TITLE: MICROPROCESSOR CONTROLLED KNEE PROSTHESES, WITH OR WITHOUT POLYCENTRIC, THREE-DIMENSIONAL ENDOSKELETAL HIP JOINT SYSTEM

EFFECTIVE DATE: August 1, 2017

This policy was developed with input from specialists in orthopedics and physical/rehabilitation medicine and endorsed by the Medical Policy Committee.

IMPORTANT INFORMATION – PLEASE READ BEFORE USING THIS POLICY
These services may or may not be covered by all Medica plans. Please refer to the member’s plan document for specific coverage information. If there is a difference between this general information and the member’s plan document, the member’s plan document will be used to determine coverage. With respect to Medicare and Minnesota Health Care Programs, this policy will apply unless those programs require different coverage. Members may contact Medica Customer Service at the phone number listed on their member identification card to discuss their benefits more specifically. Providers with questions about this Medica utilization management policy may call the Medica Provider Service Center toll-free at 1-800-458-5512.

Medica utilization management policies are not medical advice. Members should consult with appropriate health care providers to obtain needed medical advice, care and treatment.

PURPOSE
To promote consistency between reviewers in utilization management decision-making by providing the criteria that generally determine the medical necessity of microprocessor controlled knee prostheses. The Coverage Issues box below outlines the process for addressing the needs of individuals who do not meet these criteria.

BACKGROUND

Definitions
A. **Prosthesis** is an artificial substitute or replacement of a part of the body. Examples include but are not limited to joints (e.g., hip or knee), limbs (i.e., arm or leg), teeth, eyes, or facial bones. Prosthetics are designed for functional or cosmetic reasons, or both. A prosthesis may be removable (e.g., leg or arm) or permanently implanted (e.g., artificial knee or hip).

B. **Standard knee prosthetic** is defined by Medica as a fluid, pneumatically controlled mechanical device using a hydraulic damping cylinder. Standard devices are designed so that the person varies walking speed by consciously matching the movement of the shin portion of the prosthesis to the movement of the upper leg.

C. **Microprocessor-controlled knee prostheses** are based on scientific gait analyses and biomechanical studies which detect step time and alter knee extension levels to suit walking speed by using a computerized sensor to detect when the knee is fully extended. The prosthetist sets gait parameters which the computer automatically selects and applies according to the real-time pace of ambulation. The microprocessor then adjusts the swing phase of the gait automatically in an attempt to produce a more natural gait within patterns of varying walking or running speeds.

Advanced microprocessor models contain multiple sensors which gather and calculate data on various parameters such as amount of vertical load, ankle movement, and knee joint movement. The attempt is to mimic a more natural leg function while providing stability and gait fluidity when traversing uneven terrains and/or during sports activities. Examples of microprocessor-controlled prosthetic knee systems include, but are not limited to:

1. **C-Leg®, C-Leg® Compact, and Genium™ Bionic Prosthetic System** (Otto Bock Orthopedic Industry, Minneapolis MN)
2. **Intelligent Prosthesis, Intelligent Prosthesis Plus, and The Adapttime** (Endolite North America, Centerville OH)
3. **Ossur Rheo Knee** (Ossur-Flexfoot, Aliso Viejo CA)
MEDICAL NECESSITY CRITERIA

I. Indications for Microprocessor Knee Prosthesis

Microprocessor knee prosthesis is considered medically necessary when documentation in the medical records indicates that all of the following criteria are met:

A. The member:
   1. Sustained a trans-femoral or knee disarticulation amputation
   2. Has reached skeletal maturity
   3. Displays functional ambulation level 3 or above
   4. Displays adequate cognitive ability to master gait sequencing or care requirements of the higher level of technology
   5. Has adequate cardiovascular, musculoskeletal, and neuromuscular reserve to allow for faster than normal walking pace
   6. Has a need for daily long distance ambulation at variable rates (greater than 400 yards)
   7. Has a need for regular ambulation on uneven terrain or for regular use on stairs
   8. Is being fitted by a prosthetist experienced in fitting a microprocessor controlled knee prosthesis.

II. Indications for Microprocessor Knee Prosthesis with Polycentric 3-D Hip Joint System

Microprocessor knee prosthesis with polycentric 3-D hip joint system is considered medically necessary when documentation in the medical records indicates that all of the following criteria are met:

A. The member:
   1. Meets all indications for a microprocessor-controlled knee prosthesis outlined above (I.A.1-8)
   2. Currently utilizes a microprocessor-controlled knee or is being fitted for a microprocessor-controlled knee at the time of 3-D hip joint system fitting
   3. Has sustained either a hip disarticulation amputation or a hemipelvectomy
   4. Is being fitted by a prosthetist experienced in fitting both a microprocessor controlled knee prosthesis and a 3-D polycentric hip joint system.
COVERAGE ISSUES
1. Prior authorization is required for microprocessor controlled knee prostheses with or without polycentric, three-dimensional, endoskeletal hip joint system.
2. Coverage may vary according to the terms of the member’s plan document.
3. For Medicare members, refer to the following, as applicable:
4. Coverage issues related to repair or replacement of a covered prosthetic are addressed in the member’s plan document.
5. Use of a microprocessor controlled knee prosthesis in the home, employment, or community setting solely for basic ambulation, including limited stair climbing, is not covered.
6. If the Medical Necessity and Coverage Criteria are met, Medica will authorize benefits within the limits in the member’s plan document.
7. If it appears that the Medical Necessity and Coverage Criteria are not met, the individual’s case will be reviewed by the medical director or an external reviewer. Practitioners are advised of the appeal process in their Medica Provider Administrative Manual.

DOCUMENT HISTORY

<table>
<thead>
<tr>
<th>Original Effective Date</th>
<th>June 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>MPC Endorsement Date(s)</td>
<td>04/2010, 04/2011, 04/2012, 04/2013, 04/2014, 02/2015, 04/2016, 4/2017</td>
</tr>
<tr>
<td>Administrative Updates</td>
<td>05/01/2017</td>
</tr>
</tbody>
</table>

References:

Pre-04/2016 MPC:

04/2016 MPC:

04/2017 MPC:
No new references.