

Asbestos-associated Disease in United States Shipyards

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CLINICAL LATENCY OF ASBESTOS-ASSOCIATED CANCER

During the past 15 years the important disease potential of asbestos exposure has been clarified. The principal hazards have been demonstrated to be cancer of a number of sites, and asbestosis. Among asbestos workers, approximately 20 percent of all deaths are due to lung cancer, six percent or seven percent to pleural and/or peritoneal mesothelioma, and there is an excess found in several other categories (e.g., cancer of the esophagus, stomach, colon-rectum, oropharynx, larynx, kidney). Table 1 provides an analysis of causes of death among 17,800 asbestos insulating workers in the United States and Canada followed prospectively from January 1, 1967 to January 1, 1977.

Risk of asbestos-associated disease has also been observed in workers in other trades where asbestos exposure occurs—

for example, where individuals simply working near "asbestos workers" are exposed to the same dusts. Risk extends even to individuals not employed in an asbestos-contaminated environment; mesothelioma has been found among family contacts of asbestos workers residing in the same households, as well as among people living within a quarter of a mile or so of asbestos plants or other facilities which have used asbestos-containing materials.

Although mesothelioma is not necessarily the most common disease resulting from asbestos exposure, it provides a very useful index of such problems, since it is only uncommonly seen as a result of exposure to other agents or without identified cause. Large scale investigations of series of cases of mesothelioma in France, Great Britain, the Netherlands^{1,2} and elsewhere have demonstrated that the large majority of these cases can be traced to prior asbestos exposure.

For these neoplasms, as for all cancers due to asbestos exposure (and, indeed, for extensive asbestosis as well), a rather uniform characteristic has been found: the disease usually does not become clinically evident for 15, 25, 35 or more years from onset of asbestos exposure. The initial decades are periods of grace with no illness or disability. While some early X-ray changes may be seen after five to 15 years, they are limited in extent and not usually accompanied by significant symptoms. They merely dem-

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