

The Schaeble Company, Mariemont,
Ohio

REPORT ON PHYSICAL APPRAISAL
OF
[REDACTED] FURNACE CHARGER
SCHAEBLE CO. COOK ST. FOUNDRY

(Supplement to Reports
of
December 1, 1952, and February 2, 1953)

From the Kettering Laboratory in the Department of
Preventive Medicine and Industrial Health, College of Medicine,
University of Cincinnati, Cincinnati, Ohio

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REPORT ON
PHYSICAL APPRAISAL OF [REDACTED] FURNACE CHARGER,
SCHAIBLE CO. COOK ST. FOUNDRY

(Supplement to Reports of December 1, 1952, and February 2, 1953)

Mr. [REDACTED] was sent to the Kettering Laboratory for examination on December 22, 1952 by the Schaible Company on our recommendation, because of the history of repeated attacks of "Brass chills" and the finding of elevated lead levels in the blood on November 14, 1952.

A thorough medical history of the acute episodes was consistent with "brass chills" or metal fume fever, and was not suggestive of clinical lead poisoning. On physical examination there was no objective evidence of lead poisoning at that time. Laboratory examination, however, supported the previous findings of a hazardous degree of lead absorption, and further indicated that the response of the body to this accumulation of lead was approaching a critical state. Symptoms of frank lead poisoning might have been expected as pointed out in our report of December 1, should lead exposure continue unabated. Laboratory record sheet is attached.

On the basis of these findings, it was recommended verbally to Messrs. Weddendorf and Wirtz on December 23 that this man be removed from his job as furnace charger and reassigned to work in a lead-free area of the plant until such time as further examination would indicate that he had excreted a substantial amount of the lead then in his system.

On re-examination on February 11, 1953, it was found that the blood lead level had decreased slightly, while the urine lead level had increased. This suggests that the lead in the

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man's system is being excreted as expected. The levels are still in the dangerous range, however. While there were no physical signs of clinical lead intoxication, there was now a moderate degree of anemia which was not present at the time of the previous examination. This is consistent with the bodily effect of dangerous amounts of lead. This evidence of incipient lead poisoning is further supported by the observation of a tremendously increased level of coproporphyrin in the urine, one of the highest levels that has been encountered in this Laboratory. Laboratory record sheet is attached.

Lewis reports that he had suffered approximately eight acute episodes of "brass chills", or metal fume fever, during the interval between examinations. The most recent had occurred on February 10, the evening before the last examination. While he has faithfully worn the recommended respirator while on the job, it has not been wholly effective in eliminating fume exposure. Total protection cannot be expected of this type of device, particularly in regard to the prevention of brass chills. However, the observed arrest of lead accumulation can be attributed to the use of the respirator. This seeming paradox is due to the fact that a strict quantitative relationship exists in the case of lead dust and fume, between the amount inhaled and the amount accumulated in the body. As you have undoubtedly observed, no such quantitative relationship exists in the case of zinc inhalation and brass chills. It is quite probable that Lewis can inhale enough zinc fume in five minutes, while he may remove the respirator for a short break, to give rise to an acute attack of brass chills. During the same short period, he would not be likely to absorb a significant amount of lead.

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From these observations on a single workman, it may be stated that the basic problem of air contamination in the furnace room has not been solved. The individual hooding of the melting furnaces is still considered to be necessary to eliminate the source of the contamination.

From the Kettering Laboratory in the Department of Preventive Medicine and Industrial Health, College of Medicine, University of Cincinnati, Cincinnati, Ohio

Report by:

James P. Hughes, M.D.

Approved:

Robert A. Kehoe, M.D.
Director

Date: February 18, 1953

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