Former Worker Medical Screening Program (FWP)

Screening Results

Line 1/IAAP: 2002 – March 31, 2019
Ames Laboratory: 2006 – March 31, 2019

Department of Occupational and Environmental Health
The University of Iowa College of Public Health
Total Former Workers Who Have Received Medical Screening

Screenings conducted through University of Iowa & National Supplemental Screening Program (NSSP)

Number of Former Workers

Site & Type of Screening

Line 1/IAAP, since 2002

- Initial Screening: 1,421
- 3 year follow-up Screening: 847
- 6 year follow-up Screening: 531
- 9 year follow-up Screening: 331
- 12 year follow-up Screening: 137
- 15 year follow-up Screening: 34

Ames Laboratory, since 2006

- Initial Screening: 2,138
- 3 year follow-up Screening: 1,080
- 6 year follow-up Screening: 633
- 9 year follow-up Screening: 259
- 12 year follow-up Screening: 29
- 15 year follow-up Screening: 29
## Age of Former Workers Screened

<table>
<thead>
<tr>
<th></th>
<th>Males: average age (age range)</th>
<th>Females: average age (age range)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Line 1/IAAP</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Screening</td>
<td>71 (40 - 95)</td>
<td>72 (45 - 95)</td>
</tr>
<tr>
<td>3 year follow-up</td>
<td>74 (53 - 94)</td>
<td>73 (56 - 92)</td>
</tr>
<tr>
<td>6 year follow-up</td>
<td>75 (57 - 92)</td>
<td>75 (60 - 94)</td>
</tr>
<tr>
<td>9 year follow-up</td>
<td>77 (62 - 94)</td>
<td>77 (63 - 89)</td>
</tr>
<tr>
<td>12 year follow-up</td>
<td>80 (65 - 97)</td>
<td>78 (67 - 88)</td>
</tr>
<tr>
<td>15 year follow-up</td>
<td>81 (69 - 92)</td>
<td>74 (70 - 81)</td>
</tr>
<tr>
<td><strong>Ames Laboratory</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Screening</td>
<td>62 (20 - 98)</td>
<td>57 (21 - 88)</td>
</tr>
<tr>
<td>3 year follow-up</td>
<td>66 (27 - 92)</td>
<td>61 (27 - 88)</td>
</tr>
<tr>
<td>6 year follow-up</td>
<td>70 (32 - 94)</td>
<td>64 (41 - 91)</td>
</tr>
<tr>
<td>9 year follow-up</td>
<td>76 (45 - 93)</td>
<td>69 (47 - 93)</td>
</tr>
<tr>
<td>12 year follow-up</td>
<td>80 (57 - 90)</td>
<td>75 (61 - 89)</td>
</tr>
</tbody>
</table>
Total Former Workers Who Have Received Chest X-ray

<table>
<thead>
<tr>
<th>Site &amp; Type of Screening</th>
<th>Number of Former Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line 1/IAAP</td>
<td>1,317</td>
</tr>
<tr>
<td>Ames Laboratory</td>
<td>2,060</td>
</tr>
</tbody>
</table>

- Initial Screening
- 3 year follow-up Screening
- 6 year follow-up Screening
- 9 year follow-up Screening
- 12 year follow-up Screening
- 15 year follow-up Screening
Chest X-ray Results, Line 1/IAAP

Number of Former Workers

<table>
<thead>
<tr>
<th>Suspected Lung Disease</th>
<th>Number of Former Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asbestosis with or without pleural disease</td>
<td>69</td>
</tr>
<tr>
<td>Asbestos-related pleural disease</td>
<td>57</td>
</tr>
<tr>
<td>Pneumoconiosis</td>
<td>31</td>
</tr>
<tr>
<td>Lung Nodules, Nodes, Lesions</td>
<td>34</td>
</tr>
</tbody>
</table>

Initial Screening

3 year follow-up Screening

6 year follow-up Screening

9 year follow-up Screening

12 year follow-up Screening

15 year follow-up Screening
Chest X-ray Results, Ames Laboratory

Number of Former Workers

- Asbestosis with or without pleural disease: 46 (Initial Screening), 21 (3 year follow-up), 17 (6 year follow-up)
- Asbestos-related pleural disease: 34 (Initial Screening), 7 (3 year follow-up), 6 (6 year follow-up)
- Pneumoconiosis: 20 (Initial Screening), 5 (3 year follow-up), 3 (6 year follow-up)
- Lung Nodules, Nodes, Lesions: 57 (Initial Screening), 18 (3 year follow-up), 2 (6 year follow-up)

