

Kenevo

Put patients first



Quality for life

Kenevo: A new level of safety for those who need it most



The Kenevo has a lot to offer.

Moderately active users need a knee joint that supports them in specific movement sequences and has a clear focus on safety. The Kenevo is the world's first prosthetic knee to use state-of-the-art technology developed specifically for the needs of users with mobility limitations.

The Kenevo is an intuitive, intelligent solution making everyday life significantly easier for its users. New features: automatic ramp detection with additional support during descent and battery charging feature that can be used through the foam cover offer users greater freedom of movement and make the prosthesis easier to handle.



Product highlights

The new Kenevo

Thanks to its extended functionality, the new Kenevo simplifies and enriches the user's life. More independence means significantly more quality of life.

- 1 Bluetooth**
Integrated Bluetooth technology permits communication with the knee joint for programming and use of the Cockpit App.
- 2 Knee angle sensor**
The knee angle sensor provides important information to precisely determine the amount of knee flexion.
- 3 Inertial motion unit (IMU) and microprocessor**
Gyroscope and acceleration sensors allow the spatial position and acceleration to be determined in real-time. The microprocessor receives the signals and controls the motion of the joint instantaneously. This allows for high safety and the ability to adapt to the skills of each individual user.
- 4 Hydraulic unit**
The hydraulic unit is controlled by the microprocessor, which generates knee flexion and extension resistance, providing support for the individual needs of the user.
- 5 Carbon frame**
In order to withstand the varied demands of everyday life, the frame is made of carbon – an especially strong, high-grade, and lightweight material.
- 6 Inductive charging unit**
A rechargeable battery provides the energy required to power the unit. The inductive charging unit easily attaches to the back of the knee joint magnetically, making it easy to use for people with hand dexterity challenges. A fully charged battery will last for one full day.
- 7 Intelligent AXON tube adapter**
The AXON tube adapter is instrumented with a vertical force sensor that measures the axial load acting on the knee. The force information helps the microprocessor make adjustments to the hydraulic unit in real-time, providing safety and function to the user as needed.

New features

- Automatic switching to lower knee flexion resistance for a stationary indoor bicycle
- Automatic ramp detection with additional support during descent
- The prosthesis can be donned while seated thanks to complete flexion of the knee joint
- User-controlled adjustments to the knee through the Cockpit App
- Convenient charging without removing the foam cover
- Approved for hip disarticulation

Notice: For more information on the new Kenevo, please visit ottobockus.com or ottobock.ca.



