

Medical Policy



Myoelectric Upper Limb Prostheses

Description

A myoelectronic prosthesis is a sophisticated electronic prosthesis containing motors that can provide a stronger pinch and grip force than what is attainable with standard hook and pulley prostheses. Myoelectronic control is used to operate electric motor-driven hands, wrists and elbows. Surface electrodes embedded in the prosthesis socket make contact with the skin and detect and amplify muscle action potentials from voluntarily contracting muscle in the residual limb. The amplified electrical signal turns on an electric motor to provide a function (e.g., terminal device operation, wrist rotation, elbow flexion). The newest electronic control systems perform multiple functions and allow for sequential operation of elbow motion, wrist rotation and hand motions. Sensation cannot be attained by a myoelectronic prosthesis.

A standard upper limb prosthesis consists of three basic parts: the socket, which fits over the residual limb; the arm section, which may or may not include an elbow joint; and the hand/tool, which may be shaped like a hand, a hook or some other shape to allow the amputee to hold and use things.

Policy

The myoelectric arm is not necessary for the basic function of an upper arm prosthesis. Considering the myoelectric upper limb prostheses contain more than basic components they are considered deluxe items and not reasonable and necessary.

NEW HAMPSHIRE MEDICAID ONLY

The myoelectric upper limb prostheses is only covered if there is not a least costly alternative available.

HCPCS Level II Codes and Description

L6000	Partial Hand, thumb remaining
L0610	Partial Hand, little and/or ring finger remaining
L0620	Partial Hand, no finger remaining
L6026	Transcarpal/metacarpal or partial hand disarticulation prosthesis, external power, self suspended, inner socket with removable forearm section, electrodes and cables, two batteries, charger, myoelectric control of terminal
L6715	Terminal device, multiple articulating digit, includes motor(s), initial issue or replacement

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L6880	Electric hand, switch or myoelectric controlled, independently articulating digits, any grasp pattern or combination of grasp patterns, includes motor(s)
L6955	Above elbow, external power, molded inner socket, removable humeral shell, internal locking elbow, forearm, Otto Bock or equal electrodes, cables, two batteries and one charger, myoelectronic control of terminal device
L6935	Below elbow, external power, self-suspended inner socket, removable forearm shell, Otto Bock or equal electrodes, cables, 2 batteries and one charger, switch control of terminal device.
L6965	Shoulder disarticulation, external power, molded inner socket, removable shoulder shell, shoulder bulkhead, humeral section, mechanical elbow, forearm, Otto Bock or equal electrodes, cables, two batteries and one charger, myoelectronic control of terminal device
L6975	Interscapular-thoracic, external power, molded inner socket, removable shoulder shell, shoulder bulkhead, humeral section, mechanical elbow, forearm, otto bock or equal electrodes, cables, two batteries and one charger, myoelectronic control of terminal device
L7180	Electronic elbow, microprocessor sequential control of elbow and terminal device
L7181	Electronic elbow, microprocessor simultaneous control of elbow and terminal device
L7259	Electronic wrist rotator, any type

Important Note:

Northwood's Medical Policies are developed to assist Northwood in administering plan benefits and determining whether a particular DMEPOS product or service is reasonable and necessary. Equipment that is used primarily and customarily for a non-medical purpose is not considered durable medical equipment.

Coverage determinations are made on a case-by-case basis and are subject to all of the terms, conditions, limitations, and exclusions of the member's contract including medical necessity requirements.

The conclusion that a DMEPOS product or service is reasonable and necessary does not constitute coverage. The member's contract defines which DMEPOS product or service is covered, excluded or limited. The policies provide for clearly written, reasonable and current criteria that have been approved by Northwood's Medical Director.

The clinical criteria and medical policies provide guidelines for determining the medical necessity for specific DMEPOS products or services. In all cases, final benefit

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determinations are based on the applicable contract language. To the extent there are any conflicts between medical policy guidelines and applicable contract language, the contract language prevails. Medical policy is not intended to override the policy that defines the member's benefits, nor is it intended to dictate to providers how to direct care. Northwood Medical policies shall not be interpreted to limit the benefits afforded to Medicare or Medicaid members by law and regulation and Northwood will use the applicable state requirements to determine required quantity limit guidelines.

