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BRIEFING ASBESTOS-RELATED DISEASESGeneral

Over exposure to airborne asbestos fiber may cause both malignant and non-malignant disease. The non-malignant disease is asbestosis which is a scarring of the lungs. The malignant diseases are cancer of the lung and possibly (although this is yet to be conclusively proven) of the gastrointestinal tract. Asbestos over-exposure also will cause a malignancy of the lining of the chest cavity (mesothelioma) or of the lining of the abdominal ~~maxx~~ cavity.

Asbestosis

Asbestosis becomes clinically apparent within 10-15 years of first exposure to the material. The symptoms noted by the exposed worker include shortness of breath and a dry cough; in other words, the symptoms are rather non-specific. Examination by the physician will reveal crackling sounds at the base of the lungs which can only be heard through a stethoscope. The chest x-ray will reveal a linear haziness first noted in the lower portions of both lungs. The pulmonary function studies will demonstrate a loss of lung elasticity and the inability of oxygen to move from the aveoli (lung air sacs) into the blood stream (capillary aveolar block).

The disease may be progressive even after the individual has left the known asbestos exposure. However, the condition is not necessarily invariably fatal. For unknown reasons the asbestosis may remain almost stationary.



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In a given asbestos exposed population the condition in various degrees of severity may be present from 3 to 80% of the group. Recent studies in England suggest that controls instituted since the second World War have significantly reduced the prevalence of asbestosis in a working population.

There are several theories regarding the methodology by which asbestos causes asbestosis. The exact methodology is yet unknown.

Our in-plant worker population at Berlin was exposed to significantly levels of asbestos over the entire period that we owned the plant. This is evidenced by over 30 known cases of asbestosis in former and present Berlin plant employees.

The Berlin plant employees have received and are continuing to receive periodic medical examinations directed primarily at detecting asbestos-related disease. These examinations are carried out on previously asbestos exposed workers who are still working at the Berlin plant even though asbestos containing insulation production was halted in the early 1970s.

Asbestos containing calcium silicate insulation was manufactured at the Bloomington plant for a short period of time following our purchase of the facility. Immediately upon purchase, vigorous control measures were instituted to control the asbestos over exposure. There are a number of cases of proven asbestosis in workers at the Bloomington plant. This disease is the result of over exposure received under the former ownership. Medically, it is very unlikely that we contributed to their disease process to any significant degree.

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Asbestos Induced Cancer

Asbestos induced cancer of the lung does occur. This cancer appears to be dose related. In other words, those individuals who have been exposed for the longest period of time to the highest concentration are the most likely to contract asbestos related cancer. Some researchers feel that there would not be a significant increase in asbestos related lung cancer without the complicating factor of smoking. Personally, I feel there is a slight excess of cancer in a non-smoking asbestos worker exposed population. (Kotin would take issue with this.)

In a reasonably heavy exposed worker population who smokes the chances of contracting occupationally related lung cancer is increase 90 times over the non-smoker.

We know of at least two cases of lung cancer occurring in the Berlin asbestos exposed population. Whether these would have occurred without the exposure is unknown. At this time we are unaware of any marked increase cancers in the workers exposed at Berlin.

Mesothelioma

Mesothelioma a malignant tumor of the lining of the chest cavity or the lining of the abdominal cavity is related to asbestos over exposure. It occurs much less frequently than cancer of the lung as a result of over exposure to asbestos. However, this cancer is almost uniformly fatal and has received a great deal of publicity. Although figures vary, mesotheliomas probably represent less than 5% of the malignant deaths due to asbestos over exposure.

It is much more difficult to establish a dose relationship with regard to mesothelioma. Doubtless one exists but even apparently very short matter of weeks exposure has resulted in mesothelioma. This is a confounding factor especially when other signs and symptoms of asbestos exposure are totally lacking.

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In heavily exposed workers it has been demonstrated that familiar contacts have developed mesothelioma. Ironically, one of the scientists which developed the Unarco process in New Jersey died of mesothelioma as well as one or two members of his immediate family.

We have no known mesotheliomas in our Berlin asbestos worker exposed population.

Attached is a copy of questions and answers which were developed by Don Billmaier as an outcome of the orientation sessions he held in May, 1978.

If you have any questions call me.

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