**What is Mesothelioma?**

Malignant mesothelioma is a disease in which cancer cells form in the thin layer of tissue that covers the lung, heart, interior lining of the chest wall, abdominal organs, interior lining of the abdominal wall, or the testicles. Mesotheliomas can start in four main areas in the body:

- **Pleural mesotheliomas** start in the chest and account for three out of four mesotheliomas cases
- **Peritoneal mesotheliomas** begin in the abdomen and account for most of the remaining cases of mesotheliomas
- **Pericardial mesotheliomas** start in the tissue surrounding the heart and are very rare
- **Mesotheliomas of the tunica vaginalis** start in the outer layer of the testicles and are also very rare

**Key Risk Factors**

- Asbestos exposure, usually from workplaces such as mines and construction sites, is the most common risk factor for pleural mesothelioma
- High doses of radiation to the chest or abdomen
- Infection with *simian virus 40* (SV40)
- Older age (≥65)
- Male gender

**Diagnosis and Prognosis**

If symptoms suggest mesothelioma, imaging tests, blood tests, and evaluation of the fluid and/or tissue samples removed from the abnormal area are used for diagnosis.

The prognosis of mesothelioma depends on how advanced the cancer is and how far it has spread. The table below shows the median survival of patients with pleural mesothelioma who were treated with surgery between 1995 and 2009:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Median Survival Time with Surgery</th>
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</thead>
<tbody>
<tr>
<td>I</td>
<td>21 months</td>
</tr>
<tr>
<td>II</td>
<td>16 months</td>
</tr>
<tr>
<td>III</td>
<td>12 months</td>
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<tr>
<td>IV</td>
<td>19 months</td>
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</tbody>
</table>

**Incidence**

Incidence rates for malignant mesothelioma vary widely around the world. For example, Japan reports an incidence of 7 people per million, while Australia reports an incidence of 40 people per million.

Most recently reported statistics include approximately 2,667 new cases of mesothelioma each year in the U.K. and about 3,000 new cases each year in the U.S.

Overall, the highest rates of mesothelioma are reported from some countries in Europe (United Kingdom, The Netherlands, Malta, Belgium), Australia and New Zealand.
Despite advances in the field of mesothelioma cancer, the prognosis remains poor for the majority of patients diagnosed with advanced stage disease. There is clear unmet clinical need for new treatment options. To learn about current clinical trials in mesothelioma cancer, visit www.clinicaltrials.gov and search for 'mesothelioma'.

Treatment

Current treatment options for mesothelioma may include:

- Chemotherapy
- Radiation therapy
- Surgery

Need for Further Research

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References


Immuno-oncology is a top priority for Merck KGaA, Darmstadt, Germany, and Pfizer Inc. The global strategic alliance between Merck KGaA, Darmstadt, Germany, and Pfizer Inc., New York, US, enables the companies to benefit from each other's strengths and capabilities and further explore the therapeutic potential of immunotherapy. The alliance is focused on developing high-priority international clinical programs to investigate immunotherapy regimens, and is striving to find new ways to treat cancer.

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