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Clinical Aspects of
Asbestos Disease

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Asbestos is a group of naturally occurring fibers that cause a range of human diseases: all fiber types are responsible



1906
Dr. H. Montague Murray
“ One hears, generally speaking, that considerable trouble is now taken to prevent the inhalation of dust, and so the disease is not so likely to occur as heretofore.”

Spectrum of Asbestos Diseases

- Non-malignant: Warts, BAPE, Parenchymal and Pleural Asbestosis
- Malignant: Lung cancer, Mesothelioma (Pleural, Peritoneal, Pericardial, others), GI tract (Esophagus, Stomach, Colon, etc.) Larynx, Oro-pharynx, Kidney

These diseases are often misdiagnosed and/or underreported

Symptoms-often non-specific

- SOB, pain in the chest, cough, abdominal pain, etc

Need to Educate Workers

Merewether and Price 1930

Duration of Exposure
Vs.
Duration of Onset of Exposure

Malignant neoplasms in rats following inhalation of asbestos

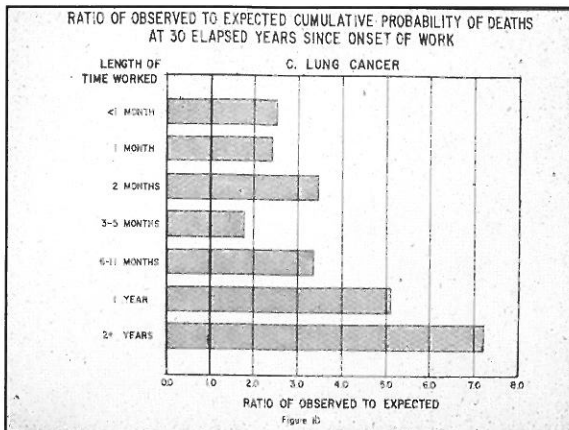
Type of asbestos	Carcinoma	Mesothelioma
Amosite (146*)	11	1
Anthophyllite (145)	16	2
Crocidolite (141)	16	4
Canadian Chrysotile (137)	17	4
Rhodesian Chrysotile (144)	30	0
Controls (126)	0	0

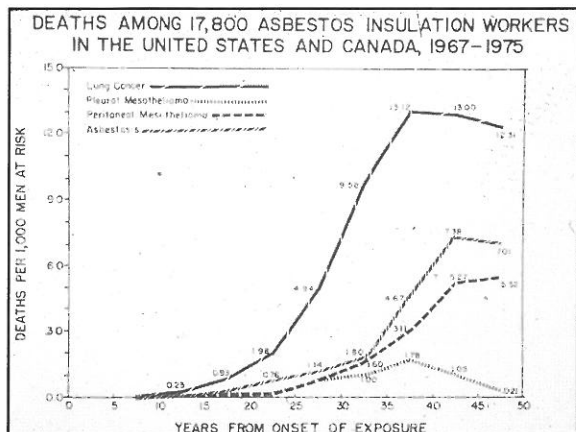
*rats surviving at least 300 days.
[Wagner, J. C. et al. Brit. J. Cancer 29: 252, 1974.]

Malignant Neoplasms in rats following inhalation of asbestos

Exposure	Rats	Carcinoma	Mesothelioma
1 day	219	2	2
3 mos.	180	8	1
6 mos.	90	7	0
12 mos.	129	35	6
24 mos.	95	37	2
Controls	126	0	0

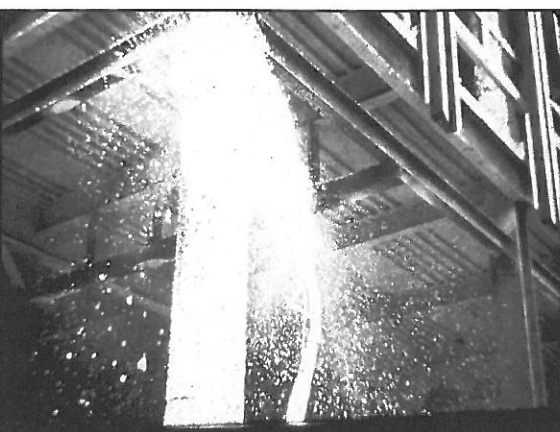
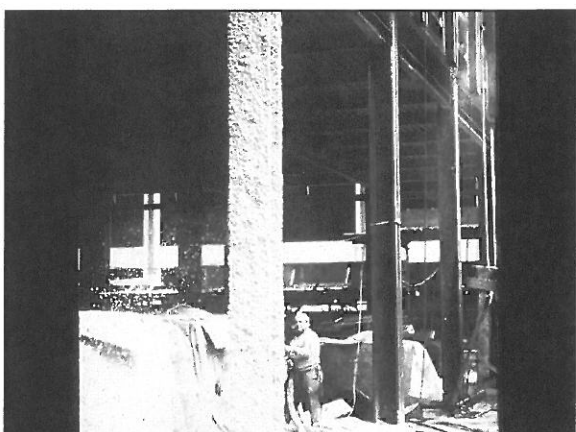
[Wagner, J. C., et al Brit. J. Cancer 29:252, 1974.]

