BlueCross BlueShield of Illinois

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Title:

Lower Limb Prosthetics, Including Microprocessor Knees

Number:

DME104.012

Effective Date:

07-15-2007

Legislation:

ILLINOIS: None

NEW MEXICO: None

OKLAHOMA: None

TEXAS: None

FEDERAL (applies to all plans): None

Contract:

Each benefit plan or contract defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their providers have the responsibility for consulting the member's benefit plan or contract to determine if there are any exclusions or other benefit limitations applicable to this service or supply. If there is a discrepancy between a Medical Policy and a member's benefit plan or contract, the benefit plan or contract will govern.

Coverage:

GENERAL CRITERIA FOR LOWER LIMB PROSTHESES

Preparatory, initial, permanent, and definitive lower limb prostheses **may be considered medically necessary** when the patient:

- is at functional Level 1-4 (defined in Description section) OR can be expected to reach Level 1-4 within a reasonable period of time; AND
- meets functional level criteria for prosthetic components (additions, substitutions, and/or replacements) as defined below in Tables I, II, and/or III; AND
- is motivated to ambulate; AND
- received a physician prescription for the prosthesis as a result of a recent physician evaluation.

NOTE: Medical records should document the patient’s current functional capabilities and expected functional potential, including an explanation for any difference.

If the patient has Functional Level 0 (defined in Description section), lower limb prostheses **are considered not medically necessary.**

MICROPROCESSOR KNEES

Microprocessor knees that have stance-phase or swing-and-stance phase microprocessors **may be considered medically necessary** for **only** those patients who meet **ALL** of the following criteria:

- Patient is an appropriately active community ambulator, AND
- Patient has undergone extensive evaluation using the Hanger Prosthetics & Orthotics Patient Assessment Validation Evaluation Tool (PAVET ™ Evaluation for Microprocessor Knee form, which is available on the Blue Cross Blue Shield web site—see **NOTE below Table I), AND
- Patient's PAVET™ scores are between 40-72, as detailed in **TABLE I**:

TABLE I **PAVET™ EVALUATION** **CRITERIA FOR MICROPROCESSOR KNEE**	
PAVET™ SCORE:	**MICROPROCESSOR KNEE ALLOWED:**
Overall score 40-49	Microprocessor for stance phase **only** may be considered medically necessary (e.g., Otto Bock Compact®)
Overall score of 50-59, **AND** Cadence score* 14 and below	Microprocessor for stance phase **only** may be considered medically necessary (e.g., Otto Bock Compact®)
Overall score of 50-59, **AND** Cadence score* 15 and above	Microprocessor for swing-and-stance phase may be considered medically necessary (e.g., Otto Bock C-Leg®, Ossur Rheo®)
Overall score of 60-72	Microprocessor for swing-and-stance phase may be considered medically necessary (e.g., Otto Bock C-Leg®, Ossur Rheo®, Endolite Adaptive®)

*** NOTE: Cadence score is determined by the total of PAVET™ questions #1, #2, #7, #14, and #15**

**** NOTE: To obtain the PAVET™ Evaluation for Microprocessor Knee form, go to the Provider / Forms page on the applicable Blue Cross Blue Shield web site, i.e., <www.BCBSIL.com>, <www.BCBSNM.com>, <www.BCBSOK.com>, or <www.BCBSTX.com>.**

Microprocessor knee **is considered not medically necessary** for the following patients:

- Those who have a PAVET™ score less than 40, or
- Those who have a PAVET™ score 73 or greater as this high is unrealistic and indicates possible scoring

discrepancy. (These patients should be re-evaluated.), and/or
- Those who do not meet all of the above criteria.

Microprocessor knees that have only swing-phase microprocessors **are considered not medically necessary.**

The lithium ion battery for the microprocessor knee is included with the knee, and is repaired or replaced by the manufacturer when needed. Repair or replacement of the battery is covered under the manufacturer's warranty. When the manufacturer's warranty has expired, necessary repair or replacement of the lithium ion battery **is considered medically necessary**. Spare or extra batteries **are considered not medically necessary**, as they are convenience items.

One (1) lithium ion battery charger **is considered medically necessary** for each microprocessor knee. More than one (1) battery charger **is considered not medically necessary**.

PROSTHETIC COMPONENTS(i.e., additions, substitutions, replacements, and/or modifications)

Additions, substitutions, replacements, and/or modifications to lower limb prostheses (except microprocessor-controlled prosthetic knees) **may be considered medically necessary** based on the patient's potential functional abilities (**see Table II** below).

