

FILE NAME: State of the Art Literature (SAL)

DATE: 1944 Nov

DOC#: SAL042

DOCUMENT DESCRIPTION: Journal Abstract - Asbestosis & Pulmonary Carcinoma

ABSTRACT OF THE LITERATURE OF INDUSTRIAL HYGIENE AND TOXICOLOGY

VOLUME 26

NOVEMBER, 1944

NUMBER 9

CONTENTS

General.....	177	Industrial environmental conditions.....	195
Physiology and nutrition.....	179	Ventilation, air conditioning and engineering control.....	196
Systemic and infectious occupational diseases; and hazards.....	180	Determination and analysis of dust, smoke, gases and vapors.....	197
Industrial toxicology.....	184	Atmospheric pollution.....	197
Occupational diseases of the skin.....	188	Accidents and their prevention.....	197
Medicine, surgery and therapy.....	190		
Medical services.....	195		

GENERAL

SUSCEPTIBILITY TO ACCIDENTS. *Flanders Dunbar. Med. Clinics of North America, vol. 28, no. 3, pp. 653-662 (May, 1944).*

Personality profiles are reported which have proved diagnostically useful for the accident habit and accident proneness. Any dynamic formulation relative to the profile of these accident-prone personalities should begin with an investigation of the nature of their defenses. By focusing their values on immediate concrete experience, striving to find satisfactions and security outside the authoritarian hierarchy, and avoiding any marked submission or domination in vocational or social roles, accident-prone people get along without serious conflicts with authority. The defenses work most of the time. When thwarted, deprived, or subjected to unusual strain such as unemployment, or the pressure of a mother-in-law in the family, these persons "do something" to modify the situation or get away from it instead of keeping their anger bottled up inside. It is significant that these patients have a health record far above the average.

When the characteristic defenses fail and conflict with authority becomes unavoidable, the accident happens. Aggressiveness may break out in an act which appears to punish the victim or those responsible for his frustration, or both. Or it may come near enough to the surface to cause the kind of confusion which leaves the person defenseless in the danger situations normally encountered from day to day. Unlike depressed persons who consciously attempt suicide, the accident-prone individual usually reports no conscious premeditation. It is interesting, however, that he occasionally reports a dream or a "hunch" that "something was going to happen today." This trend is illustrated by the statement made so frequently by

these patients after the accident has happened: "you can't get around fate; I got mine today, you'll get yours tomorrow."—*Stephen L. Madary.*

SOME ASPECTS OF SICK ABSENCE IN INDUSTRY. *H. H. Bashford. Brit. J. Indust. Med., vol. 1, no. 1, pp. 7-10 (Jan., 1944).*

The Post Office is unique in being the largest individual employer of labor in the country and in possessing a medical service dating back to the middle of last century. Postal servants below a certain salary receive free medical service from some 2,600 general practitioners all over the country. Accurate sick records are kept of each employee, available to the medical advisers; these records are classified annually for groups of workers. Here is an immense and invaluable basis for following up the effects of many disabilities on working capacities. One instance (concerning five groups working in the same office) is quoted of the effect of lay supervision on sick absenteeism, showing how health and happiness is as infectious as disease.

Men over 40, as a group, incur 55 per cent more sickness than those under 40. Younger people incur more sicknesses, but, as a rule, of shorter duration. Women incur from 10 to 17 per cent more sickness than men. Catarrh and respiratory troubles claim from 20 to 30 per cent of sickness, and digestive disorders about 10 per cent. The sick rates of the outdoor staff tend to be above those of the indoor staff, because certain respiratory and rheumatic affections which might not disable an indoor worker might prevent a telephone linesman or postman from carrying on. A peace-time figure for sick absences in males under 25 was about five days a year, and six days for females of that age. The figures for a general mixed staff were eight or nine

Nov. 1944]

a measured volume of air is entrapped by a paper funnel. The weight of dust so caught is ascertained and then the mass concentration of the total air-borne dust is calculated. The dust is removed from the paper funnel, mixed, and a known weight of it then taken for a sedimentation test. The sedimentometer consists of a glass cell through which passes a flat horizontal beam of light which impinges on a photoelectric cell. Light transmission values are measured: (a) when the cell contains clean alcohol; (b) when a weighed quantity (about 20 mgm.) of the dust sample has been added to the alcohol, and the particles are still in turbulent motion after stirring; and (c) after the lapse of the calculated time which will allow all particles but those smaller than 5 microns to settle below the level at which the light beam traverses the cell.

