

A man with a prosthetic leg is standing in a clinical setting, holding onto a wooden handrail. He is wearing a dark blue t-shirt, dark blue shorts, and white sneakers. A male healthcare professional on the left is holding a tablet and looking at the man. A female healthcare professional on the right is standing behind him, looking down at his leg. The background is a bright, modern clinical space with large windows and a potted plant.

ottobock.

**Kenevo.**  
Main clinical  
takeaways.



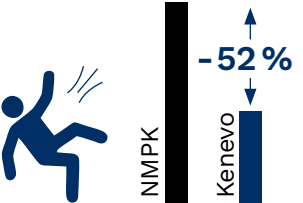

Information for professionals

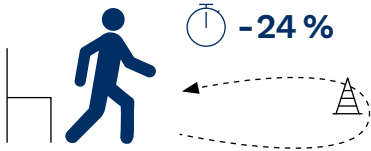


# Main clinical takeaways.

More than 140 patients were included in clinical studies investigating the **Kenevo** microprocessor controlled prosthetic knee. Compared with non-microprocessor controlled knee joints (NMPKs), faster and easier walking and improvements in safety were shown. The following paragraphs outline the clinical proven outcomes for **Kenevo** use compared to NMPKs.

## Safety.

Safety among **Kenevo** users is impressively improved, with fewer falls, stumbles as well as less risk and fear of falling compared to NMPKs.

Mobility needs or deficient of the patient	Evidence for benefits of the <b>Kenevo</b> compared to NMPKs
Patient stumbles repeatedly	<ul style="list-style-type: none"> <li>● <b>Reduced frequency of stumbles</b> <sup>(2)</sup></li> </ul>  <p>Frequency of stumbles:  <b>Up to 50 % of subjects never stumble with Kenevo</b> (improvement by 42 % from 8% to 50% from previous prosthesis)</p>
Patient falls repeatedly	<ul style="list-style-type: none"> <li>● <b>Reduction in falls</b> <sup>(2-4)</sup></li> </ul>  <p>Number of falls:  <b>Up to 80 % reduction in falls with MPKs</b> (including <b>Kenevo</b>) <sup>(2-4)</sup></p>
	<ul style="list-style-type: none"> <li>● <b>Reduced falls after one year of usage</b> <sup>(1)</sup></li> </ul>  <p>Falls in one year use:  <b>Up to 52 % fewer falls in 12-month use</b> <sup>(1)</sup></p>
	<ul style="list-style-type: none"> <li>● <b>Higher percentage of subjects who never fall</b> <sup>(2)</sup></li> </ul>  <p>Frequency of falls:  <b>Up to 72 % never fall with Kenevo</b> (improvement by 27 % from previous prosthesis)</p>

<b>Mobility needs or deficient of the patient</b>	<b>Evidence for benefits of the <i>Kenevo</i> compared to NMPKs</b>
<p>Patients stumbles and falls repeatedly and has fear of falling</p>	<ul style="list-style-type: none"> <li> <b>Significant reduction in risk of falling</b> <sup>(3)</sup> presented by improvements in Timed for Up and Go Test (TUG) <sup>(1, 4)</sup> and the Activity Balance Scale (ABC) <sup>(3, 5)</sup>.           </li> </ul> <div data-bbox="539 1099 911 1249">  </div> <div data-bbox="979 1133 1417 1218"> <p>Risk of falls:  <b>Up to 24 % reduction in completion time for the TUG</b></p> </div>
	<ul style="list-style-type: none"> <li> <b>Significant reduction in fear of falling</b> <sup>(1)</sup> </li> </ul> <div data-bbox="598 1391 853 1532">  </div> <div data-bbox="979 1424 1386 1509"> <p>Fear of falling:  <b>Up to 21 % reduction in Fear of Falling Related Avoidance Behaviour (FFABQ)</b></p> </div>
	<ul style="list-style-type: none"> <li> <b>Increased patient-perceived safety</b> <sup>(3)</sup> </li> </ul> <div data-bbox="651 1664 802 1816">  </div> <div data-bbox="979 1677 1361 1787"> <p>Patient-perceived safety:  <b>Up to 83 % of subjects reported increased perceived safety with MPKs (including <i>Kenevo</i>)</b></p> </div>

# Functions and activities – level walking, stairs and ramps.

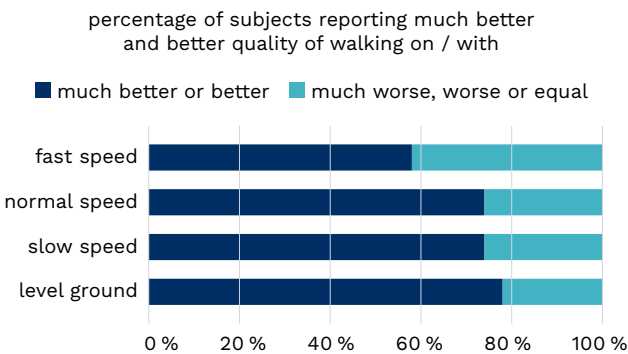
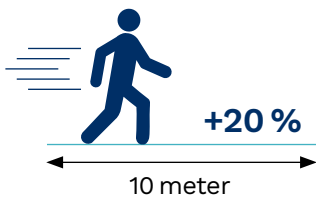
**Kenevo** users walk up to 20 % faster in the 10 m walking test than their NMPK counterparts after one year of use. Most users (64 %) also report better walking quality on uneven surfaces as well as a better quality in ascending and descending stairs and ramps.