Everyday situations for

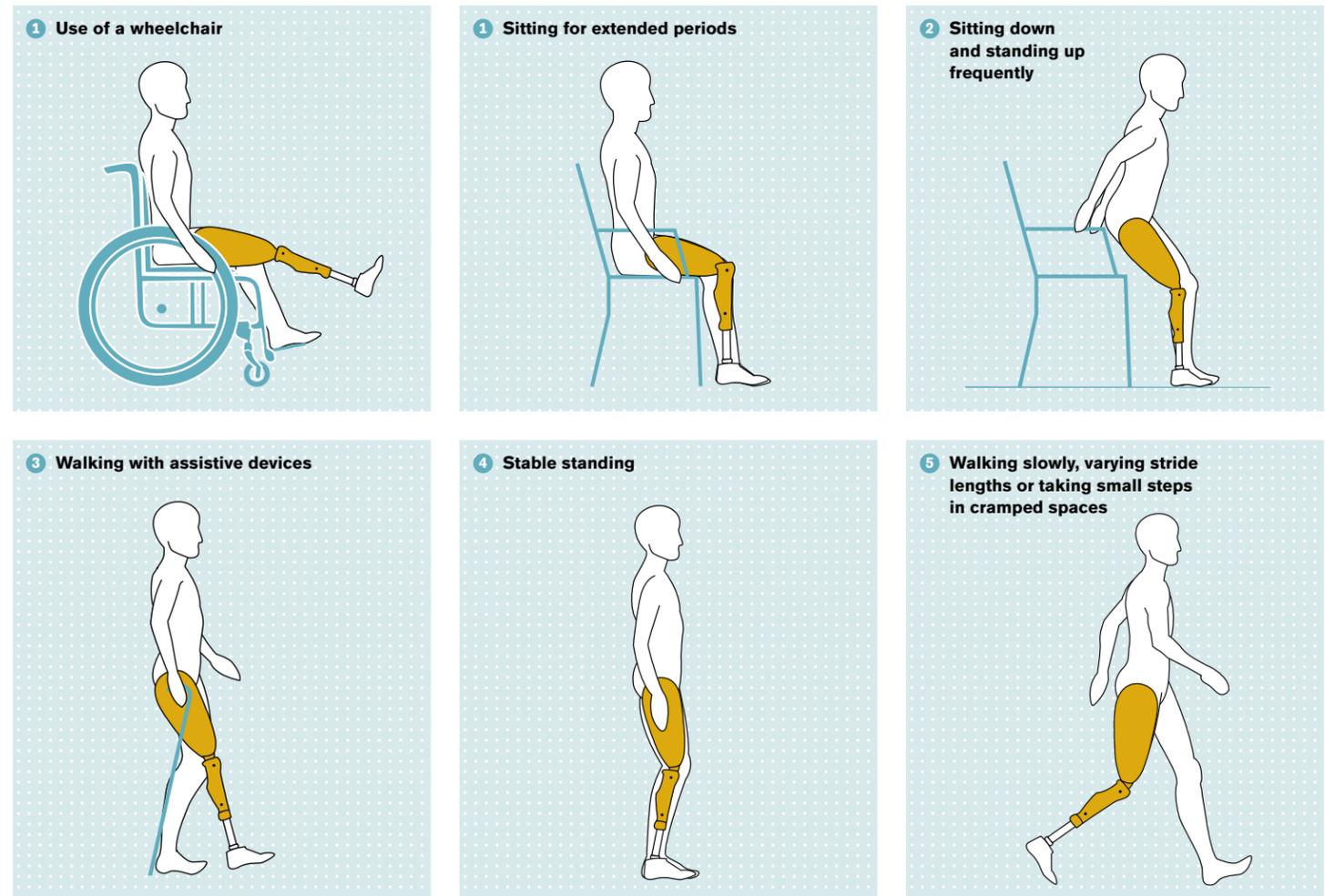
Moderately active users

The Kenevo is ideal for K2, low-K3* users who need a high level of stability. It offers a huge boost to the user's independence. Thanks to unique technology that builds upon intelligent solutions and extensive experience in the field of prosthetics, the new Kenevo now offers even more benefits.

Three functional modes enable the Kenevo to adapt to the user's needs, providing more independence and mobility than ever before. As the user's abilities develop, you can select a higher functional mode. These functional modes supplement the basic functions, which were developed specifically for low mobility users in typical everyday situations.

The Kenevo is a microprocessor knee solution for people who are especially reliant on assistive devices to cope with everyday situations or focusing on stability and safety.

The Kenevo makes users feel safe again, allowing them to become more mobile and independent.



*More specifically, for patients who walk with speeds of up to 1.9 mph and up to ½ mile outside the house per day.

The basic functions

Unique safety

The Kenevo has basic functions that are always active, regardless of how it is adjusted or which functional mode is selected.



Enhanced safety
Supported sitting down
Supported standing up
Stance function
Wheelchair function
Intuitive stationary indoor
bicycle function

1 Supported sitting down

The Kenevo automatically detects sitting down, once the user begins that movement. The knee provides progressive resistance so that the support is consistent throughout the process of sitting. The ability to load both limbs facilitates smooth and controlled sitting down. Once the user is seated, the Kenevo switches to energy saving mode.

Benefits

- Improves symmetry during the sitting transition
- No manual unlocking necessary; both hands are free for support on the armrests or assistive device
- Relieves the contralateral side by shifting load to both legs
- The joint is slightly damped in flexion while sitting

2 Supported standing up with flexion lock

The Kenevo automatically detects when the user starts to stand up. If the user cannot stand up in a single motion, the Kenevo provides support by blocking knee flexion (from 45° up to extended prosthesis).

