MEDICINE

Jaundice Danger Averted

By keeping plasma at room temperatures or warmer, instead of in the deep-freeze, the virus believed to be cause of jaundice would not survive.

➤ DANGER of jaundice being spread through blood plasma might be averted by changing the method of storing the plasma.

Studies suggesting this are reported by Dr. J. Garrott Allen and associates of the surgical department of the University of Chicago School of Medicine. (JOURNAL, AMERICAN MEDICAL ASSOCIATION, Nov. 25).

Instead of keeping it at refrigerator or deep-freeze temperatures, it might be better to keep the plasma at room temperature or warmer.

Refrigeration, freezing and lyophilization, the methods used almost exclusively for preserving plasma, are also the best methods for preserving viruses, the Chicago scientists point out. A virus is thought to be the cause of the kind of jaundice, sometimes fatal, which has come from transfusion of pooled plasma in some cases.

The reason other disease viruses are not preserved and transmitted along with the jaundice virus, the scientists explain, is that people with other disease viruses in their blood would be sick and could not give blood to a blood bank. The jaundice virus has a long incubation period, so that a person might have it in his blood for weeks without being sick.

The University of Chicago Clinics began storing plasma from their blood bank at room temperature in 1942 because refrigeration facilities were not available. The practice was continued because it was found satisfactory. Of 864 patients given plasma stored at high room temperature for three to 12 months, only three are known to have developed jaundice. These patients also were given whole blood and the Chicago doctors think the blood was probably the source of their jaundice.

Working with Dr. Allen on this study were Miss Carolyn Sykes, R.N., and Drs. Daniel M. Enerson, Peter V. Moulder. Richard M. Elghammer, Burton J. Grossman, Charles L. McKeen and Nicholas J. Galluzzi.

Science News Letter, December 2, 1950

PHYSICS

Zirconium Is Wanted

Metal, most familiar in mixtures for semi-precious stones, now needed in ton lots for building atomic "ovens." Has low neutron capture cross section.

➤ ZIRCONIUM, a metal that is most familiarly known in mixtures for the semi-precious gem stones, zircons, is being used in building our newest atomic "furnaces."

The Atomic Energy Commission would like to get this metal in ton lots for building atomic "ovens," but present production is only about 1,200 pounds per week. Even this is a big improvement, both in quantity and purity of the metal, over production before the metal had proved its worth as a structural material for atomic furnaces.

Only recently have methods for producing this metal in quantity been perfected. Melted zirconium, like titanium, its closest chemical relative, either reacts with or dissolves many of the usual materials used for melting vessels. Thus to separate it in pure form from the other ores with which it is found required great ingenuity for which American engineers can take credit.

The U. S. Bureau of Mines obtains the metal by reducing zirconium chloride with molten magnesium.

Highly resistant to many acids and with a melting point above 3400 degrees Fahrenheit, the metal would seem a natural for atomic pile use, but was not taken seriously because of the difficulty of handling it, separating it in a pure form.

Materials used in atomic furnaces cannot have any special liking for the neutrons that keep the chain reaction going. Steel, for instance, sops up neutrons although it is otherwise a good structural material. Zirconium, however, has a "low neutron capture cross section," as the liking for neutrons is called by the physicists, and it, or an alloy of it, is therefore being used for building atomic furnaces.

The first sizable production of zirconium has started in a new mill at the Northwest Electro Development Laboratory of the Bureau of Mines at Albany, Ore.

Zirconium has previously been used in small quantities in flashlight bulbs, and radio tubes as well as in some alloys of steel and copper.

Although the metal is well distributed in the earth's crust, the U. S. is dependent upon foreign supply, principally Australia, for most of its zirconium ore and concentrates. How much we are adding to our stockpile of war strategic materials is classified information.

In powder form, zirconium is black, looking much like charcoal dust. When melted, the metal is steel-gray. It can be polished to make a lustrous metallic mirror.

When AEC demands for this metal are satisfied, industry will get a crack at it, taking advantage not only of its corrosion-resistant properties, but also its alloying qualities.

Science News Letter, December 2, 1950

ENGINEERING

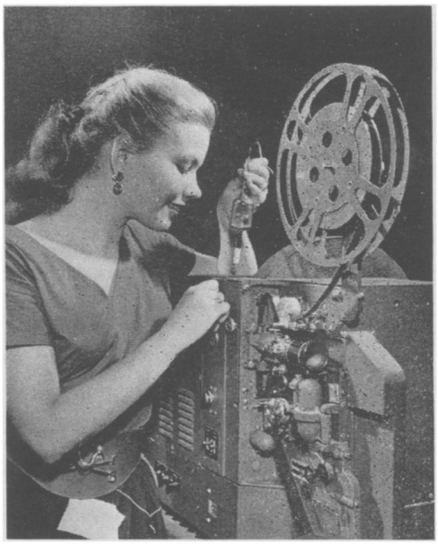
Lamp Promises Safer Flying and Better TV

➤ SAFER flying and better television pictures are promised with a new lamp developed in Bloomfield, N. J., by Westinghouse that is said to be the brightest lamp now available for the small current used.

Its flaming heart is an arc stream of mercury vapor that is one-eighth as bright as the sun although only one-third of an inch long. In aviation, the bright lamp is being used to shoot a narrow beam of light into the sky in order to measure cloud ceilings. The height of the cloud is recorded automatically by an instrument whose operation is based on the time required for the light to reach the cloud and return.

The value of the light for television is in projectors that televise motion pictures. This "short arc" lamp, which operates on 800 watts, produces a clear picture in black and white with excellent contrast and true gray shadings. Its expected life of 500 hours is longer than other available light sources.

Science News Letter, December 2, 1950



SHARPENS IMAGE—A new lamp one-eighth as bright as the sun helps make televised motion pictures look like live telecasts.