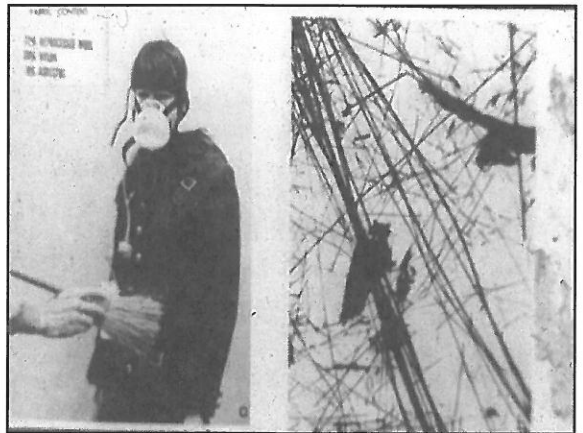
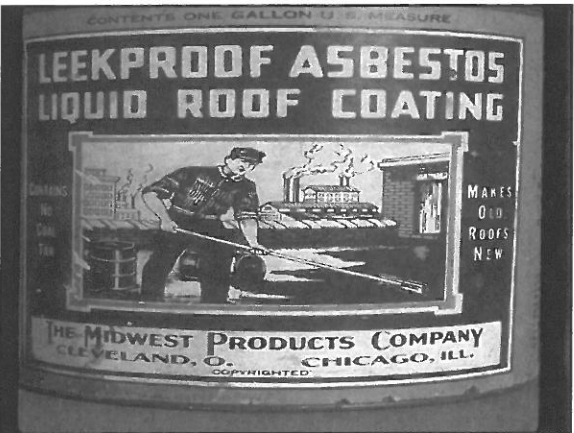
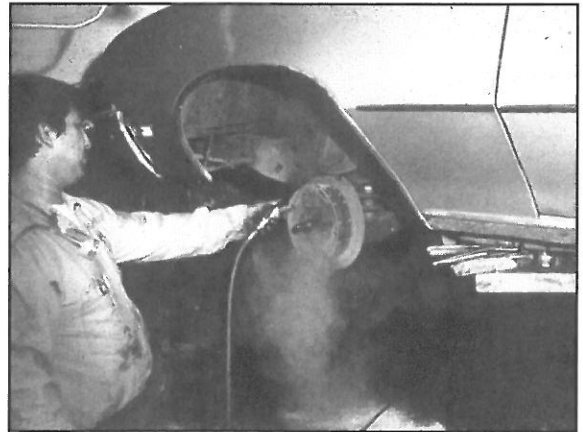
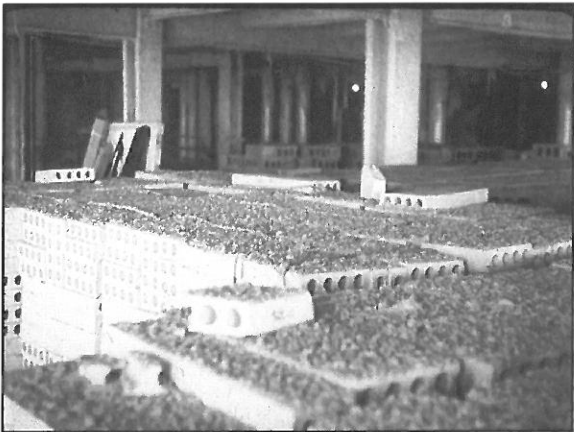
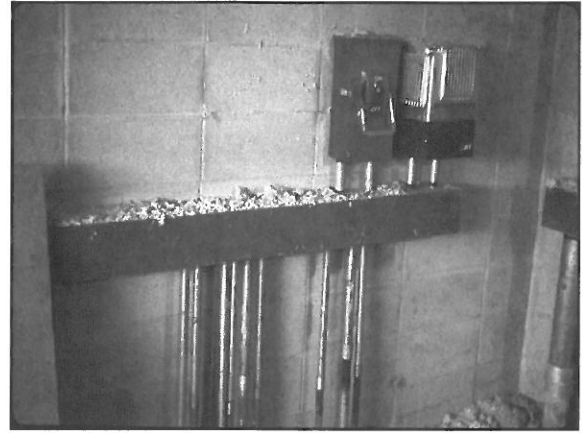
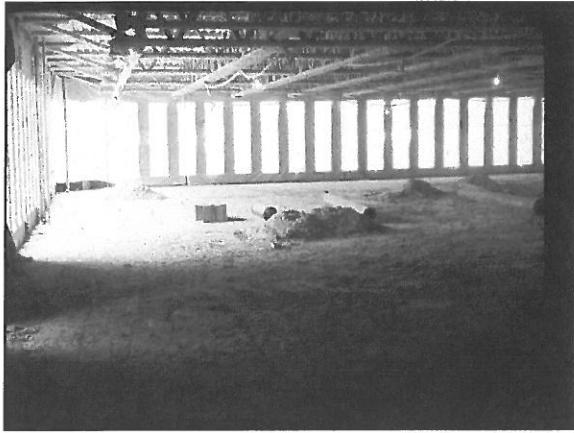