EXCEPTION: Certain additions and substitutions to initial or preparatory prostheses are considered not medically necessary as detailed in Table III below, because initial/preparatory prostheses are temporary and include the necessary elements.

NOTE: Functional levels are defined in Description Section below.

TABLE II

ADDITIONS, SUBSTITUTIONS, REPLACEMENTS FOR PERMANENT OR DEFINITIVE (NON-TEMPORARY) PROSTHESIS

Additions, substitutions and/or replacements that **may be considered medically necessary** for permanent/definitive prosthesis, **based on functional level**:

COMPONENT	LEVEL 1 OR GREATER	LEVEL 2 OR GREATER	LEVEL 3-4 OR GREATER
KNEES (Except microprocessor knees)	• 4-Bar knee, friction control • Universal multiplex, friction control	• 4-Bar knee, friction control • Universal multiplex, friction control	• Pneumatic and hydraulic knees • 4-Bar knee, friction control • Universal multiplex, friction control
KNEE-SHIN SYSTEMS	• Exoskeletal knee-shin systems • Endoskeletal knee-shin systems	• Exoskeletal knee-shin systems • Endoskeletal knee-shin systems	• Exoskeletal knee-shin systems • Endoskeletal knee-shin systems
ANKLES	Axial rotation unit	Axial rotation unit	Axial rotation unit

FOOT, ANKLE/FOOT	• External keel SACH foot • Single-axis ankle/foot	• Flexible-keel foot • Multi-axial ankle/foot • External keel SACH foot • Single-axis ankle/foot	• Flex foot system • Energy-storing foot • Multiaxial ankle/foot, dynamic response • Flex walk system or equal • Shank foot system with vertical loading pylon • Flexible-keel foot • Multi-axial ankle/foot • External keel SACH foot • Single-axis ankle/foot
SOCKETS	ALL LEVELS: 1. Two test (diagnostic) sockets **may be considered medically necessary** for an individual prosthesis. More than two require documentation of medical necessity. 2. Socket replacements **may be considered medically necessary** with documentation of functional and/or physiological need. Examples include, but are not limited to: • Changes in residual limb, • Functional need changes.		

TABLE III

ADDITIONS, SUBSTITUTIONS, REPLACEMENTS FOR INITIAL OR PREPARATORY (TEMPORARY) PROSTHESIS

When these **TEMPORARY** (INITIAL/PREPARATORY) **PROSTHESES** are covered:	These additions, substitutions and/or replacements are not covered as they **ARE CONSIDERED NOT MEDICALLY NECESSARY**:
BELOW KNEE—INITIAL or PREPARATORY	• Acrylic socket; leather socket; wood socket; air, fluid, or gel cushion socket; suction socket; • Protective covering; • Ultra-lightweight exoskeletal system; • Flex foot system
BELOW KNEE— PREFABRICATED PREPARATORY	• Test socket , acrylic socket; flexible inner socket; air, fluid, or gel cushion socket; • Protective outer covering; • Molded supracondylar suspension (PTS or similar); • Single-axis knee joints

ABOVE KNEE—INITIAL or PREPARATORY	• Acrylic socket; leather socket; wood socket; air, fluid, or gel cushion socket; • Protective outer covering; • Exoskeletal knee-shin system; • Endoskeletal hydracadence system; • Ultra-lightweight exoskeletal system ; • Flex foot system .
ABOVE KNEE—PREFABRICATED PREPARATORY	• Test socket , acrylic socket ; air, fluid, or gel cushion socket; flexible inner socket ; suction suspension, socket ; • Protective outer covering ;

NOTE: Determination of coverage for selected prostheses and components with respect to potential functional levels represents the usual case. Exceptions will be considered in an individual case if additional documentation is provided that justifies the medical necessity.

MISCELLANEOUS ADDITIONAL COMPONENTS

Prosthetic socks and harnesses **may be considered medically necessary** when essential to the use of the prosthesis.

More than two of the same socket inserts per individual prosthesis at the same time **are considered not medically necessary.**

When immediate postsurgical or early fitting procedures are provided, test (diagnostic) sockets **are considered not medically necessary** as test sockets cannot be used with these procedures.

