

FILE NAME: Industrial Hygiene Foundation (IHF)

DATE: 1953

DOC#: IHF054

DOCUMENT DESCRIPTION: Industrial Hygiene Digest - Abstracts & Member/  
Committee Member Lists

# 1953 ANNUAL INDEX

Volume 17



## *Industrial Hygiene Digest*

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL . . . decisions and trends

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

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- 601 Right Ventricular Hypertrophy in the Pneumoconiosis of Coalminers.  
A. J. Thomas. Brit. Heart J. 13, 1-9 (1951).

A series of 50 hearts from cases of coalminers pneumoconiosis have been dissected and the ventricular weights recorded. The ratio of left ventricle to right ventricle, LV/RV ratio, shows a great reduction, and there is a consistent relative increase in the weight of the right ventricle. A cardiographic study of 146 persons (normal men, miners and non-miners, and patients with all stages of pneumoconiosis) has shown that V6 changes most with increasing severity of lung disorder. In the most severe groups the R wave of V6 is diminished and the S wave is increased in amplitude. A suggestion is made that a lead from the third interspace immediately above V2 may help in the diagnosis of right ventricular hypertrophy when it shows an r' wave of 4 mm. or more in height. Certain effects of respiration on the electrocardiogram are described, particularly the respiratory variation of the chest leads on the right side. This is presumed to be a positional change, but some findings suggest that the mechanism of respiratory variation should be further investigated in relation to respiratory function.

-- Author's summary (Bull. Hyg.)

- 602 Factors Favoring Phagocytosis by Reticulo-Endothelial Cells Early in Inflammation. Edna H. Tompkins and Mary A. Grillo. Am. J. Pathol. 29, 217-231 (March-April 1953).

The reticulo-endothelial cells of subcutaneous tissues, the so-called resting-wandering cells, represent active defenders in the first 12 hours of inflammation. They become activated in preparation for phagocytosis by contraction, excretion of fluid from their "fluid vacuoles," and changes in the consistency of their cytoplasm. Once activated, they are aided in making contact with particulate substances and are supported in "surface phagocytosis" by the movements of the underlying muscles and of the infiltrating ameboid polymorphonuclear cells. They carry the burden of phagocytosis before arrival of the polymorphonuclear cells; and they alone must phagocytose for about 12 hours the many invading substances that are not phagocytosible by the polymorphonuclear cells.

-- Authors' summary

- 603 Dust Diseases. G. E. Spencer. Bull. Allegheny Co. Med. Soc. 42, 389-391 (April 25, 1953).

This brief paper gives advice to family physicians to whom x-ray films from a mass survey have been referred when pneumoconiosis is indicated. Survey physicians do not attempt to differentiate the dust diseases, merely reporting the findings as "pneumoconiosis." It is the responsibility of the family physician to determine which of these diseases is present, and to decide what should be done. After military tuberculosis, carcinomatosis, certain fungus diseases, and siderosis due to organic disease are excluded, the various pneumoconioses must be considered. Anthracosis, silicosis,

siderosis, berylliosis, asbestosis, and the organic dust diseases are discussed briefly in relation to diagnosis. The importance of personal and occupational history is emphasized. The factors to be considered when deciding whether a man should be taken from his job are discussed.

- 104 The Clinical Picture and Pathology of Asbestosis. W. Behrens, Jr.  
Unfallmed. u. Berufkrankh. 45, 129-140 (June 15, 1952); 179-189  
(Sept. 15, 1952). German.

This paper presents an extensive review of literature on asbestosis including distribution and types of asbestos, its mining, treatment, and use, dust hazards, and effects of length of exposure of the dust in different concentrations. Symptomatology, diagnosis, and x-ray findings in the different stages of asbestosis are described. Special mention is made of the association of asbestosis with carcinoma, which is much more frequent than that of silicosis. Post-mortem reports from the literature indicate that in 309 cases of asbestosis there were 44 lung carcinomas (14.2%), whereas in 2,204 cases of silicosis only 32 carcinomas were found (1.4%). The experience of the association of tuberculosis and asbestosis varies greatly in different countries. English investigators have recorded a high rate of tuberculous infection in asbestos workers, but it is a rare complication in America and the rate is low in Germany. The macroscopic and microscopic appearances of the lungs are described, and the nature and significance of asbestosis bodies are discussed and an extensive reference list dealing with that controversial subject is given.

-- Cond. from Bull. Hyg.

- 105 Lung Carcinoma Caused by Asbestos Inhalation. F. Boemke.  
Med. Monatsschr. 7, 77-81 (1953) German.

The relation between fibrotic changes caused by asbestos deposits in the lung and carcinoma is discussed. The lower lobe is the site of predilection. Characteristic are the multicentered developments of flat epithelium carcinoma.

-- Chem. Absts.

### PHYSICAL ASPECTS OF THE ENVIRONMENT

- 106 Carbon Dioxide and Respiratory Regulation at Altitude. F. G. Hall.  
J. Appl. Physiol. 5, 603-606 (April 1953).

Fourteen young men exposed to a simulated altitude of 22,000 feet breathed gas mixtures with varying concentrations of carbon dioxide. The partial pressures of oxygen and carbon dioxide in alveolar air were correlated

**CONFERENCE TRANSACTIONS  
OF  
EIGHTEENTH ANNUAL MEETING  
INDUSTRIAL HYGIENE FOUNDATION OF AMERICA**

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