PreferredOne®

Department of Origin: Integrated Healthcare Services	**Effective Date:** 12/03/24
Approved by: Medical Policy Quality Management Subcommittee	**Date Approved:** 12/03/24
Clinical Policy Document: DMEPOS, Upper Limb Prostheses	**Replaces Effective Clinical Policy Dated:** 12/12/23
Reference #: MC/D004	**Page:** 1 of 6

PURPOSE:
The intent of this clinical policy is to ensure services are medically necessary.

Please refer to the member's benefit document for specific information. To the extent there is any inconsistency between this policy and the terms of the member's benefit plan or certificate of coverage, the terms of the member's benefit plan document will govern.

POLICY:
Benefits must be available for health care services. Health care services must be ordered by a provider. Health care services must be medically necessary, applicable conservative treatments must have been tried, and the most cost-effective alternative must be requested for coverage consideration.

GUIDELINES:
Medical Necessity Criteria - Must satisfy the following: I, and any of II - V

I. Clinical documentation by the ordering physician and/or prosthetist specifying medical necessity to perform *activities of daily living* (ADLs). Documentation should include the following: A – D

   A. Past medical history including prior prosthetic use.

   B. An explanation of the member's current medical condition, including the status of the residual limb and the nature of other medical problems.

   C. Confirmation of the member's motivation and desire to use the limb.

   D. Confirmation of the member's ability to obtain or maintain a defined functional state for *ADLs* within a reasonable period of time.

II. Upper limb prosthesis (see Table 1 for the components of an upper limb prosthesis) – must satisfy any of the following: A – C

   A. Passive functional (L6310, L6320, L6360, L6370)

   B. *Mechanical (body-powered)* – the member has the required strength and excursion to operate the prosthesis. (L6646, L6647)

   C. *Myoelectric (externally powered)* upper limb (includes wrist/elbow) (L6920, L6925, L6930, L6935, L6940, L6945, L6950, L6955, L6960, L6965, L6970, L6975, L7170, L7180, L7181, L7185, L7186, L7190, L7191, L7259) or hand (L6026) - must satisfy all of the following: 1 – 3
      1. Documentation from the prosthetist demonstrates the member's functional need for myoelectric prosthesis over mechanical (body-powered) prosthesis; and

      2. The member has adequate cognitive, musculoskeletal, and neurological ability to utilize a myoelectric prosthesis; and

      3. The remaining musculature of the arm is sufficient to allow operation of a myoelectric device.

Table 2: Upper Limb Prosthesis Components

Component	Description
Socket	Connection between the residual limb and prosthesis
Suspension system	Method of attachment of the socket to the prosthesis
Wrist	Include flexion/extension, pronation/supination and quick disconnect
Elbow	Can be passive, body-powered, or externally powered
Shank or pylon	Internal frame or skeleton that provides structural support
Terminal device	Hook, prehensor or hand; can be active or passive

III. Terminal device, including additions (eg, hand, hook, finger) - routinely cover one (L6703, L6706, L6707, L6708, L6709, L6711, L6712, L6713, L6714, L6721, L6722, L6881, L6882) (to be used with myoelectric hand: L7007, L7008, L7009, L7045)

IV. Socket/socket insert and sleeve – allow less than or equal to 2 test/diagnostic sockets for each prosthesis at the same time (L6680, L6682, L6884)

V. Accessories, such as, but not limited to, prosthetic sheath/sock or sleeves (including a gel cushion layer/gel stocking), a prosthetic donning sleeve (L7600), harnesses, and batteries – must be essential to the effective use of the prosthesis

NOT ROUTINELY COVERED:

- Routine periodic servicing such as testing, cleaning, and checking of the prosthesis.
- A prosthesis is considered cosmetic and is not covered when requested for appearance alone. Medical Necessity requires that the prosthesis enables the member to conduct standard activities of daily living.
- Replacement of non-functional components of a prosthesis or prosthetic covering is considered cosmetic.
- Accessories or enhancements of the prosthesis for the purpose of recreation, comfort or convenience are not considered medically necessary and are not covered.
- Duplicate or similar items are not routinely covered (such as secondary terminal devices, eg, heavy duty work hook [L6704])
- Repairs, components, or prosthesis replacement if the plan determines that malicious damage, culpable neglect or wrongful disposition of the prosthesis has occurred.