Codes:

CPT Codes:	HCPCS Codes:
97110, 97112, 97116, 97761, 97762	L5610, L5611, L5613, L5614, L5616, L5620, L5624, L5629, L5631, L5638, L5639, L5640, L5642, L5644, L5645, L5646, L5647, L5648, L5651, L5652, L5670, L5676, L5704, L5705, L5706, L5710, L5711, L5712, L5714, L5716, L5718, L5722, L5724, L5726, L5728, L5780, L5785, L5790, L5795, L5810, L5811, L5812, L5814, L5816, L5818, L5822, L5824, L5826, L5828, L5830, L5840, L5848, L5856, L5858, L5962, L5964, L5966, L5970, L5972, L5974, L5976, L5978, L5979, L5980, L5981, L5982, L5984, L5985, L5986, L5987, L7368 , L5857, L7360, L7362, L7367 , L5000, L5010, L5020, L5050, L5060,

	L5100, L5105, L5150, L5160, L5200, L5210, L5220, L5230, L5250, L5270, L5280, L5301, L5311, L5321, L5331, L5341, L5400, L5410, L5420, L5430, L5450, L5460, L5500, L5505, L5510, L5520, L5530, L5535, L5540, L5560, L5570, L5580, L5585, L5590, L5595, L5600, L5617, L5618, L5622, L5626, L5628, L5630, L5632, L5634, L5636, L5637, L5643, L5649, L5650, L5653, L5654, L5655, L5656, L5658, L5661, L5665, L5666, L5668, L5671, L5672, L5673, L5677, L5678, L5679, L5680, L5681, L5682, L5683, L5684, L5685, L5686, L5688, L5690, L5692, L5694, L5695, L5696, L5697, L5698, L5699, L5700, L5701, L5702, L5703, L5707, L5781, L5782, L5845, L5850, L5855, L5910, L5920, L5925, L5930, L5940, L5950, L5960, L5968, L5971, L5975, L5988, L5990, L5995, L5999, L7600, L8400, L8410, L8415, L8417, L8420, L8430, L8435, L8440, L8460, L8465, L8470, L8480, L8485, L8499 **New Codes Effective 1/2007:** L5993, L5994
ICD-9 Diagnosis Codes:	**ICD-9 Procedure Codes:**
Refer to the ICD-9-CM manual	Refer to the ICD-9-CM manual

Description:

Amputated and/or missing limbs result from accidents, disease, and congenital disorders. A lower limb prosthetic is a device or artificial substitute designed to replace the function and/or appearance of the absent limb.

The patient's condition is an important factor to consider in choosing a prosthesis. To be functionally successful with a prosthesis, the patient must demonstrate sufficient trunk control, good upper body strength, static and dynamic balance, and adequate posture. The basic goals with prosthetic use are stability, ease of movement, energy efficiency, and appearance of a natural gait. The prescription for a prosthesis depends on the activity level and specific needs of each individual patient. Clinical assessment of the patient's rehabilitation potential should be based on the following functional levels:

Level 0: Does not have the ability or potential to ambulate or transfer safely with or without assistance and a prosthesis does not enhance his/her quality of life or mobility.

Level 1: Has the ability or potential to use a prosthesis for transfers or ambulating on level surfaces at fixed cadence; typical of the limited and unlimited household ambulator.

Level 2: Has the ability or potential for ambulating with the ability to traverse environmental barriers such as curbs, stairs, or uneven surfaces; typical of the limited community ambulator.

Level 3: Has the ability or potential for ambulating with variable cadence; typical of the community ambulator who has the ability to traverse most environmental barriers and may have vocational, therapeutic, or exercise activity that demands prosthetic utilization beyond simple locomotion.

Level 4: Has the ability or potential for prosthetic ambulating that exceeds basic ambulating skills, exhibiting high impact, stress, or energy levels; typical of the prosthetic demands of the child, active adult, or athlete.

Generally, the earlier a prosthesis is fitted, the better it is for the amputee. Early ambulation helps keep the patient active, accelerates stump shrinkage, helps prevent flexion contractures, and can reduce phantom limb pain. Immediate postsurgical or early fitting procedures are typically performed in the hospital setting immediately after surgery. These procedures include specific dressings and fittings that are intended to prepare the residual limb for a prosthesis. An initial (preparatory) prosthesis and/or immediate postoperative prosthesis (IPOP) may be used to accelerate the rehabilitation process. It is intended to be temporary for several weeks or months until the stump stabilizes and a permanent (definitive) prosthesis is fitted. The base initial and preparatory prostheses include the necessary elements, and usually additions and/or substitutions are not required. However, many physicians prefer to postpone prosthetic intervention until the wound is healed. If necessary, a patient can be fitted for a definitive prosthesis without ever having a preparatory prosthesis. In this case, the socket fitting should be delayed until the residual limb is fully mature (usually 3-4 months) or until the patient's weight and stump circumference have stabilized.

