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DOCUMENT DESCRIPTION: Asbestos Hazards in the Dental Industry

ASBESTOS HAZARDS IN THE DENTAL INDUSTRY

As a medical profession, in addition to the general knowledge of asbestos hazards available to the dental industry, the hazards of asbestos specific to dental products was reported as early as 1967.

In 1967, a peer reviewed article published in 1967 in the British Dental Journal was titled "The Possible Adverse Effects of Asbestos in Gingivectomy Packs." This article discussed the potential hazards of asbestos in dental products and specifically mentioned asbestosis, lung cancer and mesothelioma as risks of exposure to asbestos. The publication recommended that this particular dental product, asbestos gingivectomy packs, be discontinued because of the hazards posed to dentists working with them.

In April of 1976, the Journal of the American Dental Association published an article titled "Hazards of Asbestos in Dentistry" and a letter presenting added details. The article discussed the known hazards of asbestos, which include the relationship between "asbestos exposure and the development of pulmonary asbestosis and fibrosis, lung cancer, and pleural and peritoneal mesotheliomas." It describes the particular hazard from work with "asbestos used to line casting rings or crucibles for casting machines and in general is kept in the laboratory in large rolls. Here, the danger lies in the tendency for personnel to carelessly cut sections off these rolls and thus release asbestos into the ambient air."

Experts at the National Institute for Occupational Safety and Health replied to the JADA article on asbestos urging that the ADA councils on dental practice "take more aggressive steps to educate the dental profession" about the carcinogenicity of asbestos. They concluded, "Leadership and appropriate measures should be taken to assure that dental students, instructors, and patients are not likewise at increased health risk resulting from dental laboratory or clinical exposure to asbestos." (P Infante and R Lemen. Asbestos in Dentistry. JADA 93: 221-222, Aug. 1976).

In 1981, an article was published containing measurements of air concentrations of asbestos in dental workplaces (D Brune and H Beltesbrekke. Levels of Methyl Methacrylate, formaldehyde, and asbestos in dental workroom air. Scandinavian Journal of Dental Research 89:113-116, 1981). "Fig. 4 presents the number of asbestos fibers in breathing air released during dismantling molds. In two experiments values of 21 and 27 f/cc were measured during the dismantling procedure." It was noted that the dismantling procedure may account for 5 minutes, whereupon exposures would decline to less than 2 f/cc in 10 more minutes. This shows that worker exposures could exceed the ceiling limit in the 1972 OSHA asbestos standard of 10 f/cc for 15 minutes (150 f-min/cc) -- from 5 minutes at 25 f/cc (125 f-min/cc) and then 10 more minutes averaging 2.5 f/cc (25 f-min/cc).