

[C94] [Poster: 531] Lung-Retained Fiber in Pets Confirms Environmental Exposure to Naturally-Occurring Asbestos in Western El Dorado County, California

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RATIONALE: Tremolite-actinolite asbestos has been identified in locations in the western portion of El Dorado county in the Sierra Nevada area of California. This area is under considerable pressure for real estate development. There has been concern about exposure to residents and to children attending schools there, with air and soil measurements and limited remediation by state and federal agencies and individual hygiene companies over the last several years. Previous animal testing found this fiber to have high mesothelioma risk. Analysis of animal lungs for retained mineral fiber has proven useful in exposure assessment in other locations worldwide.

METHODS: We obtained both lungs from four animals at the time of death through veterinarians. Of these, one cat had not lived in the area; one had, but remained indoors, and two dogs had lived in the area for different periods. Analysis of lung fiber burden was by analytical electron microscopy with identification of fiber types by EDS, using Scanning EM in the **SUNY LAB** and Transmission EM in the **McGill Lab**.

RESULTS: The following results were obtained:

LUNG FIBER CONCENTRATION IN EL DORADO COUNTY PETS

ANIMAL	EXPOSURE	SUNY LAB >5µm length	McGill LAB >5µm length	SUNY LAB >10µm length	McGill LAB >10µm length
Cat 1	none	0	0	0	0
Cat 2	9 years, indoors	86,000	157,000	86,000	157,000
Dog 1	> 2 years	1,250,000	566,500	192,000	412,000
Dog 2	> 8 years	9,162,000	928,000	2,030,600	928,000

All results in fibers of Tremolite/ Actinolite / gram dry lung

CONCLUSIONS. Animals studied show long-fiber tremolite-actinolite asbestos in great excess, proportional to exposure.

TUESDAY, May 24, 2005 1:30 pm, Room 1 A/B (Upper Level), San Diego Convention Center

[] Poster Discussion Session (Abstract Page: A818) Session: 1:30 pm-4:15 pm, ADVANCES IN OCCUPATIONAL AND ENVIRONMENTAL DISEASES**

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