Amputation level is also a factor to consider in choosing a prosthesis. The following list identifies the base prosthesis for different levels of amputation:

- Partial foot prosthesis (PFP)—for absence of the foot and/or toes below the ankle.
- Ankle (Syme's) Prosthesis (SP)—for absence of the foot and ankle just above the ankle joint.
- Below Knee Prosthesis (BKP)—for absence of the foot and ankle below the knee joint.
- Above Knee Prosthesis (AKP)—for absence of the foot, ankle, shin and thigh above the knee joint.
- Knee Disarticulation Prosthesis (KDP)—for absence of the foot, ankle and shin at the knee joint level.
- Hip Disarticulation Prosthesis (HDP)—for absence of the complete leg including the foot, ankle, shin and thigh at the hip joint level.
- Hemipelvectomy Prosthesis (HP)—for absence of the complete leg including the foot, ankle, shin, thigh, hip and pelvis.

A lower limb prosthesis is made up of a base prosthesis combined with the possible addition of any of the following components:

- Socket;
- Prosthetic sock or liner;
- Socket inserts;
- Pylon, or knee-shin system;
- Articulating joint;
- Suspension system;
- Protective outer covering;
- Foot, ankle, or foot-ankle system.

Each additional or "add-on" component requires justification with regard to medical necessity related to activities of daily living.

The socket is the basis for the connection between the patient and the prosthesis, and a good fit is extremely important to the success of the prosthesis. The most common socket for the BKP is a Patellar-Tendon-Bearing (PTB) design.

With an AKP, the transected femur can support very little weight at its end, so the socket is designed to shift the weight onto the side of the thigh and the pelvis. The quadrilateral socket has a contoured area called the ischial seat that supports the ischium (part of the hip bone). The ischial containment socket is made of more flexible materials, and encapsulates the ischium in a way that provides more stability and control. Sockets can be flexible, expandable, or rigid, and are made of a variety of materials including wood, leather, polyester, acrylic, carbon, plastic, or a combination of these. For example, a rigid carbon frame over a flexible inner socket offers strength and stability with flexibility and comfort.

Prosthetic socks provide comfort and ventilation, and help prevent skin abrasion. They should be changed and laundered daily to reduce skin irritation and dermatitis. Prosthetic liners and socket inserts are made of soft material or gel that is molded to the residual limb and acts as an interface between the hard weight-bearing socket and the skin. The suspension system attaches the prosthesis to the residual limb. This system can be a variety of belts, wedges, straps, suction, inserts, or some combination of these.

Knee-shin systems can be exoskeletal (crustacean) or endoskeletal. The exoskeletal knee-shin system is a one-piece design that entails wood or foam enclosed by a hard plastic finish, usually shaped like a leg, and without interchangeable parts. This type of knee-shin system is very durable and simple. Because it is sturdy and heavy duty, it may be preferred by people who will be in harsh environments, such as farmers or other outdoor workers. Endoskeletal knee-shin systems are more complex and have interchangeable parts under a soft outer cover. Endoskeletal systems are lightweight and have many different component options, such as different knee units that can be introduced as the patient's functional needs change.

The knee joint has three functions: provide support during stance phase of ambulation, produce smooth control during swing phase, and maintain unrestricted motion for sitting and kneeling. The choice of knee depends on the patient's condition and functional level. The options of prosthetic knees include:

- Manual locking knee is a very stable knee that is locked during gait. The patient releases the lock mechanism manually to sit down. This knee may be used for patients who have very short residual limb and/or poor hip strength and are unable to control the knee.
- Single-axis constant friction knee has a simple hinge and single pivot point. These knees are set to walk at one speed, and do not have stance control.
- Weight-activated stance control knee is a single-axis constant friction knee with a braking mechanism. When the patient puts his weight on the knee during gait, a braking mechanism is applied and the knee won't buckle.
- Polycentric knees, also referred to as 4-bar knees, have multiple centers of rotation allowing for stability at all phases of gait. The 4-bar linkage allows the knee to collapse better during the swing phase and to bend easier for sitting. These can incorporate a hydraulic or pneumatic unit to permit variable walking speeds.
- Pneumatic or hydraulic knees have pistons inside cylinders containing air (pneumatic) or fluid (hydraulic); these units adjust gradually to changes in gait speed, which allows walking at variable speeds and permits a somewhat more natural gait.
- Electronic (microprocessor-controlled) knees have computer sensors that monitor data during swing and/or stance phases of gait. This enables the knee to respond quickly and efficiently to changing conditions during ambulation, making the knee function more naturally. Examples of electronic knees include Otto Bock's C-Leg™, Ossur's Rheo Knee™, and Endolite's Adaptive™. The C-Leg™ is versatile, controls both stance and swing, performs better on stairs, and must be combined with one of five specific foot devices. The Rheo Knee™ is very comparable to the C-Leg™, and can be combined with any foot device. The Adaptive Knee™ also has both swing and stance control, but because it is lightweight, durable, and has more emphasis on swing than stance, this knee is well-suited to patients who are very strong and active at a higher functional level. Another electronic knee, Otto Bock's Compact™, is designed for stability in stance phase, and does not have swing microprocessors. This knee would be a good choice for an appropriately active patient with focus on stability, where gait speed is not as important an issue. Knees with processors for swing-only have a lesser degree of stance control, and are considered a clinical option when the patient has a higher activity level combined with a very high residual limb control; examples include the DAW®, Intelligent Knee™, and Seattle Power Knee™.

The basic functions of the prosthetic foot are to provide a stable weight bearing and shock absorbing surface, to replace lost muscle function, and to replicate the anatomic joint. Prosthetic feet can be articulated or non-articulated. Articulated feet have one or more joints. The single-axis foot has one joint, and can be used to help keep the knee stable. The multi-axis foot has motion about all three axes of the ankle and is good for walking on uneven surfaces. The multi-axis and “dynamic response” feet are energy-storing feet. An energy-storing foot is capable of absorbing energy in a flexible keel (horizontal device in the foot) during the roll-over part of the stance phase of gait. The keel then springs back to provide push-off assistance to get the toe off the ground to start the swing phase. The simplest type of non-articulated foot is the SACH (solid ankle-cushion heel) foot, which has a rigid keel, and a soft rubber heel that provides ankle action. The SAFE (solid ankle-flexible-endoskeletal) foot has the same action as the SACH plus the sole is able to conform to irregular surfaces, which makes it easier to walk on uneven terrain. The SAFE foot is also called a “flexible keel foot”. The SACH and SAFE feet are non-energy-storing feet.

There is no precise prescription for lower limb prostheses as fitting a prosthesis is very individualized to each patient. A poorly designed or badly fitted prosthesis can be as disabling as the actual amputation. A prosthesis with components that are appropriate for functional level and physical condition helps the patient avoid future medical problems and injury to the residual limb.

Rationale:

Lower limb amputation is a life-altering event that impacts most activities, including employment, personal relationships, recreation, activities of daily living and self-care. Some determinants of a successful outcome with prosthetic use include comfortable to wear, easy to apply and remove, durable, good mechanical function and reasonably low maintenance. To be functionally successful with a lower limb prosthesis, the patient should demonstrate sufficient trunk control, good upper body strength, static and dynamic balance, and adequate posture. Stability, ease of movement, energy efficiency, and appearance of a natural gait are key elements to achieve with prosthetic use. Some of the challenges faced by prosthetic wearers include changing rate of speed, maneuvering steps, inclines and uneven terrain, fear of falling and avoidance of activity that could cause falls.

Most recently, microprocessor-controlled prosthetic knees have become available. In evaluating microprocessor-controlled knee prostheses, relevant outcomes may include the patient’s perceptions of subjective improvement attributable to the prosthesis and level of activity and/or function. In addition, the energy costs of walking or gait analysis may be a more objective measure of the clinical benefit of the microprocessor-controlled prosthetic knee.

Published data on the microprocessor-controlled knee prostheses are minimal; the bulk of the literature focuses on the Intelligent Prosthesis (IP), which is similar to the C-Leg™. Kirker and colleagues reported on the gait symmetry, energy expenditure, and subjective impression of the IP in 16 patients with an above knee amputation related to trauma or congenital anomaly. The patients had previously functioned adequately with a pneumatic swing phase control unit and were offered a trial of an IP. At the beginning of the study the patients had been using the IP for one to nine months. The patients responded to a questionnaire using a visual analog scale regarding how much effort was needed to walk at their normal, faster, and slower speeds on smooth level surfaces, outdoors or at work, up and down a slope, and up and down steps. The patients also indicated their overall preference for one or the other. Subjects reported that significantly less effort was required when using the IP prosthesis to walk at normal or high speeds, but there was no difference for a slow gait. Effort was reduced walking outdoors or at work. Subjects reported a strong preference for the IP versus the standard pneumatic leg.