From the photometric readings the proportion (by weight) of dust below 5 microns is estimated, allowance being made for the fineness of division of the whole dust (as indicated by the "specific surface" of the dust). Hence, since the mass concentration of the whole dust has been ascertained by direct gravimetric methods, the mass concentration of the dust below 5 microns in air can be estimated.

In the report it is admitted that certain criticisms may be levelled at the procedure recommended, and since only a few samples have been so evaluated, no exact statement of the probable error of the method is given. It is said that the probable error will be under 10 per cent, an error which, it is said, is quite small in comparison with those to which other methods at present used in Great Britain are liable. The procedure gives no information about the constituents of the dust. —*Bull. of Hygiene.*

ASBESTOSIS AND PULMONARY CARCINOMA. H. W. Wedler. *Deut. med. Woch.*, vol. 69, no. 31/32, pp. 575-576 (Aug. 6, 1943).

The author has collected the published autopsy records on asbestosis from various countries and finds that there have been 14 instances of malignant disease of the lungs and pleura in 92 post-mortem examinations (16 per cent). This is in excess of the proportion of lung carcinomata in autopsies generally (2-6 per cent). Carcinoma as a complication of asbestosis occurred most frequently in males between 35 and 41 and was generally in the part of the lung most affected with asbestosis. Development of the lesion was slow but corresponded with the length and intensity of the exposure (12-42 years). There was often a long interval between the cessation of exposure and the development of the cancer, which, in the author's view, must now be regarded as an occupational cancer. —*Bull. of Hygiene.*

THE ASBESTOS CORN. H. S. Alden and W. M. Howell. *Arch. Dermat. & Syph.*, vol. 49, p. 312 (May, 1944).

Derwitz in 1930 directed attention to warts and corns on the hands and feet of persons who worked with

asbestos and described the discovery of an "asbestos needle" in the cornified layer of tubercles removed from the hands. Alden and Howell observed small painful "warts" or "corns" in 99 of 167 workers who used amosite, a natural form of asbestos, in their work in a navy yard. The workers who have these lesions complain of an original pricking sensation and ability to feel a small splinter-like foreign body. Rough attempts to extract this splinter-like body are usually unsuccessful, but with rubbing or with neglect the sensation tends to disappear. In about ten days a small hard cornlike tumor appears, which slowly grows, often attaining the size of a small split pea. Frequently a pinpoint black center, which defies extraction, can be observed in the excrescence. At this period the small cornified tumor is tender to pressure, as though a splinter were present, and interferes with comfortable work. Cornification becomes more pronounced, a small hard corn resulting, and the area does not become normal in appearance and feeling until the hard center plug is removed by instrumentation. These corns usually appear on the tips of the fingers and knuckles, most often occurring in the thick-skinned areas of the hands. X-ray examination does not reveal abnormal shadows. Biopsy specimens from 4 patients revealed no pathologic changes except extreme thickening of the surface epithelium with hyperkeratosis. The dermis, while fibrous, was essentially normal in appearance and did not present any evidence of inflammation. Despite diligent search, foreign bodies could not be found in the sections. Observations and history of symptoms imply, however, that a foreign body is at some time present in the lesions. There is no relation to asbestosis of the lungs. No satisfactory method of prevention can be offered. —*J. A. M. A.*

EPIDEMIC KERATOCONJUNCTIVITIS: A REPORT OF A CASE WITH MARKED SYSTEMIC MANIFESTATIONS. John J. Curry and Francis C. Lowell. *New England J. Med.*, vol. 231, no. 1, pp. 11-13 (July 6, 1944).

A case is presented that showed many of the signs and symptoms of epidemic keratoconjunctivitis.

The outstanding feature was the presence of severe depression with only mild ocular disease.

Serologic studies during convalescence showed the development of antibody against the virus of epidemic keratoconjunctivitis. —*Authors' summary.*

SURVEY MADE OF HEALTH PROBLEMS IN THE FUR INDUSTRY OF NEW YORK. Harry Heimann. *N. Y. State Indust. Bull.*, vol. 23, no. 6, pp. 217-220 (June, 1944).

Based on a medical study of 694 workers in the fur industry it is concluded that:

1. Traumatic affections of the skin appear characteristically among the occupational groups of fleshers, unhairers, hand-stretchers and nailers.
2. The cases of dermatosis appear among those workers who handle the dyed furs and are not related