IN RE: ABRAMS November 1992

483 Particle Deposition by Diffusion in the Lower Lung: Application of Dimensional Analysis. S.K. Friedlander. Am.Ind.Hyg.Assn. J. 25, 37-42 (Jan.-Feb. 1964).

Using dimensional analysis, an expression is derived for the dependence of the particle removal efficiency of the lower lung on the particle diffusion coefficient, the time per breath and parameters related to the structure of the lung. The analysis is limited to particles smaller than a few tenths of a micron in diameter, for which diffusion is the controlling mechanism of removal. It is not necessary to assume a special model for the structure of the lung. The analysis can be used to correlate and extrapolate experimental data; it can also be used to predict the size of the largest particle which is (almost) completely removed in the respiratory region.
-- Author's abst.

484 Asbestos Exposure and Neoplasia. I.J. Selikoff, J. Churg, and E.C.Hammond. J.Am. Med. Assn. 188, 22-26 (April 6, 1964).

Building trades insulation workers have relatively light, intermittent, exposure to asbestos. Of 632 insulation workers, who entered the trade before 1943 and were traced through 1962, 45 died of cancer of the lung or pleura, whereas only 6.6 such deaths were expected. Three of the pleural tumors were mesotheliomas; there was also one peritoneal mesothelioma. Four mesotheliomas in a total of 255 deaths is an exceedingly high incidence for such a rare tumor. In addition, an unexpectedly large number of men died of cancer of the stomach, colon, or rectum (29 compared with 9.4 expected). Other cancers were not increased; 20.5 were expected, 21 occurred. Twelve men died of asbestosis.
-- Authors' abst.

PHYSICAL ASPECTS OF THE ENVIRONMENT

485 Chronic Skeletal Changes in Divers. P.C. Alnor. Bruns Beitr. Klin. Chir. 207, 475 (Dec. 1963).

Based on follow-up examination of 131 divers, new ideas about the orgin and development of chronic injuries of the skeletal system were gained Among the 131 divers, there were 72 pathological findings in the skeleton which in 15 of them were monostotic, and in 57 polyostotic. The head of the humerus was the most prominent site of lesion, whereas in caisson workers the head of the femuris is most frequently involved. In a group of 65 divers, who were followed up for more than a decade, 43 had skeletal changes. Of these, 26 had no symptoms. Of the 17 who had complaints, 7 were without loss of function, 3 had a loss of function, and 7 were incapable to work in their occupation. The role that diver's accidents play in the development of skeletal changes is discussed. The rare occurrence of spontaneous bends resulted in skeletal injuries in more than half of the cases. It is concluded that typical skeletal changes may develop at any time, even a long time after the diver stopped working, and also, when he had never experienced accidents or bends. -- J.Am. Med. Assn. References & Reviews

486 Treatment of Severe Decompression Sickness in Aviators. P.Cannon and T.R. Gould. Brit. Med. J. 1, 278 (Feb.1, 1964).

Four cases of the post-decompression collapse syndrome are described in aviators who have been exposed to a simulated altitude of 37,000 ft.(11,277 m.) in a decompression chamber. The factors which predispose to the development of this

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