Results of the 2006
University of Manitoba
Asbestos Survey

Allen Kraut, MD, FRCPC
Associate Professor
Departments of Internal Medicine
And Community Health Sciences
University of Manitoba
November 23, 2006
Introduction: In 2002 the University of Manitoba initiated a medical surveillance program of its staff because of concerns raised by the identification of trace amounts of asbestos in a maintenance/storage building, the knowledge that asbestos is present in other locals in the university complex, and the discovery of three cases of malignant mesothelioma in current and former anthropology staff at the University. The administration of the University decided not to restrict staff participation based on either, length of service at the University, or likelihood of contact with asbestos. The survey did not identify any evidence of asbestos related effects in the 228 participants, although many of the staff had not worked at the University for a long enough period of time to account for the latency period of asbestos related health effects. In the spring of 2004 a repeat survey was conducted and again offered to all staff regardless of their job title or duration of service at the University. A total of 116 individuals participated in the second survey. No evidence of asbestos related health effects was identified. A repeat survey was performed in the spring of 2006. This report summarizes the result of that survey.

Methodology: The methodology used was similar to that which was used in 2002 and 2004. The survey consisted of a questionnaire which provided information on occupational exposures. Since asbestos related disorders only surface many years, usually at least fifteen to twenty, after the start of exposure, the potential latency period of asbestos exposure at the University was calculated. This period was calculated as the number of years since the individual began working at the University. Some basic health information was also collected in the questionnaire. The questionnaire was administered by the staff of the Manitoba Lung Association. A chest radiograph and lung function testing were performed by the Manitoba Lung Association. Standard American Thoracic Society procedures were used for the lung function testing. Forced Vital Capacity (FVC), Forced Expiratory Volume in 1 second (FEV₁) and the ratio of FEV₁ to FVC were determined. The chest radiographs were interpreted by Dr. M. Rigby, an experienced thoracic radiologist. The lung function tests were interpreted by Dr. CPW Warren, a respirologist. Dr. A. Kraut, a specialist in occupational and internal medicine, reviewed all of the reports and questionnaires.

The survey was open to all university employees.
Each participant was subsequently sent a letter informing them of the results of their chest radiograph and lung function tests and an explanation of the findings.

**Results:**

In total 70 individuals participated in the survey. Forty-one individuals (59%) had participated in prior surveys and 29 (31%) participated for the first time. Approximately 83% of the participants were men. The participants were classified by job group. All of the participants were maintenance and trades workers or were managers who had worked in these areas. No participants in this round were academic or support staff. In the previous surveys in 2002 and 2004, approximately 50% of the participants were maintenance or trades workers or managers and the other 50% were academic or support staff. On average the workers were 49.5 +/- 8.7 years old and had begun working at the University 13.5 +/- 9.0 years before the survey. The range of duration of time since beginning employment was one year to 37 years. Forty seven percent of the respondents had been working for the University at least 15 years and 9% for at least 25 years, prior to the survey. The duration of time since beginning employment at the University is summarized in the accompanying table. Only five individuals ever reported working on large jobs that involved disturbing asbestos while at the University. Forty five reported working on small jobs, which may have led to the disturbance of asbestos. Almost everyone, 64 individuals, reported potential contact with undisturbed asbestos at the University.

In each survey the number of participants has decreased from 228 in 2002 to 116 in 2004 to 70 in the current survey. However, the per cent age of individuals working in jobs with potential for asbestos exposure has increased. In this survey 45 of the 70 workers (64%) reported working directly with asbestos while in previous two surveys only 44% and 34% of worker did. Thus it appears that many individuals who did not have direct exposure to asbestos are not participating in the surveillance program.

Of the 70 individuals who participated, three declined to have a chest radiograph. Only one of the remaining 67 radiographs was reported as abnormal. This individual’s findings were
consistent with an old infection. No radiograph was reported to show interstitial or pleural fibrosis which may be related to asbestos exposure.

All of the workers had pulmonary function testing. In 66 cases the results were reported as normal. Two individuals had obstruction in their lung function which is most commonly related to cigarette smoking or asthma. This type of change is not due to asbestos exposure. Two individuals had lung function testing consistent with mild restriction. Both individuals had alternative causes rather than asbestos exposure to explain this finding. In both of the cases the chest radiograph was normal. In one case the lung function was unchanged from previous testing and in the other the finding was new. This worker was contacted and a medical review was recommended.

**Conclusions:** No evidence of asbestos related diseases was identified in the survey population. No individual had evidence of asbestos related pleural fibrosis, the most common current finding of asbestos exposure. Although two workers did have changes in their lung function tests compatible with asbestos exposure, the remaining test results and history suggested that these findings were likely due to other causes. Over half of the workers who participated in this survey did not have a 15-year latency period from the start of their employment at the University to demonstrate asbestos related effects. Although a number of these workers, did report prior asbestos exposure in other jobs. The University should consider limiting any future survey to those workers mandated by provincial law and who have at least 15 years of latency from their first potential asbestos exposure either at the university or elsewhere.
Table. Duration of time since the start of employment at the University of Manitoba of participants in the 2006 medical surveillance survey, in years.

<table>
<thead>
<tr>
<th>Duration of time since start of employment (years)</th>
<th>Number of Workers</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 4.99</td>
<td>12</td>
<td>17.1</td>
</tr>
<tr>
<td>5.0 – 9.99</td>
<td>21</td>
<td>30.0</td>
</tr>
<tr>
<td>10.0 – 14.99</td>
<td>4</td>
<td>5.7</td>
</tr>
<tr>
<td>15.0 – 19.99</td>
<td>13</td>
<td>18.6</td>
</tr>
<tr>
<td>20.0 – 24.99</td>
<td>14</td>
<td>20.0</td>
</tr>
<tr>
<td>25.0 +</td>
<td>6</td>
<td>8.6</td>
</tr>
</tbody>
</table>