Benefits

- It can block further knee flexion if the individual loses balance or must pause when standing up
- The user can rely on the prosthesis if standing up in a single motion is too tiring
- If the user is unable to complete standing up, the knee joint switches automatically into supported sitting down mode

3 Enhanced safety

The Kenevo has various safety features, one of which is Stumble Recovery Plus. The Kenevo provides stumble recovery during swing flexion and swing extension. This safety feature is active any time an interruption in swing is detected, whether the individual takes a misstep or the prosthetic toe catches the ground. The Kenevo also has a protective mechanism whereby the knee will switch to a high resistance state if the knee overheats or the battery is drained.

Benefits

- Reduced risk of falling – if the user trips, they have the opportunity to regain their balance
- The increased stability can increase the user's confidence in the prosthesis
- Thanks to the IMU, walking backward possible with consistently high level of safety
- Safety is not compromised even in the event of overheating or if the battery is empty

4 Wheelchair function

When sitting, the user can lock the Kenevo between 45° flexion and a nearly extended leg. This is especially helpful when sitting in a wheelchair, if more room is needed between the prosthesis and the ground. The user activates the function by raising the lower leg to the desired position. It is deactivated with the same motion pattern or with slight pressure on the toes. If the function is active, the Kenevo is in energy saving mode. The practitioner can switch the wheelchair function on or off as needed with the K-Soft adjustment software.

Benefits

- Wheelchair is easier to maneuver thanks to the ground clearance
- Easy to switch on or deactivate temporarily

5 Stance function

The Kenevo provides maximum stability when the user is in a standing position. The intuitive stance function provides support in functional mode C. With its help, the user can bend the joint slightly while standing. This reduces the load on the contralateral side when the joint is locked in the flexion direction. The Kenevo returns to the set stance phase flexion resistance when the user starts to move.

Benefits

- In functional mode C, load can be placed on the flexed prosthesis, allowing the user to adopt a natural, intuitive standing position
- In functional mode C, the user can stand on uneven surface and slopes with the knee bent

6 Intuitive stationary indoor bicycle function

The intuitive stationary indoor bicycle function is activated in K-Soft. Once the user sits down and pedals, the Kenevo automatically switches to lower resistance after a few revolutions. The joint switches back to default settings for walking immediately when the user gets off the indoor bicycle. This mode can also be activated manually by the user via the Cockpit app.

Benefits

- The intuitive stationary indoor bicycle function is activated only when the user is seated
- Switches back to selected mode automatically when the user gets off the indoor bicycle
- Simple and intuitive to use: mount the indoor bicycle, start pedaling, complete exercise session, dismount



The functional modes

Select individually

Featuring three functional modes, the Kenevo is exceptionally adaptable. This allows the knee joint to be adjusted to the user's individual needs and developing abilities.

The professionals involved in the prosthetic fitting process decide which functional mode will best support and benefit the user. For initial mode selection, it is helpful to ask whether the user can control a free knee joint during the swing phase. If not, the practitioner may elect to begin with Mode A. If the user can control the knee joint, the other functional modes may be considered. You, the O&P professional, make the selection with the K-Soft adjustment software.

A Mode A: Locked Mode

In this functional mode, the knee joint is locked during all standing and walking activities, and does not initiate swing phase. The locked mode is appropriate for users with little to no control of their residual limb who may perform transfers or walk short distances in their home.

Benefits

- No risk of knee collapse
- No unexpected movements
- Basic functions allow freedom of movement despite locked knee

B Mode B: Semi-Locked Mode without stance phase flexion

The flexion valve is closed throughout the entire stance phase in mode B. The knee joint unlocks for the swing phase. The stance release occurs late in the stance phase, which increases stability while walking. The Kenevo determines the release threshold for each step so it always occurs at the right time and independent of the load, and provides stumble recovery throughout the entire swing phase. The Kenevo is suitable for walking speeds up to 1.9 mph. Damping at the end of swing phase extension is controlled electronically. Mode B is especially appropriate for users who have limited control over their residual limb, walk short distances, and walk slowly.

