Name of Policy:  
Myoelectric Prosthetic and Orthotic Components for the Upper Limb

Policy #: 124  
Latest Review Date: August 2015  
Category: DME  
Policy Grade: B

Background/Definitions:
As a general rule, benefits are payable under Blue Cross and Blue Shield of Alabama health plans only in cases of medical necessity and only if services or supplies are not investigational, provided the customer group contracts have such coverage.

The following Association Technology Evaluation Criteria must be met for a service/supply to be considered for coverage:

1. The technology must have final approval from the appropriate government regulatory bodies;
2. The scientific evidence must permit conclusions concerning the effect of the technology on health outcomes;
3. The technology must improve the net health outcome;
4. The technology must be as beneficial as any established alternatives;
5. The improvement must be attainable outside the investigational setting.

Medical Necessity means that health care services (e.g., procedures, treatments, supplies, devices, equipment, facilities or drugs) that a physician, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury or disease or its symptoms, and that are:

1. In accordance with generally accepted standards of medical practice; and
2. Clinically appropriate in terms of type, frequency, extent, site and duration and considered effective for the patient’s illness, injury or disease; and
3. Not primarily for the convenience of the patient, physician or other health care provider; and
4. Not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient’s illness, injury or disease.
Description of Procedure or Service:
Myoelectric prostheses are powered by electric motors with an external power source. The joint movement of upper limb prosthesis (e.g., hand, wrist, and/or elbow) is driven by microchip-processed electrical activity in the muscles of the remaining limb stump.

Upper limb prostheses are used for amputations at any level from the hand to the shoulder. The need for a prosthesis can occur for a number of reasons, including trauma, surgery, or congenital anomalies. The primary goals of the upper limb prosthesis are to restore natural appearance and function. Achieving these goals also requires sufficient comfort and ease of use for continued acceptance by the wearer. The difficulty of achieving these diverse goals with an upper limb prosthesis increases as the level of amputation (digits, hand, wrist, elbow, and shoulder), and thus the complexity of joint movement, increases.

Upper limb prostheses are classified into three categories depending on the means of generating movement at the joints: passive, body-powered, and electrically powered movement. All three types of prostheses have been in use for more than 30 years; each possesses unique advantages and disadvantages.

- **The passive prosthesis** is the lightest of the three types and is described as the most comfortable. Since the passive prosthesis must be repositioned manually, typically by moving it with the opposite arm, it cannot restore function.

- **The body-powered prosthesis** uses a body harness and cable system to provide functional manipulation of the elbow and hand. Voluntary movement of the shoulder and/or limb stump extends the cable and transmits the force to the terminal device. Prosthetic hand attachments, which may be claw-like devices that allow good grip strength and visual control of objects or latex-gloved devices that provide a more natural appearance at the expense of control, can be opened and closed by the cable system. Patient complaints with body-powered prostheses include harness discomfort, particularly the wear temperature, wire failure, and the unattractive appearance.

- **Myoelectric prostheses** use muscle activity from the remaining limb for the control of joint movement. Electromyographic (EMG) signals from the limb stump 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 limited to one joint at a time, myoelectric control of movement may be considered the most physiologically natural. Myoelectric hand attachments are similar in form to those offered with the body-powered prosthesis, but are battery-powered. An example of recently available technology is the SensorHand™ by Advanced Arm Dynamics, which is described as having an AutoGrasp feature, an opening/closing speed of up to 300 mm/second, and advanced EMG signal processing. Patient dissatisfaction with myoelectric prostheses includes the increased cost, maintenance (particularly for the glove), and weight. The i-LIMB™ hand (Touch Bionics), sometimes referred to as the bionic hand, is the first commercially available myoelectric hand prosthesis with individually powered digits. ProDigits™, also from Touch Bionics, are prosthetic digits for one or more fingers in patients with amputation at a transmetacarpal level or higher. These may be covered by LIVINGSKIN™, a high-definition silicone prosthesis created to resemble a patient’s natural skin.
• A 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 (i.e., one body-powered and one myoelectric) and are generally lighter and less expensive than a prosthesis composed entirely of myoelectric components.