Datta and Howitt reported on the results of a questionnaire survey of 22 amputees who were switched from pneumatic swing phase control prostheses to an IP device. All patients were otherwise fit and fairly active. The questionnaire focused on functional attributes of the two prostheses, such as speed of walking, and walking up and down stairs, energy levels, and naturalness of the gait. All subjects reported that the IP was an improvement over the conventional prosthesis. The main benefits suggested by this subjective study were the ability to walk at various speeds, reduction of effort of walking, and patients' perception of improvement of walking pattern.

In 2000, the Veteran’s Administration Technology Assessment Program issued a “short report” on computerized lower limb prostheses that considered the same data as referenced above, and offered the following observations and conclusions:

- Energy requirements of ambulation (compared to requirements with conventional prostheses) are decreased at walking speeds slower or faster than the amputee's customary speed, but are not significantly different at customary speeds.
- Results on the potentially improved ability to negotiate uneven terrain, stairs, or inclines are mixed. Such benefits, however, could be particularly important to meeting existing deficit in the reintegration of amputees to normal living, particularly those related to decreased recreation opportunities.
- Users' perceptions of the microprocessor-controlled prosthesis are favorable. Where such decisions are recorded or reported, the vast majority of study participants choose not to return to their conventional prosthesis or keep these only as back-up to acute problems with the computerized one.
- Users' perceptions may be particularly important for evaluating a lower limb prosthesis, given the magnitude of the loss involved, along with the associated difficulty of designing and collecting objective measures of recovery or rehabilitation. However resilient the human organism or psyche, loss of a limb is unlikely to be fully compensated. A difference between prostheses that is sufficient to be perceived as distinctly positive to the amputee may represent the difference between coping and a level of function recognizable closer to the preamputation level.
- Mechanical failure is recorded in some of the studies, but seems to be rare. The manufacturer indicates that some C-Leg™ devices have been used for extended periods (up to 5 years) without mechanical or electrical problems.
- The UK Medical Devices Agency has conducted an evaluation of the Endolite Intelligent Prosthesis, with generally favorable results. Recognizing constraints related to the substantial cost of the prosthesis, the UK National Health Service makes it available to a wide range of patients, and has arranged with the manufacturer for a program to lend critical components, should these components of the prosthesis require factory repair.

Assessing and improving mobility are among the primary goals of rehabilitation for lower-limb amputees, who face the additional challenge of relearning ambulatory skills. Specific challenges include absence of feedback from the foot or leg, changes in lower body weight distribution, and mechanical difficulties in coordinating the movement of the prosthesis with the intact limbs. The transfemoral amputee lacks feedback from the knee joint that normally determines a great deal of stability, as well as limb progression in the gait cycle.

Risk factors for falling include age, chronic disease, gait and balance instability, decreased vision, altered mental status, and medication use; lower extremity amputees, especially older amputees who have lost their limb as a result of chronic vascular disease, experience at least one or more of these risk factors. The psychological consequences of falling (i.e., fear of falling and lack of balance confidence) can influence performance of activities and result in self-imposed restriction that can lead to deterioration in balance, muscle endurance, strength, flexibility, and coordination, as well as mental depression and other physical manifestations, e.g., muscle insufficiencies, cardiovascular disease, etc. Miller et al. studied the prevalence and risk factors of falling and concluded that falling and fear of falling are pervasive among amputees. In another study, Miller et al. sought to determine if falling, fear of falling, and balance confidence are important factors among amputee patients with respect to three quality of life indicators: mobility capability, mobility performance, and participation in social activities. They concluded that balance confidence was a relevant factor affecting these quality of life indicators.

Microprocessor-controlled knees use onboard computers that can sample real-time data and adjust resistances for a range of speeds at which the patient ambulates, regardless of the alignment. The improved gait symmetry, consistency, and controlled movements in swing and stance build amputees' confidence in the prosthesis, resulting in better balance confidence and decreased fear of falling.

Pricing:

Generally, coverage will include supplies necessary for effective use of a covered prosthesis, as well as adjustments, repairs, and replacements that are necessary to make the equipment functional for as long as the equipment continues to be medically necessary.

Shoes (a pair) may be covered when one or both shoes are an integral part of the artificial limb(s). Check the member's contract.

HCPCS codes for microprocessor knees:

L5856 Swing and stance phase microprocessor knees

L5857 Swing phase only microprocessor knees

L5858 Stance phase only microprocessor knees

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