Medical Policy

**Powered Exoskeleton for Ambulation in Patients with Lower Limb Disabilities**

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**Policy Number:** 718
BCBSA Reference Number: 1.03.04
NCD/LCD: N/A

**Related Policies**
- Functional Neuromuscular Electrical Stimulation, #201
- Microprocessor Controlled Prostheses for the Lower Limb, #133

**Policy**
**Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity**
**Medicare HMO BlueSM and Medicare PPO BlueSM Members**

Use of a powered exoskeleton for ambulation in patients with lower limb disabilities is considered INVESTIGATIONAL.

**Prior Authorization Information**
Pre-service approval is required for all inpatient services for all products.
See below for situations where prior authorization may be required or may not be required.
Yes indicates that prior authorization is required.
No indicates that prior authorization is not required.
N/A indicates that this service is primarily performed in an inpatient setting.

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<thead>
<tr>
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<th>Outpatient</th>
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<tr>
<td>Commercial Managed Care (HMO and POS)</td>
<td>This is not a covered service.</td>
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<tr>
<td>Commercial PPO and Indemnity</td>
<td>This is not a covered service.</td>
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<td>Medicare HMO BlueSM</td>
<td>This is not a covered service.</td>
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<td>Medicare PPO BlueSM</td>
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**CPT Codes / HCPCS Codes / ICD-9 Codes**
The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s
contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

No specific CPT codes

Description

An exoskeleton is an external structure with joints and links that correspond to parts of the human body. A powered exoskeleton, as described in this policy, consists of an exoskeleton-like framework worn by a person and a power source that supplies the energy for limb movement. Exoskeletons might be regarded as wearable robots designed around the shape and function of the human body. The goal of the powered exoskeleton is to enable people who do not have volitional movement of their lower extremities to bear weight fully while standing, to ambulate over ground, and to ascend and descend stairs. The devices have the potential to restore mobility, increase function, and improve the health status and quality of life for wheelchair-bound patients. Some of the potential secondary health benefits associated with increased mobility include strength and cardiovascular health, decreased spasticity, improved bladder and bowel function, and psychosocial health. In addition to individuals with spinal cord injury, the powered exoskeleton might be used by patients with multiple sclerosis, amyotrophic lateral sclerosis, Guillain-Barre syndrome and spina bifida.

The ReWalk™ Personal System (ARGO Medical Technologies, Israel) is a powered lower limb exoskeleton that provides user-initiated mobility based on postural information and selection of standing, walking, sitting, and stair up/down modes via a remote control wristband. The ReWalk™ includes an array of sensors and proprietary algorithms that analyze body movements, such as tilt of the torso, and manipulate the motorized leg braces. The tilt sensor is used to signal the on-board computer when to take the next step. Patients using the powered exoskeleton must be able to use their hands and shoulders with forearm crutches or a walker to maintain balance. Instructions for walking with the ReWalk™ are as follows: 1) set the crutches ahead of the body and shift the body’s mass toward the forward, front leg. 2) with the crutches on the ground, bend the elbows and continue “falling”, leaning more towards the front leg side. The rear leg will be lifted slightly off of the ground. Then the rear leg will begin to move forward. 3) push the crutches to straighten up, thereby enabling the rear leg to continue moving forward. 4) As the rear leg completes its motion, prepare to repeat the process.

The onboard computer, sensor array, and the batteries that power the exoskeleton are contained in a backpack. The complete ReWalk system weighs about 35 lbs.

Other powered exoskeleton systems that are in development or are currently used in the rehabilitation setting are:

- The Ekso™ GT robotic exoskeleton (Ekso Bionics, Richmond, CA) is available for institutional use for rehabilitation. It is undergoing testing for personal use for ambulation in several registered trials.
- Rex® Rehab™ (Rex Bionics, Auckland, New Zealand) is designed for rehabilitation centers and hospitals. Rex Personal™ is designed for personal use and is controlled by a joystick.

Summary

At the present time, evaluation of the powered exoskeleton outside of the rehabilitation setting is limited to small studies performed in the laboratory setting. These studies have assessed the user’s ability to perform, under close supervision, standard tasks such as TUG, 6MWT and 10MWT. An occasional loss of balance has been noted, raising concerns about the safety of the device under regular use. Further study is needed to determine whether these devices can be successfully used outside of the investigational (laboratory) setting.
**Policy History**

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<th>Date</th>
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<td>4/2017</td>
<td>New references added from BCBSA National medical policy.</td>
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**Information Pertaining to All Blue Cross Blue Shield Medical Policies**

Click on any of the following terms to access the relevant information:

- Medical Policy Terms of Use
- Managed Care Guidelines
- Indemnity/PPO Guidelines
- Clinical Exception Process
- Medical Technology Assessment Guidelines

**References**