Suspected Lung Disease
Total Former Workers Who Have Received Spirometry Test

- **Line 1/IAAP**
  - Initial Screening: 1,347
  - 3 year follow-up Screening: 519
  - 6 year follow-up Screening: 491
  - 9 year follow-up Screening: 317
  - 12 year follow-up Screening: 123
  - 15 year follow-up Screening: 31

- **Ames Laboratory**
  - Initial Screening: 2,094
  - 3 year follow-up Screening: 1,048
  - 6 year follow-up Screening: 614
  - 9 year follow-up Screening: 248
  - 12 year follow-up Screening: 28
Spirometry Results, Line 1/IAAP

Abnormal Breathing Pattern

Number of Former Workers

- Initial Screening
- 3 year follow-up Screening
- 6 year follow-up Screening
- 9 year follow-up Screening
- 12 year follow-up Screening
- 15 year follow-up Screening

- Restrictive Pattern
  - Initial Screening: 379
  - 3 year follow-up Screening: 130
  - 6 year follow-up Screening: 86
  - 9 year follow-up Screening: 38
  - 12 year follow-up Screening: 10
  - 15 year follow-up Screening: 0

- Obstructive Pattern
  - Initial Screening: 140
  - 3 year follow-up Screening: 38
  - 6 year follow-up Screening: 42
  - 9 year follow-up Screening: 30
  - 12 year follow-up Screening: 4
  - 15 year follow-up Screening: 3

- Mixed Pattern (Obstructive/Restrictive)
  - Initial Screening: 129
  - 3 year follow-up Screening: 40
  - 6 year follow-up Screening: 40
  - 9 year follow-up Screening: 16
  - 12 year follow-up Screening: 11
  - 15 year follow-up Screening: 2
Spirometry Results, Ames Laboratory

Abnormal Breathing Pattern

- Restrictive Pattern
- Obstructive Pattern
- Mixed Pattern (Obstructive/Restrictive)

Number of Former Workers:

- Initial Screening: 346
- 3 year follow-up Screening: 200
- 6 year follow-up Screening: 46
- 9 year follow-up Screening: 28
- 12 year follow-up Screening: 13

Data distribution over time for different screening periods.
Total Former Workers Who Have Received Beryllium Sensitization Test

Beryllium Lymphocyte Proliferation Test (BeLPT)

- Initial Screening
- 3 year follow-up Screening
- 6 year follow-up Screening
- 9 year follow-up Screening
- 12 year follow-up Screening
- 15 year follow-up Screening

Number of Former Workers

<table>
<thead>
<tr>
<th>Site &amp; Type of Screening</th>
<th>Initial Screening</th>
<th>3 year follow-up Screening</th>
<th>6 year follow-up Screening</th>
<th>9 year follow-up Screening</th>
<th>12 year follow-up Screening</th>
<th>15 year follow-up Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line 1/ IAAP</td>
<td>423</td>
<td>75</td>
<td>1</td>
<td>0</td>
<td>75</td>
<td>1</td>
</tr>
<tr>
<td>Ames Laboratory</td>
<td>1,414</td>
<td>2,084</td>
<td>972</td>
<td>455</td>
<td>65</td>
<td>0</td>
</tr>
</tbody>
</table>

Line 1/ IAAP: 1,414
Ames Laboratory: 2,084
BeLPT Results, Line 1/IAAP

Number of Former Workers

Abnormal Results

- 1 Abnormal BeLPT
- 2 Abnormal BeLPTs
- 1 Abnormal and 1+ Borderline BeLPTs

Initial Screening
- 19

3 year follow-up Screening
- 6

6 year follow-up Screening
- 2

9 year follow-up Screening
- 2

12 year follow-up Screening
- 1

15 year follow-up Screening
- 0
BeLPT Results, Ames Laboratory

Number of Former Workers

Abnormal Results

Initial Screening
3 year follow-up Screening
6 year follow-up Screening
9 year follow-up Screening
12 year follow-up Screening