EXCLUSIONS:

Refer to member's Certificate of Coverage or Summary Plan Description

The following are considered investigative (see Investigative List): I – II

I. A partial or full hand prosthesis with individually powered digits (multiple articulating) (eg, ProDigits) (L6715)

II. Implantable myoelectric controlled sensors for upper limb and hand prostheses (L6880)

DEFINITIONS:

Activities of Daily Living (ADL):
Activities related to personal self-care and independent living, which include eating, bathing, dressing, transferring, walking/mobility, and toileting/continence

Adjustment:
Any modification to the prosthesis

Hybrid system:
A combination of body-powered and myoelectric components, may be used for high-level amputations (at or above the elbow). Hybrid systems allow control of two joints at once (ie, one body-powered and one myoelectric) and are generally lighter and less expensive than a prosthesis composed entirely of myoelectric components.

Mechanical (body-powered):
Uses body movements to operate a terminal device (hand or hook), such as movements of the shoulders and arms to open/close the terminal device. The prosthesis is connected to the body through the use of cables and harness.

Microprocessor:
A component of every myoelectric prosthesis and is used to interpret and analyze signals from the joint - angle sensors and moment sensors. The microprocessor receives signals from its sensors to determine the type of motion being employed by the amputee. Most microprocessor controlled joints are powered by a battery housed inside the prosthesis.

Myoelectric (externally powered):
Uses signals from muscles of the residual limb to control the opening and closing of the terminal device (hook or hand) or elbow depending on the level of amputation. Electrodes are incorporated in the prosthetic socket. Contracting the muscles of the residual limb sends electrical signals to the motors to open and close the terminal device or lift and lower the forearm at the elbow.

Passive functional:
Does not include any mechanical working parts. It is best used for a partial hand amputation to provide functions such as opposition and dexterity.

Prosthesis:
An artificial substitute of a part of the body.

BACKGROUND:

There are five main categories of upper limb prostheses: passive (or functional aesthetic), body-powered, externally powered (eg, myoelectric), hybrid-powered (eg, a combination of body-powered and myoelectric components), and activity-specific (eg, terminal devices).

PASSIVE PROSTHESES
The passive, also known as a functional aesthetic, prosthesis is the lightest in weight and is described as the most comfortable. Functional aesthetic prostheses are available as finger prostheses, partial-hand prostheses, hand prostheses all the way proximal to shoulder disarticulation, and interscapulothoracic prostheses. For individuals with digital and partial-hand amputations, these devices can provide desensitization, edema management, and restoration of the ability to grip surfaces in the affected hand, in

addition to restoration of a natural appearance. For individuals with amputations at the wrist and proximal (above), a passive prosthesis must be positioned manually with the opposite arm. While a defining feature of functional aesthetic prostheses is that they have no active prehension at the hand, most have the ability to hold objects with a passive grasp when items are placed into the hand. This type of prosthesis restores the appearance of absent anatomy and provides the functional benefit of bimanual activities and support of an unaffected limb. Passive prostheses are generally contraindicated for people with bilateral upper limb amputations.

BODY-POWERED PROSTHESES
The body-powered prosthesis uses a harness and cable system to provide direct activation of prosthetic components. Voluntary movement of the shoulders and/or residual limb pull on a cable (or cables), which then transmits force to prosthetic components. Body-powered prostheses are available for individuals with amputations at the metacarpal phalangeal level and proximal (above). An advantage of a body-powered prosthesis is that wearers describe a direct biofeedback link between their motion and the device operation without delay. Body-powered prostheses have proven to be reliable and can be made to withstand heavy-duty activities, as well as rugged environments. For body-powered systems, the most functional terminal device is a split hook or prehensor, rather than a mechanical hand, because mechanical prosthetic hands are visually obstructive and lack fine tip prehension.

EXTERNALLY POWERED PROSTHESES
Externally powered prostheses (e.g., myoelectric and some terminal devices) obtain input from the wearer to generate electrical signals, which are in turn used to operate battery-powered components, including terminal devices, wrists, and elbows, as well as elbow and shoulder joint locks. Externally powered prostheses are available for individuals with transmetacarpal amputations and proximal. The primary method of input for an externally powered prosthesis is via muscle-activated, surface-mounted electrodes; however, switches, pressure pads, and buttons are also available as input sources.