Benefits

- No residual limb support necessary during the stance phase
- Users report feeling safe
- Reliable stance release even with small steps and variable load (e.g., when using walking aids such as anterior walkers)
- Greater ground clearance during the swing phase, even when walking very slowly
- Basic functions are active

B+ Mode B+: Semi-Locked Mode with stance phase flexion

This functional mode is like mode B with its late stance release but is supplemented with stance phase flexion up to 10° during loading response. Stance phase extension damping is also adjusted in real-time. Mode B+ is appropriate for the same group of users as mode B. However, in this case, the user has sufficient confidence in the prosthesis to walk with stance phase flexion.

Benefits

- Reliable initiation of the swing phase, even when the user takes small steps or when the load varies (e.g., when using a walking aid)
- Users report feeling safe
- Greater ground clearance during the swing phase, even when walking very slowly
- More physiological gait pattern than in mode B
- Allows walking step-over-step with more symmetrical steps on shallow slopes
- Basic functions are active

C Mode C: Yielding Mode

The user achieves an even more natural gait in yielding mode. In contrast to the other functional modes, the stance phase is not locked but exhibits a high level of damping. This supports the user on uneven surface, slopes, and stairs. Swing phase can be initiated earlier, which promotes more dynamic movements. As in the other functional modes, the stumble recovery is active throughout the entire swing phase, and swing phase extension damping is adjusted automatically. Functional mode C is suitable for users who have moderate control over their residual limb, are able to deal with various everyday situations, and can cover short to medium walking distances outdoors.

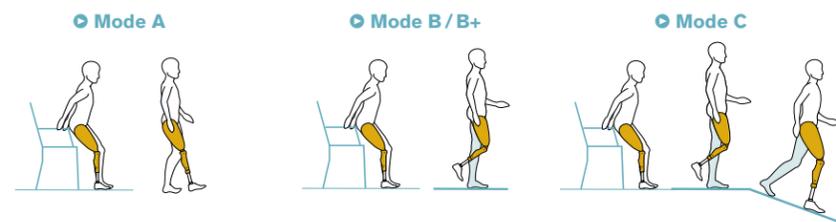
Benefits

- Walking step-over-step on moderate and steeper slopes is possible
- Walking step-over-step down stairs is possible
- More physiological gait pattern than in the other activity modes
- The swing phase is initiated earlier than in mode B, making gait more dynamic
- High level of safety when standing with flexed knee (intuitive stance)
- Basic functions are active

Functional modes

Overview

The chart shows the supported features in each functional mode in detail. This helps you select the functional mode corresponding to the user's current abilities. If the user requires a high degree of safety, the Kenevo's mobility can be reduced. As the user's mobility increases, you can adjust the Kenevo to match their progress by increasing its functionality.



	Mode A	Mode B / B+	Mode C
Stance phase	🔒	🔒 or 10° flexion	High damping
Swing phase	🔒	🔓	🔓
Stumble Recovery Plus	❌	✅	✅
Intuitive stance	❌	❌	✅
Donning function	✅ (optional activation)	✅ (optional activation)	❌
Supported sitting down		✅ (all modes)	
Supported standing up		✅ (all modes)	
Wheelchair function		✅ (optional in all modes)	
Intuitive stationary indoor bicycle function		✅ (optional in all modes)	

Indications and contraindications

Ottobock recommends the following indications and contraindications. The practitioner should be familiar with these points when considering the Kenevo for each individual patient.

The Kenevo is appropriate for patients who

- can walk at speeds of up to 1.9 mph
- need a high level of safety while walking and standing
- require a high degree of support while sitting down and standing up

Indications

- Amputation levels: knee disarticulation (unilateral & bilateral), transfemoral amputation (unilateral & bilateral), hip disarticulation
- K2, low-K3 functional levels*
- Body weight < 275 lbs.
- Patients who are physically and cognitively able to perceive visual/acoustic signals and/or mechanical vibrations

Contraindications

- Amputees with a K3 functional level who walk with speeds of 2 mph or greater and more than 1/2 mile outside the house per day
- Amputees with K4 functional level

*More specifically, for patients who walk with speeds of up to 1.9 mph and up to 1/4 mile outside the house per day.



