

of *Candida albicans* than the talc. The enhanced fibrogenicity has been attributed to the adjuvant activity of kaolin with polysaccharide glucan component of *Candida*.

--Authors' abstract

1226/81 The Biological Effects of Mineral Fibres. J.M.G. Davis. *Ann. Occup. Hyg.* 24: (2), 227-234, 1981. 29 refs.

The history of asbestos-related disease and the results of research into the ways in which asbestos fibres are able to damage tissue are reviewed. Although crocidolite has been accepted as constituting a particularly great hazard and is subject to a more stringent hygiene standard that has effectively terminated its use in the U.K., experimental studies on animals have not proved it to be more carcinogenic than chrysotile. It is possible that rats react differently from humans, but more likely possibilities are that in past industrial usage crocidolite produced higher dust concentrations than amosite or chrysotile and that chrysotile is less durable than crocidolite in the lungs over the 10-20 yr that tumour induction takes in man. Other mineral fibres, both natural and man-made, have come under study and there is some evidence from laboratory experiments that they may produce similar effects to asbestos if of comparable size. The position for man-made insulation fibres appears relatively good and the results of studies of human populations exposed to glass fibre have so far been negative. While not all mineral fibres may constitute a health hazard if used industrially, there is enough evidence of potential harm to indicate that all new types of fibre should be subjected to careful testing.

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1227/81 Asbestos Related Pulmonary Disorders in Japan. I. Ebihara. *J. Science Lab.* 57: 363-396, Aug. 1981. 101 refs. (Japanese)

In this study, chest radiographs of 11,000 persons over 65 yr. old were examined before collating with the life history of each person, and after evaluation of each radiograph, the life history--especially past asbestos exposure--was collated with the radiographical findings. However, exposure to, or contact with asbestos was ascertained in each case with pleural plaque. These results seem to suggest that the diagnostic standard for pleural plaque adopted in this study was reasonable and acceptable. It was noteworthy that pleural plaques were frequently confirmed by oblique radiography, even in those whose postero-anterior X-ray film seemed to be normal. As many other researchers, the author is also of the opinion that pleural plaques can occur with low-dose or short-term asbestos exposure. Moreover, it should be emphasized that pneumoconiotic lung change, i.e., asbestosis, can also occur long-term after

low-dose or short-term asbestos exposure.

Ventilatory impairments were frequently noted among old persons, who had a history of occupational asbestos exposure, even if they had no asbestotic pleural changes. Restrictive ventilatory changes have been considered to be the most important respiratory impairment due to asbestos exposure; however, it should be emphasized that obstructive changes and emphysematous functional changes can frequently occur many years after asbestos exposures. Restrictive and obstructive ventilatory impairment was more prevalent and more serious among persons with pleural plaques than those without these changes. Even at present, asbestos-related respiratory disorders are frequently observed among old persons living in the metropolitan area. When we take account of the fact that the import of asbestos rapidly increased since 1960, asbestos health hazards must hereafter spread more widely and become more serious in the metropolitan area.

--Author's abstract in English

1228/81 Asbestos Concentrations in Public Buildings -- A Preliminary Report. J.M. LeGuen and G. Burdett. *Ann. Occup. Hyg.* 24: 185-189, 1981. 6 refs.

Airborne asbestos concentrations were measured by a variety of sampling and analytical techniques, in 4 schools, 2 other educational establishments, 5 houses, a theatre and a television studio, in all of which asbestos-containing construction materials had been used. At some sites these materials had been damaged to expose visible fibres, but in no case did airborne asbestos concentrations exceed 10^{-6} g/m³ roughly 0.02% of the occupational hygiene standard for chrysotile, or 10^{-8} g/m³ in the three cases where the TEM was used.

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1229/81 Lung Instantaneous Time-Constant in Smokers and Non-smokers Exposed to Asbestos. F. Sulotto, et al. *Med. Lavoro* 72: 222-226, May/June 1981. 15 refs. (Italian)

Lung instantaneous time-constant has been calculated from flow volume curves of 4 groups of subjects: 18 smoking asbestos workers, 18 non-smoking asbestos workers, 14 non-exposed subjects, 16 non-smoking non-exposed subjects. All the subjects had normal clinical findings and X-Ray PA films. Asbestos workers showed VC and FEV_{1.0} significantly lower than non-exposed, although the mean values for each group were within normal predicted values. The joint additive effect of asbestos and smoking as well as the individual effects of both were statistically significant of $MEF_{2.5}$, even though all values were within the range of normality. Among the parameters related to time-constant