## Level walking

Mobility needs or deficient of the patient	Evidence for benefits of the <i>Kenevo</i> compared to NMPKs
Patient has limited mobility	<ul style="list-style-type: none"><li>• Improved walking speed <sup>(1)</sup></li><li>• Higher quality of walking on level ground, walking with slow, normal, and fast speed <sup>(2)</sup></li></ul>
Patient has difficulties negotiating obstacles	<ul style="list-style-type: none"><li>• Higher quality of walking on uneven ground in <b>64 %</b> of subjects <sup>(2)</sup></li></ul>

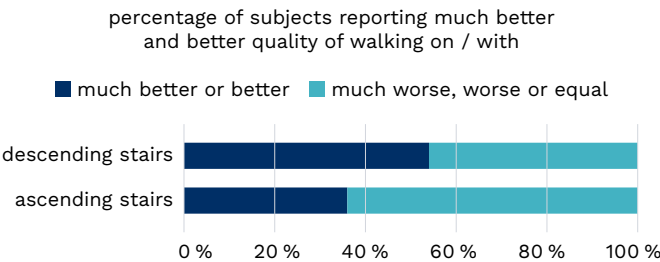
Walking speed: <sup>(1)</sup>

**Up to 20 % improved walking speed in 10 meter walking test**



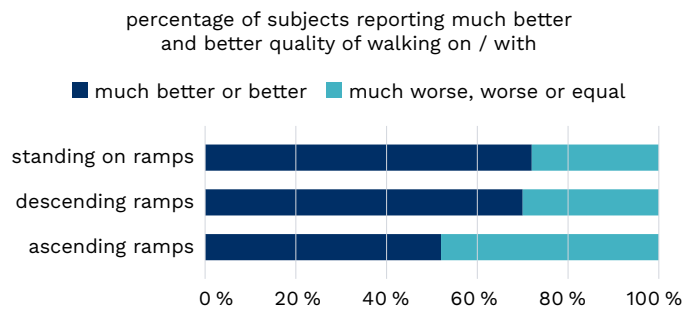
## Stairs

Mobility needs or deficient of the patient	Evidence for benefits of the <i>Kenevo</i> compared to NMPKs
Patient has difficulties negotiating stairs	<ul style="list-style-type: none"><li>• Higher quality walking on stairs (ascending and descending) <sup>(2, 3)</sup></li></ul>



## Ramps

Mobility needs or deficient of the patient	Evidence for benefits of the <i>Kenevo</i> compared to NMPKs
Patient has difficulties negotiating slopes/hills	<ul style="list-style-type: none"> <li>• <b>Higher quality of walking on ramps</b> (ascending, descending and standing) <sup>(2)</sup></li> </ul>



## Functions and activities – cognitive demand and energy.

With **Kenevo** most users (79 %) experience reduced concentration needed and 84 % of users experience less exertion during walking.

### Cognitive demand


Mobility needs or deficient of the patient	Evidence for benefits of the <i>Kenevo</i> compared to NMPKs
Patient has difficulties to concentrate during walking	<ul style="list-style-type: none"> <li>• <b>Lower level of concentration during walking</b> <sup>(2)</sup></li> </ul> <div> <p>Concentration during walking: <b>Up to 79 % of subjects experience less/much less concentration during walking</b></p> </div>

### Energy

Mobility needs or deficient of the patient	Evidence for benefits of the <i>Kenevo</i> compared to NMPKs
Patient has limitations at work	<ul style="list-style-type: none"> <li>• <b>Less exertion during walking</b> <sup>(2)</sup></li> </ul> <div> <p>Exertion during walking: <b>Up to 84 % of subjects experience less/much less exertion during walking</b></p> </div>


## Functions and activities – activity, mobility and ADLs.

50 % of MPK users have the chance to improve their mobility grade from MG2 to MG3, and up to 50 % of **Kenevo** users reported a reduced dependency on a wheelchair. Users also demonstrated an improved ability to manage everyday challenges – like opening heavy doors, walking backwards or on uneven ground.

Mobility needs or deficient of the patient	Evidence for benefits of the <i>Kenevo</i> compared to NMPKs
Patient has limited mobility	<ul style="list-style-type: none"> <li>● <b>Mobility increased</b> presented by significant in-creased LCI global mean <sup>(2, 4)</sup> and significant increases PLUS-M and ABC scale in early rehabilitation <sup>(5)</sup></li> <li>● <b>Improved mobility grade (MG)</b> <sup>(3)</sup></li> </ul> <div>  <p>Mobility grade: <b>50 % improved to MG 3 from MG2 with MPKs</b></p> </div>
Uses wheelchair and walking aids	<ul style="list-style-type: none"> <li>● Wheelchair dependency decreased by up to <b>50 %</b> of subjects <sup>(2)</sup></li> </ul>
Difficulties with performing activities of daily living	<ul style="list-style-type: none"> <li>● <b>Improved ability to perform complex movements</b> (opening heavy door, walking backwards, walking on uneven terrain) <sup>(3, 4)</sup></li> </ul>

## Preference and satisfaction.

Nearly 90 % of patients prefer **Kenevo** over their previous NMPK. Further users report a significant increase in satisfaction and quality of life.

Mobility needs or deficient of the patient	Evidence for benefits of the <i>Kenevo</i> compared to NMPKs
Patient has limitations at work	<ul style="list-style-type: none"> <li>● <b>Preference for <i>Kenevo</i></b> <sup>(2)</sup></li> </ul> <div>  <p>Preference: <b>Up to 89 % of subjects prefer <i>Kenevo</i> over previous NMPKs</b></p> </div> <ul style="list-style-type: none"> <li>● <b>Satisfaction and domains of QoL significantly increased</b> presented by improvements in SF-36 and QUEST 2.0 scores <sup>(4)</sup></li> </ul>

## References

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More details can be found  
in the study summaries