“I love my walks.”

Detlef, retiree

Prosthesis solution with Kenevo

The Kenevo is highly adaptable and provides stability, while the Terion K2 prosthetic foot ensures better balance and ground compliance. The support they provide for sitting down and standing up is just as helpful as their stability during small steps and the gentle heel strike. The KISS Lanyard system and the Skeo 3D liner are compatible with this component combination. The Kenevo Protective Cover helps imitate the natural shape of the leg.

Simple donning

while sitting – KISS Lanyard system 4R160 with the Skeo 3D liner 6Y88

Potentially prevents back strain while putting on socks and shoes – 4R57 rotation adapter

Safety with every step

and custom adaptation to the user's needs – Kenevo 3C60

Effective protection

and volumizing shape – 4X840 Kenevo Protective Cover

Precision sensors

for natural movement patterns – 2R17 AXON tube adapter

Comfortable heel strike

and rollover – 1C11 Terion K2



Technical data



3C60



3C60=ST

Article no.	3C60	3C60=ST
Color		Desert pearl
Proximal connection	Pyramid	Threaded connector
Distal connection		Tube clamp
Weight without tube adapter	2.02 lbs.	2.03 lbs.
Min. build height with 2R17 tube adapter	279 mm	279 + 9* mm
Max. build height with 2R17 tube adapter	495 mm	495 + 9* mm
Proximal system height to alignment reference point	5 mm	23 mm
Proximal build height to alignment reference point	23 mm	23 + 9* mm
Min. distal system height with 2R17 tube adapter		274 mm
Max. distal system height with 2R17 tube adapter		490 mm
Min. distal build height with 2R17 tube adapter		256 mm
Max. distal build height with 2R17 tube adapter		472 mm
Knee flexion angle		125° without flexion stop**
Frame material		Carbon
Moisture protection / protection rating		IP22 (protected against dripping water)
Battery charger		Inductive charging
K-Level		K2, Low-K3***
Max. body weight		275 lbs.
Walking speed		Walking < 1.9 mph
Battery capacity		> 1 day (we recommend charging every night)

* The thread length is 9 mm. ** Flexion stop reduces the knee flexion angle by 8° or 16°.

***More specifically, for patients who walk with speeds of up to 1.9 mph and up to ½ mile outside the house per day.

AXON tube adapter

Article no.	2R17
Weight	0.6 lbs.
Material	Aluminium
Max. body weight	275 lbs.

The AXON tube adapter is supplied in a standard length and is cut to size with a pipe cutter by the O&P professional. The correct length of the tube adapter is determined using the K-Soft adjustment software.

Tried and tested: components for a Kenevo fitting

Prosthetic socket and adapter



6Y88 Skeo 3D liner
6Y85 Skeo Skinguard
5A60 Varos socket
4R160 KISS lanyard system
4R57 Rotation adapter

Cover options



4X840 Kenevo Protective cover
3S26 Foam cover

Feet



1C11 Terion K2
1C30 Trias

Warranty and service

When purchasing a Kenevo, you and the user have the option of selecting a 3-year or 6-year warranty package. The three-year package is included with the purchase of a Kenevo and can be extended to six years at any time. Every warranty package includes:

- Free repairs* and maintenance during the respective warranty term
- Free loaner unit during maintenance and repairs

* Does not cover superficial damage and damage resulting from improper use, intentional damage, negligence, or force majeure.

Components and accessories

Perfectly matched

All components and accessories for the Kenevo are precisely coordinated. This interplay is a basic prerequisite to allow your patients to enjoy the maximum benefits of their leg prosthesis.

Kenevo Knee joint



Accessories



Liners



Suspension



Adapters



Feet



“The Kenevo makes me feel safe in everyday situations.”

Detlef, retiree



Please note this document is not a replacement for the instructions for use of the respective products. Operate the products only in accordance with the information contained in the accompanying documents supplied.

