

INDUSTRIAL HEALTH

A Non-Technical Symposium for Physicians and Laymen

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THE PREVALENCE OF LEAD POISONING

The report of the Committee on Lead Poisoning of the Industrial Hygiene Section of the American Public Health Association (given at the Annual Meeting, Chicago, Illinois, October 18, 1928) forms the basis for this article.

Statistical Data

Production and use of lead in this country is at present more than double that for the year 1900. Because of this increase in lead manufacture, it might be inferred that a correspondingly larger group of workmen are exposed. This is probably not true, however, for those trades which were well established about 1900 and have continued to the present. In 1899, 8,751 workers produced 208,466 tons of lead; while in 1925, 6,115 produced 651,000 tons. In 1900 there were 277,541 building trade painters, in 1910 there were 273,441, and in 1920 only 248,897 (according to census reports). It is reasonable to believe, then, that the actual number of workmen exposed to lead may be less than in 1900 or 1910 in spite of the extension of newer trades, represented by automobile storage battery manufacturing and other lines.

The committee has accepted as contributory factors in the assumed lowered incidence of severe or fatal lead poisoning the following:

1. Frequent physical examination of lead workers required by law in some states, and voluntarily introduced by some industries and labor organizations.
2. The recognition of lead poisoning in its early stages, which permits of treatment under ambulatory conditions, without loss of time from employment.
3. The development of improved types of machinery, which permits of lead processes being enclosed. (Example—the electrically heated Mergenthaler linotype.)
4. The improvement in substitute paint bases, such as lithophone, to the point where they are essentially as acceptable as white lead or other lead compounds.
5. Generally better working conditions throughout the lead industries.
6. Shortened exposure periods and shortened work periods.

The committee believes that the incidence of lead poisoning is higher than is commonly believed or reported to state departments. The assumption of a greater incidence of lead poisoning than reported is further borne out by special physical examinations of those engaged in hazardous lead work. Such investigations commonly reveal large numbers of mild or questionable cases which otherwise probably would never have been diagnosed.

The incidence of lead poisoning is not so low at the present time that negligence on the part of industrial medical departments and hygienists is warranted.

Compensation

Eleven states provide for compensation and medical relief for workers who have been poisoned: New York, Maryland, Illinois, Wisconsin, North Dakota, New Jersey, Massachusetts, Connecticut, Minnesota, Ohio and California.

In certain states which have not provided coverage for occupational diseases, lead poisoning has from time to time been held to be an accident and has, therefore, been adjudged compensable.

The committee has maintained that if the practice of providing compensation and medical relief for industrial injuries is sound, similar measures should be provided for lead poisoning and other characteristic occupational diseases.

Laboratory Diagnosis

Previously there has been a great deal of research work on the measurement of lead in the urine and feces of persons not known to have been exposed to lead. Recent research has

shown that traces of lead may regularly be found in the urine or feces of apparently normal persons. The source of such lead is not known; it may include food, food containers, lead foil wrappers, cooking utensils and other sources.

Because of these findings the committee has suggested that no great diagnostic significance be attached to the positive findings of lead in the urine, in qualitative amounts only. Such analyses are only valuable from a diagnostic standpoint when quantitative and when the quantity is found to be in excess of traces common to practically all apparently normal persons.

The conclusion of the committee is that lead poisoning continues to be the outstanding occupational disease hazard.

NEW PAMPHLETS

Three new Health Practices Pamphlets, No. 6 on "Industrial Eye Hazards"; No. 7 on "Carbon Monoxide"; and No. 8 on "Infected Wounds" are just off the press and ready for distribution.

No. 6 on "Industrial Eye Hazards" contains material on the structure of the eye, what happens to it when injured, and how injuries should be treated. Industrial eye diseases, their prevention and treatment are also considered.

No. 7 on "Carbon Monoxide" contains material on the occurrence, chemistry, and poisonous effects of carbon monoxide. Symptoms of poisoning, physiological effects, treatment and prevention are also considered. The hazard of automobile exhaust gas is also set forth.

The pamphlet on "Infected Wounds" takes up the causes of infection, the defense against infection and the prevention and treatment of infections of small wounds, particularly of the hands and fingers.

Have you received your copies of these interesting pamphlets?