In a myoelectric prosthesis, electromyographic (EMG) signals from the residual limb musculature are detected by surface electrodes, amplified, and then processed by a controller to drive battery-powered motors that move the hand, wrist, or elbow. Although upper-arm movement may be slow and can be limited to one joint at a time, myoelectric control of movement may be considered the most physiologically natural. Other advantages of externally powered devices are that they allow for reduction or elimination of harnessing, and can provide a strong grip and near-natural appearance and function.

Recent advances in prosthetic hand technology for individuals with partial hand and/or digit loss now allow for externally powered prosthetic hands to be programmed by a software interface that communicate via a Bluetooth® connection and can allow adjustments to be made to the prosthesis through a series of setting options that provide a highly functional compliant grip whereby the individual fingers of the device wrap around the object being grasped. Examples of these externally powered prosthetic hands are: the i-Limb™ Ultra, i-LIMB™ PULSE hand (Touch Bionics, Columbus, OH), Ottobock myoelectric prosthesis, Michelangelo® Hand (Ottobock), the LTI Boston Digital Arm™ System (Liberating Technologies) and the BeBionics™ Hand (SteeperUSA, San Antonio), ProDigits™ (Touch Bionics, Columbus,OH).

HYBRID-POWERED PROSTHESES
A hybrid prosthesis combines the use of body-powered (harness and cable) and externally powered (e.g., myoelectric) control strategies. Hybrid prostheses are available for individuals with amputations at the elbow disarticulation level and proximal. The hybrid system allows for control of two components simultaneously; for example, the terminal device may be controlled myoelectrically, and the elbow may be operated through a body-powered harness/cabling system. Hybrid prostheses may be lighter in weight

than prostheses that are entirely externally powered.

ACTIVITY-SPECIFIC PROSTHESES
Activity-specific prostheses are devices designed for a specific functional, vocational, or avocational activity. Because they are designed for a specific functional task, they do not restore an aesthetic/natural appearance. An example of an activity-specific prosthesis would be one for operating a particular piece of machinery or equipment, for swimming, for weight-lifting, or for a particular sport such as golfing or ball sports.

Prior Authorization: Yes, per network provider agreement.

CODING:
CPT® or HCPCS - See guidelines

REFERENCES:
1. Integrated Healthcare Services Process Manual: UR015 Use of Medical Policy and Criteria
2. Clinical Policy: MP/C009 Coverage Determination Guidelines
3. Clinical Policy: MP/D004 Durable Medical Equipment, Orthotics, Prosthetics and Supplies
4. Chung KC, Yoneda H. Upper extremity amputation. (Topic 15224, Version 15.0; last updated: 03/06/24) In: Collins KA, ed. *UpToDate*. Waltham, Mass.: UpToDate; 2024. www.uptodate.com. Accessed 10-16-24.
5. Chung KC, Yoneda H. Surgical management of severe upper extremity injury. (Topic 120669, Version 17.0; last updated: 05/08/23) In: Collins KA, ed. *UpToDate*. Waltham, Mass.: UpToDate; 2020. www.uptodate.com. Accessed 10-16-24.
6. Pasquina, P., Evangelista, M., Carvalho, A., et al. First-in-Man Demonstration of Fully Implanted Myoelectric Sensors for Control of an Advanced Electromechanical Arm by Transradial Amputees. *Journal of Neuroscience Methods*. 2015;244:85-93.

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PreferredOne Community Health Plan
PO Box 59052
Minneapolis, MN 55459-0052
Phone: 1.800.940.5049 (TTY: 763.847.4013)
Fax: 763.847.4010
customerservice@preferredone.com

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You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:

U.S. Department of Health and Human Services
200 Independence Avenue, SW
Room 509F, HHH Building
Washington, D.C. 20201
1-800-368-1019, 800-537-7697 (TDD)

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Fax: 763.847.4010
customerservice@preferredone.com

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You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at:

U.S. Department of Health and Human Services
200 Independence Avenue, SW
Room 509F, HHH Building
Washington, D.C. 20201
1-800-368-1019, 800-537-7697 (TDD)

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