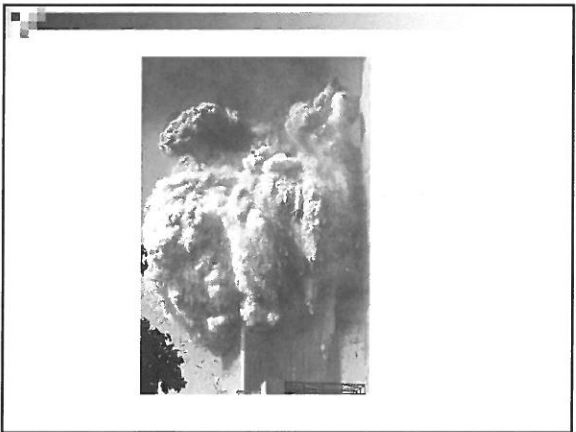
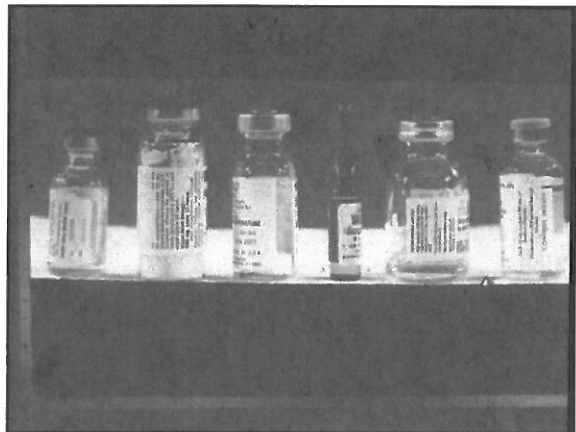
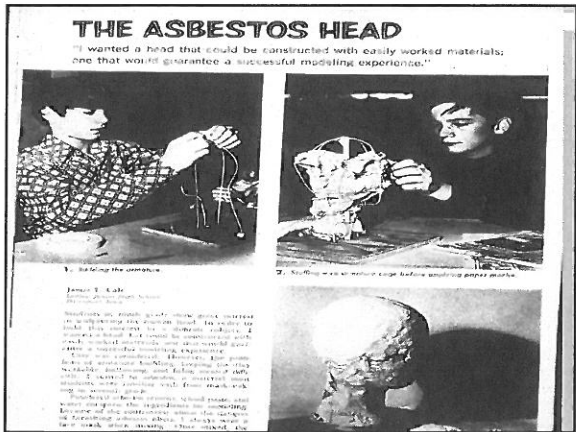


- Significant Risk Occupations
- Asbestos mining and milling
 - Asbestos product manufacture
 - Manufacture of products containing asbestos
 - Insulation installers
 - Construction industry
 - Shipbuilding
 - Ship repair
 - Ship personnel-engineering
 - Maintenance - public buildings
 - Maintenance - refineries, chemical plants
 - Power production - utilities
 - Railroads

- Other risk exposures
- Household contact
 - Consumer products containing asbestos
 - Neighborhood contamination
 - Demolition
 - Waste disposal
 - Transportation
 - Sprayed surfaces in public buildings
 - Etc.







Legacies of the Past

- Health - projected disease and death
- Industrial - wide, continued use
- Engineering - controls not developed
- Regulatory - "feasibility"
- Legal - uncharted complexities
- Physical - 25,000,000T in place

We need to educate physicians, workers,
and use asbestos substitutes