

The constipation is attributed to decreased exercise, excess starchy food intake and reluctance to visit with regularity the "cramped cubicle."

Skin diseases are mainly fungous infections of feet and ears, and wide dissemination is caused by the necessary sharing of bunks.

In addition, any disease peculiar to a young male population is repeatedly evidenced, plus the addition of injuries caused by the narrow, crowded quarters, vertical ladders and slippery decks.

The new medical problems imposed by the snorkel type submarine include: (1) painful otitis due to sudden changes of atmospheric pressure and (2) mild anoxia due to decreases in the partial pressure of oxygen. These are added to the ever present hazard of submergence of the vessel to abnormal depths. During escape maneuvers the decreasing pressure may result in rupture of alveoli with air embolism.

Medical contributions to improved conditions have included air conditioning, a more studied submarine personnel selection program, preventive measures and guidance of submarine escape research.

In the discussion Capt. O. D. Yarbrough presents the environmental similarities of the submariner and the aviator and the resultant aero-otitis and anoxia. Dr. H. T. Karsner reviewed the problem of the common cold in the submarine and presented a study that showed anti-histaminics do not prevent or significantly alter the course of acute respiratory diseases.

ARNOLD A. LEAR, Boston.

EFFECTS OF FATIGUE AND HEAT ON METAL WORKERS. MALAGAMBA GIORGIO and MONTINI TULLIO, *Folia med.* **33**:193 (May 5) 1950.

Giorgio and Tullio determined the erythrocyte sedimentation rate and performed Weltmann's coagulation test for 18 workers who were employed with a large metallurgic plant where tin plate was produced. Six of these worked at the furnaces, six were metal platers and six were employed on the rolling process. The first two groups were more exposed to fatigue and worked at temperatures varying from 35 to 55 C. (95 to 131 F.). Blood samples were taken four times: at the start of work, after three hours of work, at the end of the working period (eight hours) and after four hours of rest. Results showed that the sedimentation rate remains unchanged or decreases at high temperatures and that there is shortening of the coagulation column. The authors attribute the shortening of the coagulation column to colloidal lability, namely, to modifications of the protein constitution with particular regard to the albumin-globulin equilibrium. The drop in the sedimentation rate may be induced by hydremia due to the excessive amounts of beverages consumed by those working at high temperatures.

Occupational Diseases and Hazards

BCG VACCINATION IN SILICOSIS. A. J. VORWALD, M. DWORSKI, P. C. PRATT and A. B. DELAHANT, *Am. Rev. Tuberc.* **62**:455 (Nov.) 1950.

Vorwald and his associates say that although there is still some controversy concerning the effectiveness of immunization with vaccine of the Calmette-Guérin bacillus, many recent studies on BCG vaccination indicate an appreciable reduction in tuberculosis in groups of people who may have had an unusual exposure to the disease, a low resistance or both. It has been established both experimentally and clinically that the inhalation of crystalline-free silica decreases resistance to pulmonary tuberculosis. In this country approximately 65 per cent of the silicotics who come to autopsy show evidence of active tuberculosis, whereas industrial workers without silicosis but exposed to nonsilicious dust have an incidence of tuberculous disease of only 15 per cent. It would seem logical that the high incidence might be lowered by BCG vaccination of tuberculin-negative persons exposed to an unavoidable silica hazard. Before considering the clinical application of such vaccination, however, and in view of the effect of silica on infection produced by the attenuated strain R₁ of tubercle bacilli of human type, it became necessary first to observe the course of infection with the BCG organisms in animals inhaling silica.

The authors made experiments which demonstrated the following points: 1. BCG organisms spread from an intracutaneous site of inoculation in guinea pigs and may localize in the viscera, including the lung and tracheobronchial lymph nodes. 2. The resistance of the host can be lowered by the tissue reaction to quartz particles, so that the BCG organisms in the dose used for vaccination or for infection by inhalation can produce progressive and fatal pulmonary disease.