1 Abnormal BeLPT: 28
2 Abnormal BeLPTs: 23
1 Abnormal and 1+ Borderline BeLPTs: 6

Screening:
- Initial Screening
- 3 year follow-up Screening
- 6 year follow-up Screening
- 9 year follow-up Screening
- 12 year follow-up Screening
# Medical Care Recommended After Screening

<table>
<thead>
<tr>
<th></th>
<th>Occupational-related follow-up (such as occupational lung disease)</th>
<th>Non-occupational-related follow-up (such as chronic diseases)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Line 1/IAAP</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Screening</td>
<td>302</td>
<td>1,081</td>
<td>1,383</td>
</tr>
<tr>
<td>3 year follow-up</td>
<td>84</td>
<td>433</td>
<td>517</td>
</tr>
<tr>
<td>6 year follow-up</td>
<td>50</td>
<td>393</td>
<td>443</td>
</tr>
<tr>
<td>9 year follow-up</td>
<td>24</td>
<td>264</td>
<td>288</td>
</tr>
<tr>
<td>12 year follow-up</td>
<td>6</td>
<td>114</td>
<td>120</td>
</tr>
<tr>
<td>15 year follow-up</td>
<td>1</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>467</td>
<td>2,315</td>
<td>2,782</td>
</tr>
<tr>
<td><strong>Ames Laboratory</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Screening</td>
<td>390</td>
<td>1,572</td>
<td>1,962</td>
</tr>
<tr>
<td>3 year follow-up</td>
<td>202</td>
<td>744</td>
<td>946</td>
</tr>
<tr>
<td>6 year follow-up</td>
<td>121</td>
<td>476</td>
<td>597</td>
</tr>
<tr>
<td>9 year follow-up</td>
<td>39</td>
<td>191</td>
<td>230</td>
</tr>
<tr>
<td>12 year follow-up</td>
<td>3</td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>755</td>
<td>3,008</td>
<td>3,763</td>
</tr>
</tbody>
</table>
## Uncontrolled Hypertension Detected

<table>
<thead>
<tr>
<th>Level of Hypertension</th>
<th>Line 1/IAAP</th>
<th>Ames Laboratory</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hypertensive</strong> (bp &gt;140/90)</td>
<td>302 (37%)</td>
<td>335 (20%)</td>
<td>637 (26%)</td>
</tr>
<tr>
<td><strong>Urgent/ Severe Hypertension</strong> (bp &gt;180/110)</td>
<td>16 (2%)</td>
<td>5 (0.3%)</td>
<td>21 (0.9%)</td>
</tr>
<tr>
<td><strong>Emergent Hypertension</strong> (bp &gt;220/140)</td>
<td>1 (0.1%)</td>
<td>0 (0.0%)</td>
<td>1 (0.04%)</td>
</tr>
<tr>
<td><strong>Total Blood Pressure Readings</strong></td>
<td>811</td>
<td>1,653</td>
<td>2,464</td>
</tr>
</tbody>
</table>
### Uncontrolled Diabetes Mellitus Detected

#### Glucose Test

<table>
<thead>
<tr>
<th></th>
<th>Line 1/IAAP</th>
<th>Ames Laboratory</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hyperglycemia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(non-fasting glucose ≥200mg/dL)</td>
<td>154 (11.2%)</td>
<td>53 (2.6%)</td>
<td>207 (6.2%)</td>
</tr>
<tr>
<td><strong>Total Glucose Tests</strong></td>
<td>1,346</td>
<td>2,009</td>
<td>3,355</td>
</tr>
</tbody>
</table>

#### A1c Test

<table>
<thead>
<tr>
<th></th>
<th>Line 1/IAAP</th>
<th>Ames Laboratory</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fair Control of Diabetes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(hemoglobin A1c 7.1—9.0)</td>
<td>104 (14.7%)</td>
<td>46 (5.2%)</td>
<td>150 (9.5%)</td>
</tr>
<tr>
<td><strong>Poor Control of Diabetes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(hemoglobin A1c ≥9.1)</td>
<td>24 (3.4%)</td>
<td>8 (0.9%)</td>
<td>32 (2.0%)</td>
</tr>
<tr>
<td><strong>Total A1c Tests</strong></td>
<td>706</td>
<td>878</td>
<td>1,584</td>
</tr>
</tbody>
</table>