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OCCUPATIONAL HEALTH

News & Views

Division of Occupational Health
Fall 1963

Pennsylvania Department of Health
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A New Publication -

News & Views is a newsletter prepared by the staff of the Pennsylvania Division of Occupational Health. Like other states we have felt the need to provide a means of communication between this State Agency and those engaged in occupational health on the outside. We hope that News and Views will bridge this gap. Our aim will be to keep you informed of happenings in occupational medicine, industrial hygiene, radiological health, and occupational health nursing. We want to tell you what we do here in Harrisburg, and what our occupational health staff in our regional offices in Wilkes-Barre, Williamsport, Meadville, Pittsburgh, Reading, Lewistown, and Philadelphia, are doing. We also want News and Views to be a medium where you can tell us what you are doing. We want short reviews, news items, and information of interest to persons engaged in the field of occupational health and radiation protection. We are limited in space and, on an experimental basis, we are planning to appear every three months. We want your suggestions, comments, criticisms, and your indulgence. We are looking forward to hearing from you.

Jan Lieben, M. D., Director

The Physician and the Pneumoconioses -

Pneumoconiosis continues to be the most serious occupational health problem in Pennsylvania. It not only costs the taxpayers millions of dollars in compensation claims annually but also creates "respiratory cripples" who are unable to enjoy retirement.

It is extremely difficult for most physicians to survey or extract useful information from the copious quantity of literature on the subject of pneumoconiosis. Further, many phases of this intriguing group of diseases lend themselves to controversial and conflicting opinions which hinder the physician's evaluation of what he reads. The Committee on the Pneumoconioses of the AMA Council on Occupational Health has recognized these difficulties and has prepared a critical summary of current opinion regarding the diagnosis, evaluation, and management of the pneumoconioses. This summary appears in the August 1963 issue of the Archives of Environmental Health, Vol. 7, pp. 130-171. All physicians who have any contact with industrial workers are urged to read this important report. For those who do not have easy access to the Archives, individual reprints are available without charge from the AMA, Department of Occupational Health, 535 North Dearborn Street, Chicago 10.

Although it will not eliminate all controversy and conflicting opinions, the Committee's contribution is important since it gives the practicing physician a set of authoritative guides which are the result of careful study and evaluation over a period of years by a respected group of men in this field.

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In these days of higher and higher workmen's compensation and disability awards, one of the greatest problems a physician can face is that of determining which worker should be removed from his job and which worker should be kept at his regular duties during treatment. For this the Committee has specific recommendations, which take into account not only the working conditions, economics, and pathologic findings, but the general well-being and morale of the worker as well.

Speaks at International Congress -

Dr. Jan Lieben, director of the Division of Occupational Health, presented a paper on "Sudden Deaths in the Explosives Industry" at the International Congress on Occupational Health held in Madrid, Spain, September 14-20. The paper is co-authored by Dr. Peter Carmichael, industrial hygiene physician in the division. Another paper entitled "Pneumoconiosis Among Pennsylvania Coal Miners" was presented by Dr. Eugene P. Pendergrass, professor, Department of Radiology, University of Pennsylvania Hospital, Philadelphia. Co-authors of the paper with Dr. Pendergrass are Dr. W. Wayne McBride, research physician in the Pennsylvania Department of Health, and Dr. Lieben.

Annual Health Conference -

Members of the staff attended the Annual Health Conference at University Park during August. Two Curhstone Conference sessions presented by the division featured the subjects "New Concepts of Lead Poisoning" and "Insecticides". The Special Session on Occupational Health was chaired by E. J. Baier, chief of the Industrial Hygiene Section. Dr. Jan Lieben, director of the Division of Occupational Health presented a paper on the history of radium in Pennsylvania. Other speakers were Mr. Harry B. Ashe, director of the Industrial Hygiene Division, Vermont Department of Health, who spoke on "Dust Control in Vermont Granite Sheds" and Mr. James C. Roumas, director of Technical Research, Association of Casualty and Surety Companies, who presented a paper entitled "Occupational Health Education through Insurance Carriers".

Technical Notes -

Employees of an electronics manufacturer had complained of odors and dust at an operation where a formulation called flux silver powder was sprayed inside glass tubes. The coated tubes were subsequently subjected to high temperature in an oxygen fortified natural gas flame. Initial information supplied by the electronics company indicated that the powder in question was silver oxide. A more thorough investigation brought out the fact that the powder contained thirty-five percent lead borate. It is believed that, in the gas flame, lead oxides are formed and released in the atmosphere. A lead survey was immediately conducted. This incident reinforces the suspicion that a great many proprietary products parading under innocuous names contain hazardous materials.