Northwood's policies do not constitute medical advice. Northwood does not provide or recommend treatment to members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

References

1. Berke, Gary M., MS, CP and Caroline C. Nielsen, PhD, "Establishing Parameters Affecting the Use of Myoelectronic Prostheses in Children; a Preliminary Investigation," *Journal of Prosthetics and Orthotics*, Volume 3, Number 4, 1991, page 162.
2. Crandall, R. C., "Pediatric unilateral below-elbow amputees: retrospective analysis of 34 patients given multiple prosthetic options," *J Pediatr Orthop*, Volume 22, Number 3, May 1, 2002, pp. 380-383.
3. Hijjawi, J. B., "Improved myoelectric prosthesis control accomplished using multiple nerve transfers," *Plast Reconstr Surg*, Volume 118, Number 7, December 1, 2006, pp. 1573-1578.
4. Kilgore, K. L., "An implanted upper-extremity neuroprosthesis using myoelectric control," *J Hand Surg [Am]*, Volume 33, Number 4, April 1, 2008, pp. 539-550.
5. Lake, Christopher, CPO, FAAOP and John M. Miguelez, CP, FAAOP, "Comparative Analysis of Microprocessors in Upper Limb Prosthetics," *Journal of Prosthetics and Orthotics*, Volume 15, Number 2, 2003, pp. 48-65.
6. Miguelez, John M. CP, FAAOP, "Critical Factors in Electrically Powered Upper-Extremity Prosthetics," *Journal of Prosthetics and Orthotics*, Volume 14, Number 1, 2002, pp. 36-38.
7. Routhier, F., et al., "Clinical results of an investigation of pediatric upper limb myoelectric prosthesis fitting at the Quebec Rehabilitation Institute," *Prosthetics and Orthotics International*, Volume 25, 2001, pp. 119-131.

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8. Shaperman, Julie, MSPH, OTR, et al., “Early Upper Limb Prosthesis Fitting: When and What Do We Fit?,” *Journal of Prosthetics and Orthotics*, Volume 15, Number 1, 2003, pp. 11-17.
9. Silcox, D. HI, et al., “Myoelectric prostheses. A long-term follow-up and a study of the use of alternate prostheses,” *The Journal of Bone and Joint Surgery*, Volume 75·A, Number 12, December, 1993, pp. 1781-1789.

Applicable URAC Standard

Core 8	Staff operational tools and support
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Change/Authorization History

Revision Number	Date	Description of Change	Prepared/Reviewed by	Approved by	Review Date:	Effective Date:
A	Nov.2006	Initial Release	Rosanne Brugnoni	Ken Fasse	n/a	
01		Annual Review / no revisions	Susan Glomb	Ken Fasse	Dec.2008	
02	Dec.4, 2009	Annual Review/no changes	Susan Glomb	Ken Fasse	Dec. 2009	
03	12-03-10	Annual Review – policy updated .	Susan Glomb	Ken Fasse	Dec.2010	
04	07-20-11	Added Important Note to all Medical Policies	Susan Glomb	Dr. B. Almasri		
05	12-15-11	Annual Review. Added References to Policy.	Susan Glomb	Dr. B. Almasri	Dec. 2011	
06	04-04-12	Added reference to NH Medicaid	Susan Glomb	Dr. B. Almasri		
07	11-29-12	Added L6000. Partial Hand, thumb remaining. Added L6010 Partial Hand, little and/or ring finger remaining. Added	Susan Glomb	Dr. B. Almasri		

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		L6020 Partial hand, no finger remaining. Added Code L6715: Terminal device, multiple articulating digit, includes motor(s), initial issue or replacement. Added code L6880 Electric hand, switch or myoelectric controlled, independently articulating digits, any grasp pattern or combination of grasp patterns, includes motor(s). Discontinued code: L7274				
08	11-30-12	Annual review. No changes	Susan Glomb	Dr. B. Almasri	Nov 12	
09	12-30-13	Annual review. No changes	Susan Glomb	Dr. B. Almasri		
10	12-29-14	Added Codes: L6026 – Transcarpal/metacarpal or partial hand disarticulation prosthesis, external power, self suspended, inner socket with removable forearm section, electrodes and cables, two batteries, charger, myoelectric control of terminal. And L7259- Electronic wrist rotator, any type.	Susan Glomb	Dr. B. Almasri		
11	11-25-15	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	November 2015	
12	12-02-16	Annual Review. No Changes.	Lisa Wojno	Dr. B. Almasri	December 2016	
13	11-8-17	Added New Hampshire Medicaid policy change	Carol Dimech	Dr. C. Lerchin		

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		which indicates that a myoelectric upper limb prosthesis is only covered if there is not a least costly alternative available.				
14	12-11-17	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	December 2017	
15	12-13-18	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	December 2018	
16	12-13-19	Annual review. No changes.	Carol Dimech	Dr. C. Lerchin	December 2019	December 2019