrition, particularly to deficiency in protein consumption. Later studies have indicated the importance of vitamin A and vitamin C. These food substances are looked upon as protective. They may spell the difference between ability and inability to resist minor tuberculosis infections."

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Keep T.B. Patients in Bed

EVERY possible educational and persuasive means should be applied to keep tuberculosis patients from leaving sanatoria before their disease is arrested,

Dr. Emil Frankel of New Jersey told the meeting.

When these have failed, he said, force may be necessary to prevent interruption of treatment and the possible spreading of infection.

Dr. Frankel, who is director of the division of statistics and research of the New Jersey Department of Institutions and Agencies, reported that the problem is serious in his state. Of 1,000 tuberculosis patients leaving the 14 state and county sanatoria during the six-month period ending December 1, 1941, more than 34% did so against the advice of the physician.

A few of the reasons for early depart-

ture, Dr. Frankel said, are worry over problems at home, "old-fashioned homesickness," dissatisfaction with care, and economic factors.

To combat these influences, he said, each patient must be considered as an individual case and his problem solved on a case-work principle together with the physician, the clinic and sanatorium; the procedure to be carried through by a competent social worker.

When all other methods fail, he concluded, the law must be used as an extreme measure to require the restraint of tuberculous persons with careless hygiene habits.

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who are specialists in such fields of medicine as heart disease, lungs, eyes or mental ills donated their services on advisory boards and examined all men suspected by local board physicians of having defects. The careful, conscientious examinations by these volunteer physicians, it was felt, not only served to keep on important civilian war jobs men who would have failed in the Army, but also prevented frauds by men who might have tried to feign defects they did not have.

Physicians who thus donated their services examined the men in the evening or other "spare time" and did not leave their regular jobs or neglect their practice.

With the Army taking over the whole job, a substantial increase in the number of Army physicians serving on induction boards will be necessary, the American Psychiatric Association points out.

"It is highly doubtful," the editorial states, "whether a sufficient supply of trained psychiatrists exists to provide suitable examiners for the increased number of induction boards."

Moreover, the Army induction boards will not have the advantage local physicians have of availability to local records such as police records or commitments to mental hospitals to aid in determining the mental fitness of the men. They won't know whether a man is known at home as a drunk or a trouble maker, is "queer" or "gets spells." They wouldn't have time to study such records even if they did have them.

"The cost of neuropsychiatric (nervous and mental disease) casualties is staggering," declared the psychiatrists. "The proposed change threatens to increase the proportion of unfit selectees, with untoward financial consequences after the war and for a generation thereafter.

"Furthermore, with the increase in mechanization of the armed forces the actual danger and risk caused by the presence of men who may suddenly become acutely psychotic is far greater than ever before; not only loss of efficiency, but actual danger are sequels of inadequate selection, a fact which is recognized in those countries in which psychiatric selection has not yet been developed."

"The President," they conclude, "has already shown an interest in the value of psychiatry as a means of increasing military efficiency and reducing military casualties. The *Journal* hopes that he will act to prevent this costly backward step."

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PUBLIC HEALTH

New Plan of Examining Draftees Called Costly and Dangerous

American Psychiatric Association Warns of Danger If War Machines Are Manned By Men Likely To Go Insane

WARNING of the dangers of having combat airplanes or tanks manned by men likely to break mentally under the strain of battle and become suddenly insane, the American Psychiatric Association, through its official organ the *American Journal of Psychiatry*, condemned the new plan for examining drafted men as "undesirable, unsound and costly."

By this new plan, local Selective Serv-

ice Board physicians will serve only as a "coarse screen" for weeding out the obviously unfit. Beyond this, the whole load of eliminating those physically or mentally unable to stand up under the responsibilities and strains of military life and combat is to be borne by Army induction boards.

Under the previous plan, not only did local Selective Service Board physicians examine the selectees, but local physicians

