Advanced Prostheses Offer Clinical Benefits and Cost Savings

RAND study demonstrates value of microprocessor-controlled knees for transfemoral amputees

Microprocessor-controlled knees (MPKs) are associated with substantial improvement in physical function and reductions in incidences of falls and osteoarthritis compared to non-MPKs (NMPKs), according to a recent study by the RAND Corp. The report, titled “Economic Value of Advanced Transfemoral Prosthetics,” documents the results when RAND developed a simulation model to assess the different clinical outcomes and costs of MPKs versus NMPKs.

**FEWER FALLS AND DEATHS PER EVERY 10,000 PEOPLE**

- **82** Number of fewer major injurious falls for MPK users.
- **62** Number of fewer minor injurious falls for MPK users.
- **11** Number of fewer deaths for MPK users.

**IMPROVED QUALITY OF LIFE**

- **37 Percent** Estimated improvement in quality of life for MPK users using the SF-36 scale.
- **21 Percent** Estimated improvement in quality of life for MPK users using the EQ-5D scale.

**LOWER DIRECT HEALTH-CARE COSTS**

- **$2,890** Average annual health-care cost per MPK user.
- **$6,566** Average annual health-care cost for NMPK user.

**REduced INDIRECT COSTS**

- **$417** Amount of reduction in lost wages for MPK users.
- **$634** Amount of reduction in caregiving expenses for MPK users.

“The RAND Corp. study shows that there is a much higher risk of injury or death when Medicare and private payors refuse to permit access to the only slightly more expensive new generation of artificial knee and lower limb.”

—AOPA President Michael Oros, CPO, FAAOP

**Injurious Falls Per 10,000 Person Years**

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<thead>
<tr>
<th></th>
<th>Major injury</th>
<th>Minor injury</th>
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<tbody>
<tr>
<td>MPK</td>
<td>22</td>
<td>16</td>
</tr>
<tr>
<td>NMPK</td>
<td>104</td>
<td>78</td>
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