

Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

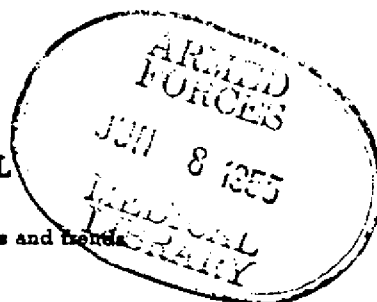
MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL . . . decisions and trends



MAY, 1955

(Vol. 19, No. 5)

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

4400 FIFTH AVENUE -- PITTSBURGH 13, PA.

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FOUNDATION FACTS

Foundation Facts is a monthly news-letter issued to industrial concerns holding membership in Industrial Hygiene Foundation. The Foundation is a nonprofit association of industries for the advancement of healthful working conditions.

June 17

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No. 5

DR. WEIDLEIN ON EUROPEAN MISSION FOR FEDERAL GOVERNMENT

At the request of the Federal Government's Foreign Operations Administration, in cooperation with the European Productivity Agency, Dr. Edward R. Weidlein, President, Mellon Institute, departed for Europe on April 29 to lead scientific research seminars in France, Belgium, Norway, Italy, and Austria.

MORGAN APPOINTED HEAD OF RAILROAD INDUSTRIAL HYGIENE SECTION

James F. Morgan, formerly head chemist of Industrial Hygiene Foundation, has been appointed to head newly established section of industrial hygiene in the medical department of The Pennsylvania Railroad. An extensive environmental survey made by the Foundation for The Pennsylvania Railroad served as a basis for setting up the section. The first of its kind to be established by an American railroad. Morgan's experience with Industrial Hygiene Foundation in the maintenance of health of industrial workers in many occupational fields will be a valuable asset in carrying on the program. The Foundation is pleased to have played a part in the initiation of this important development.

NEW MEMBERS

The Foundation is pleased to welcome to membership three companies:

The Bunch Chemical Company
The Beryllium Corporation
Crown Zellerbach Corporation

TECHNICAL PAPER PRESENTED BY STAFF MEMBER

Dr. H. H. Schrenk, Research Director of the Foundation, presented a paper at the Industrial Health Conference held in Buffalo, N. Y., at a session of the American Industrial Hygiene Association on April 27. The subject of his discussion was "Pitfalls in Using Maximum Allowable Concentrations in Air Pollution."

HEMEON ON AIHA PROGRAM COMMITTEE

W. C. L. Hemeon, Engineering Director of the Foundation, has been made a member of the Program Committee of the American Industrial Hygiene Association for the coming year.

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the arthritis in these patients is associated with a high erythrocyte sedimentation rate and marked resistance to treatment. The radiographic changes called by Caplan "rheumatoid" were not found to be important in Ruhr miners. Tuberculosis as a complication of silicosis did not appear to be more frequent in arthritics than in non-arthritics. It appears that there is some causal relationship between progressive silicosis and polyarthritis.

-- Cond. from Bull. Hyg.

572 Symposium on Occupational Diseases of the Lungs. Arch. Ind. Health 11, 183-211 (Mar. 1955).

The following papers were presented at the Symposium on Occupational Diseases of the Lungs, sponsored by the Massachusetts Medical Society in cooperation with the Institute of Industrial Medicine of New York University, at Post-Graduate Medical School, Boston, Oct. 28, 1953. Asbestosis is the main theme of the papers.

Recent Trends in Industrial Health. A. J. Lanza.

This short address serves as an introduction to the scientific papers and emphasizes the need of continued progress in the study of dust diseases.

Pathology of Asbestosis. K. M. Lynch.

The pathological appearances of asbestosis are described and illustrated. It appears that asbestos crystal fragments may traumatize living tissues by their physical qualities, and the present belief is that the larger particles do the damage, in contrast to the chemical action of silica and the harmful effects of the smaller particles.

Roentgenologic Aspects of Silicosis and Asbestosis. L. J. Bristol.