A survey at a foundry involved in the manufacture of centrifugal castings from 1-2% beryllium-copper alloy indicated concentrations ranging from 11 to 78 micrograms of beryllium per cubic meter of air. At this operation, 4% beryllium-copper master alloy is added to a tilting induction furnace to obtain the desired composition. The molten metal is then manually charged into the caster. Recommendations were made to enclose the furnace as much as possible, to cover the pouring ladle, and to exhaust ventilate the caster. Two suspected cases of beryllium disease have recently been reported from this plant.

The Division of Occupational Health publishes Hygienic Guides on various toxic substances. The Guide for Copper appears below. A list of other Guides available may be obtained from the division.

HYGIENIC INFORMATION GUIDE NO. 73

COPPER

PROPERTIES: Copper is a reddish-brown, ductile, malleable metal. It readily conducts heat and electricity. It is the principal constituent of brass, bronze and many speciality alloys.

Copper has wide application in the manufacture of electrical wires, pipe, and cooking utensils. Its salts are used in a variety of paint pigments and in various forms as insecticides.

Copper in very low concentration is an essential element of human metabolism but is toxic in excess quantities. The drinking water standard is 1 milligram per liter.

THRESHOLD LIMIT VALUE (acceptable atmospheric concentration for 8-hour work period):

Fume: 0.1 milligram per cubic meter of air.

Dusts & Mists: 1.0 milligram per cubic meter of air.

MEDICAL ASPECTS: Inhalation of copper fume or dusts or mists containing copper salts causes irritation of the upper respiratory tract, nausea, and possible pigmentation of the skin and hair. Metal fume fever may result from exposure to the fume. Exposure to dusts or mists causes congestion of nasal mucous membranes and ulceration of the nasal septum.

PREVENTION:

- a. **Preplacement:** Applicants with chronic cardiovascular and respiratory conditions, such as chronic bronchitis, heart disease, or asthma, should be evaluated medically.
- b. **Periodic:** Periodic medical examination should be made of exposed personnel. The nose and throat should be examined for irritation and the frequency of "common cold" symptoms should be noted.

EXPOSURE CONTROL:

- a. **Process Control:** Isolation of processes with adequate exhaust ventilation is advocated. Ventilation hoods should be placed as near the source of contamination as practical.

Under some circumstances general ventilation may provide adequate controls, but the use of local mechanical ventilation is generally more reliable, satisfactory, and economical.

- b. **Personal Protective Devices:** The use of masks or respirators, specially adapted to the materials used, may provide protection to personnel exposed for short durations. These should be of the type approved by the United States Bureau of Mines for toxic metal fumes, mists, and dusts.

Occupational Health Nursing -

The Consultants hope to make this a medium for the exchange of ideas and urge Occupational Health Nurses to send in any items of interest.

Mrs. Margaret Bruder, Chairman of the Occupational Health Nurses' Section of Pennsylvania Nurses Association, District #6 - Reports that: (1) The section is planning a program to be presented at the Western Pennsylvania Safety Engineers' Conference in the spring (April). (2) During the P.N.A. Convention on October 22-25, the section is sponsoring a tour of the Jones and Laughlin Steel Company. The Tour will be limited to 25 people and will be conducted on October 23, from 9:00 to 11:45 a.m. (3) Also during the Convention, the section will hold a joint meeting with the Private Duty and General Duty Sections. The topic will be "Medical Need for Narcotic Drugs". The Speaker will be Mr. Harry Anslinger, Representative to the United Nations Commission on Narcotic Drugs.

Miss Mary Ann Coyne, A.A.I.N. Conference Chairman reports that: (1) A meeting of Committee Chairmen for I.M.A. and A.A.I.N. planning the 1964 American Industrial Health Conference will be held at the Pittsburgh-Hilton Hotel on Friday, October 25, 1963. The A.I.H.C. Conference will be held for the first time in Pittsburgh on April 13-16. (2) The Theme of the A.A.I.N. Conference will be "Creative Thinking - Unlocks the Future of Industrial Nursing".

Radiological Health -

A Radiation Emergency Monitoring Plan has been adopted to provide for quick emergency action in the event of an accident involving radioactive material. The plan establishes a radiation emergency monitoring team of seven squads. Industrial hygienists in each of the Health Department's seven regional offices have been designated as squad leaders. The Department's Radiological Health Section in Harrisburg coordinates and directs the efforts of the regional personnel during emergency situations. To augment the plan, all industrial and major medical users of radioactive material have been provided with emergency telephone numbers for use in cases of radiation emergency. Coordination of the plan with those of state and local police departments is to be effected.

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