TABLE 3

ASBESTOS ESTIMATES IN MINERAL RESIDUES OF ASBESTOSIS LUNGS FROM GREAT BRITAIN

X-ray and Microscope estimate	Grade of Fibrosis			
	Minimal	Moderate	Severe	All
Much	-	2	2	4
Some	2	3	2	7
Trace or none	3	5	6	14
All	5	10	10	25

a normal lung and removed 30 per cent of the chrysotile, but the remaining chrysotile could still be identified by X-ray diffraction and polarised light microscope techniques.

Detailed results of the analyses, together with exposure and survival times, are given in TABLE 9, in which the lungs have been grouped by decreasing grades of fibrosis. Average results for the amounts of mineral residue found are given in TABLE 2. There is a slight increase in the amount of dust with increasing grade of fibrosis, but the difference between the moderate and severe groups is not significant, and the data expressed as per cent dried lung show hardly any difference.

The residues were examined by light microscopy. The amount of fiber seen ranged from nil to significant proportions in a few residues. Identification of asbestos by X-ray diffraction was based on the appearance and intensities of four lines at 9, 4.5, 3.3, and 3.1 angstrom units. Line intensities and fiber frequencies were scored roughly as "nil or trace," "some," and "much," and a reasonable concordance between both sets of scores was found. Average results for the three grades of fibrosis are set out in TABLE 3.

"Much," "some," and "nil or trace" may correspond to 10, 1, and 0.1 per cent by weight but these are rough guesses. If one assumes that the 11 residues which showed more than traces of asbestos all contained 10 per cent, then the average amount of asbestos found in these lungs would have been 0.17 per cent dried lung (range 0.06 to 0.34 per cent) or less than 0.5 gm. (range 0.17 to 0.70 gm.) in both lungs, but this is likely to be an overestimate.

The type of asbestos found was amosite rather than crocidolite, if one accepts the criterion of the larger refractive index being along the fiber axis as proof. The X-ray diffraction patterns obtained in 9 cm. diameter

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