Typical roentgenograms show the appearance of silicosis and of asbestosis in the three stages of each and of silicosis with tuberculosis. The functional impairment in silicosis is due to diffuse obstructive emphysema, and x-ray examination in full expiration aids in evaluating the presence or absence of this complication. On the other hand, not all cases of asbestosis have a breathing problem. Expiration films are not of much value in determining the presence or absence of respiratory impairment in these cases. Some persons with slight x-ray changes indicating asbestosis, show definite functional impairment. This situation does not occur in silicosis.

Functional Abnormalities of Industrial Pulmonary Fibrosis. G. W. Wright.

54) The author describes the function of the respiratory and cardiocirculatory apparatus in a simplified form for the benefit of lay persons, and discusses the methods of quantitating some of the physiologic aspects of the respiratory and circulatory systems. He shows how the results of these methods indicate silicosis in its various stages. The typical appearances and clinical conditions in asbestosis are then described and contrasted with those in silicosis. As in silicosis, there is a gross correlation between intensity and duration of exposure, but no evidence is found on the least exposure necessary to produce asbestosis. The physiologic abnormalities are recognizably different in the earlier stage of the two diseases, but in the terminal stage the distinction may not be entirely clear and may lead to confusion. A further difficulty in diagnosis is the frequent coexistence of the diseases. Both may be roentgenologically manifest without recognizable physical impairment.

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Some Clinical Observations of Asbestosis in Mine and Mill Workers.

P. Cartier.

Statistics and comments are presented on 128 cases of asbestosis observed by the author over a period of eight years. In his experience, no cases of asbestosis of clinical importance have been diagnosed by the pathologist without previous detection by the roentgenologist. The wide discrepancy in the appreciation of the degree of asbestosis by different pathologists leads to confusion, especially before a compensation board. The limitations of the table are obvious, but it shows that the clinical status of 43 cases is good and that 59 employees in the early stages of asbestosis are able to work without discomfort. For the remaining 29 cases, no good correlation between degree of asbestosis and clinical status has been found.

Asbestosis as Differentiated from Other Pneumoconioses. O. A. Sander.

Difficulties in differential diagnosis are considered. All possible causes of the pathology revealed by the chest film must be considered. Poorly studied cases result in misdiagnoses which not only are embarrassing to the physician but which may cause irreversible harm to the patient. Every obscure case should be thoroughly investigated so that such unfortunate situations do not arise.

- 573 Talcosis of Unusually Rapid Development. G. P. Alivisatos, A. E. Pontikakis, and B. Terzis. *Brit. J. Ind. Med.* 12, 43-49 (Jan. 1955).

Eight cases of talcosis occurring in mill workers and developing after an unusually short exposure to talc are described. The radiological and clinical findings in these cases were similar to those found in silicosis. The chemical analyses of samples of talc powder did not reveal the presence of free silica. It was evident that the gross pollution of the air in the factories and the small diameter of the talc particles were the main contributory factors in the production of talcosis. Talcosis may be considered a type of fibrotic pneumoconiosis accompanied by functional disturbances.

-- Authors' summary

- 574 Experimental Research into the Harmful Nature of Feldspar Dusts. A. Policard and A. Collet. *Arch. maladies profess.* 15, 343-350 (1954). French.

Three feldspars were used in the investigation: orthoclase (potassium aluminum silicate); albite (sodium aluminum silicate); and labradorite (sodium calcium aluminum silicate). In the experiments 100 mg. of each in fine particles of less than 5 microns were injected peritoneally into rats. After one month, and up to 4 1/2 months, the consequent reactions were observed. They are shown in photomicrographs. A certain amount of fibrosis was observed, increasing with time after the injections; it was most marked for labradorite, and least for orthoclase. With albite the lesions formed more quickly and were richer in collagen. Compared with that produced by feldspars, the fibrosis caused by silica is always more intense, and the formation of collagen is more abundant. The authors consider the feldspars more harmful than kaolin and the micas, but less so than fluorspar or silica.

-- Cond. from Bull. Hyg.