protoplasm, (2) local changes of the hydrogen ion concentration of the skin to pH 7 to 8, (3) oxidation of chromates and bichromates and (4) transformation of cellular protein into chromic proteins. Prevention of chromium cutaneous ulcers, therefore, depends on (1) the establishment of technical improvements in the plants so as to minimize handling of material by workers, (2) the observance of the regulations of hygiene and the use of masks and of protective clothing by the workers and (3) frequent washing of the working rooms with solutions containing chromium-reducing substances.

ULCERS OF LARYNX AND VOCAL CORDS OF WORKERS EXPOSED TO CHROMIUM DERIVATIVES. G. MANCIOLI, Rass. med. indust. **19**:170 (July-Aug.) 1950.

Mancioli observed 107 workers who had been exposed to chromium derivatives for a period which varied between one and 20 months. The workers had complained about changes of the voice since the early period of work and, later on, about dysphonia. The following changes were observed with the laryngoscope: diffuse inflammation, edema and hyperemia of the larynx and of the vocal cords in 71 workers (66.3 per cent) and ulceration of the larynx and of either one or both vocal cords, the upper borders of the epiglottis and the upper segment of the trachea in 23 workers (21.4 per cent). The regulations of hygiene were not observed in the plant where the aforementioned persons were working.

POISONING BY THE NEWER METALS: BERYLLIUM, CADMIUM, OSMIUM, AND VANADIUM. DONALD HUNTER, Arhiv za higijenu rada **1**:113-121, 1950.

A brief review of the properties and occurrence of each of these metals is presented. Occupations in which they are used are mentioned, and the clinical symptoms of poisoning are discussed.

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LEAD POISONING. W. B. J. GERRITS and H. HEINEMANN, Nederl. tijdschr. v. geneesk. **94**:2722 (Sept. 23) 1950.

According to Gerrits and Heinemann, in cases of industrial lead poisoning the lead enters the body either by the gastrointestinal or the respiratory tract. The symptom complex varies greatly; the individual patient generally shows only some of the many possible symptoms. The authors list the symptoms and discuss the laboratory examinations that are helpful in arriving at the diagnosis.

They describe studies on 60 employees of a printing shop in which the so-called offset process had been introduced recently. In this process a powder with a high lead content is used.

In examining these workers the authors made use of the method which other investigators had employed in the examination of workers in a storage battery plant. The patient's history is taken, and in the physical examination particular attention is given to a lead color of skin and mucous membranes, a lead line, weakness of the extensor muscles and the blood pressure. The laboratory tests include determination of the hemoglobin content and the numbers of erythrocytes, leukocytes, and erythrocytes with basophil stippling. Polychromasia, anisocytosis, and poikilocytosis are other blood changes to be watched for. The urine should be studied for its porphyrin and lead content.

The authors report the results of their examinations and stress that it is necessary to differentiate between the symptoms of increased lead absorption (physical anomalies, basophilic granulation of the erythrocytes, increased lead content of the urine and porphyrinuria) and those of lead intoxication. One should speak of lead intoxication only if the individual has, besides the symptoms of increased lead absorption, the characteristic complaints of lead intoxication. They made thorough studies of 47 of the aforementioned 60 workers and found that 44 of the 47 showed signs of increased lead absorption but that only 21 of them had, in addition, typical symptoms indicative of lead poisoning.