

1.70 but varying
senses. In the lung

Confirmation,
variety and tried
dried chrysotile,
Beattie and Knox
glands, and pleura
chrysotile, for pro-
sis, none, minimal
eral dust obtained
one-tenth normal
as mg./gm. dried

D KNOX (1961)

asbestosis

Moderate	Severe
8	11
6.9	5.2
27	24
6	10
	0.21

dry weight

which are sur-
the average lung
in lungs with the
d (period between
ed dust accumu-

estosis fibers in the
portion of lungs
erably lower than
the nature of the

fibers, in what proportion of the particles in the residue were in fact recognizable as fibers.

The Lung Dust Content of Asbestos Workers from Great Britain

Several years ago a preliminary study had been made in the Safety in Mines Research Establishment of the dust in the lungs of some 20 cases of asbestosis. Most of the lungs had been supplied by R. M. McGowan of the London Pneumoconiosis Medical Panel, others by the Pneumoconiosis Research Unit in Cardiff. The grade of asbestosis had been assessed as minimal, moderate, or severe by the pathologists concerned, using the criteria given by Beattie and Knox (1961, p. 420).

In most cases whole lungs (right, left, or both) were available, and representative samples of one or both lungs were used for analysis. The samples were minced, dried, and ground. Between 20 and 30 gm. of dried ground lung were ashed at 380°C., and total silica and iron oxide were determined chemically on part of the ash. Another sample of ash was extracted with 0.1 N hydrochloric acid, washed with water, and dried to give a mineral residue for examination by light and electron microscopy and X-ray diffraction.

The object of the acid treatment was to remove endogenous lung salts as completely as possible and at the same time to attack the asbestos as little as possible. Experiments with a fine chrysotile sample from Southern Rhodesia (previously used by Smith *et al.*, 1951 and referred to as 2.5 μ sample), and with normal lung ash, were made with different buffers and hydrochloric acid at different concentrations, and 0.1 N hydrochloric acid was finally used as a compromise. It left about 20 per cent of the ash from

TABLE 2
AVERAGE QUANTITY OF MINERAL RESIDUE IN ASBESTOSIS
LUNGS FROM GREAT BRITAIN

	Grade of Fibrosis			All
	Minimal	Moderate	Severe	
Residue per cent dried lung				
Mean	1.4	1.7	1.8	1.6
Range	0.7-2.5	0.8-3.4	0.4-2.8	
No. of samples	5	10	10	25
Residue in grams in both lungs				
Mean	2.8	3.9	3.0	3.2
Range	1.7-5.5	1.6-7.0	1.8-8.3	
No. of samples	5	10	9	24

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