Technology in this area is rapidly changing, driven by advances in biomedical engineering and by the U.S. Department of Defense Advanced Research Projects Agency (DARPA), which is funding a public and private collaborative effort on prosthetic research and development. Areas of development include the use of skin-like silicone elastomer gloves, “artificial muscles,” and sensory feedback. Smaller motors, microcontrollers, implantable myoelectric sensors, and re-innervation of remaining muscle fibers are being developed to allow fine movement control. Lighter batteries and newer materials are being incorporated into myoelectric prostheses to improve comfort.

Orthoses are devices designed and utilized to support and improve function of moveable body parts. Myoelectric orthoses for the upper extremity (e.g., MyoPro™) are devices designed to help restore function in an impaired arm. The exoskeleton orthosis consists of microprocessors, muscle sensors and electric motor designed to enable patients to initiate and control movements of an impaired or partially paralyzed extremity.

Policy:
Effective for dates of service on or after June 25, 2012:
Myoelectric prostheses meet Blue Cross and Blue Shield of Alabama’s medical criteria for coverage for patients with upper limb amputations:
• The patient has an amputation or missing limb at the wrist or above (forearm, elbow, etc); AND
• Standard body-powered prosthetic devices cannot be used or are insufficient to meet the functional needs of the individual in performing activities of daily living; AND
• The remaining musculature of the arms(s) contains the minimum microvolt threshold to allow operation of a myoelectric prosthetic device; AND
• The patient has demonstrated sufficient neurological and cognitive function to operate the prosthesis effectively; AND
• The patient is free of comorbidities that could interfere with function of the prosthesis (neuromuscular disease, etc); AND
• Functional evaluation indicates that with training, use of a myoelectric prosthesis is likely to meet the functional needs of the individual (e.g., gripping, releasing, holding, and coordination movement of the prosthesis) when performing activities of daily living. This evaluation should consider the patient’s needs for control, durability (maintenance), function (speed, work capability), and usability.
• Children age 2 years or older who have shown at least 6 months successful use of a passive prosthetic device and have a minimum EMG signal of 6μV threshold.
Blue Cross and Blue Shield of Alabama will cover one myoelectric prostheses per limb per five years when medically indicated. Coverage will not be provided if the prosthesis is functioning properly and in good general condition.

A prosthesis with individually powered digits, including but not limited to a partial hand prosthesis, does not meet Blue Cross and Blue Shield of Alabama’s medical criteria for coverage and is considered investigational.

High-definition silicone used to make a prosthesis resemble a patient’s skin does not meet Blue Cross and Blue Shield of Alabama’s medical criteria for coverage and is considered cosmetic.

Myoelectric prostheses are contraindicated, and therefore do not meet Blue Cross and Blue Shield of Alabama’s medical criteria for coverage for patients with upper limb amputations:
- Whose ADLs require frequent lifting of heavy objects (16lbs or greater);
- Whose environments involve frequent contact with dirt, dust, grease, water, and solvent;
- Whose neuromas and/or phantom limb pain are exacerbated with the use of the prosthesis.

Myoelectric orthoses for upper extremities do not meet Blue Cross and Blue Shield of Alabama’s medical criteria for coverage and are considered investigational.

Blue Cross and Blue Shield of Alabama does not approve or deny procedures, services, testing, or equipment for our members. Our decisions concern coverage only. The decision of whether or not to have a certain test, treatment or procedure is one made between the physician and his/her patient. Blue Cross and Blue Shield of Alabama administers benefits based on the member’s contract and corporate medical policies. Physicians should always exercise their best medical judgment in providing the care they feel is most appropriate for their patients. Needed care should not be delayed or refused because of a coverage determination.

Key Points:
This policy was created in 2003 and, since then, updated periodically based on review of the published literature. The most recent literature update was performed through May 12, 2015. Most studies identified describe the development of interfaces and signal processing algorithms for myoelectric prosthetic control.

Prospective comparative studies with objective and subjective measures would provide the most informative data on which to compare different prostheses, but little evidence was identified that directly addressed whether myoelectric prostheses improve function and health-related quality of life.

The available indirect evidence is based on two assumptions:
1. Use of any prosthesis confers clinical benefit, and
2. Self-selected use is an acceptable measure of the perceived benefit (combination of utility, comfort, and appearance) of a particular prosthesis for that individual. Most of the studies identified describe amputees’ self-selected use or rejection rates.

The results are usually presented as hours worn at work, hours worn at home, and hours worn in social situations. Amputees’ self-reported reasons for use and abandonment are also frequently reported. It should be considered that upper limb amputee’s needs may depend on the particular situation. For example, increased functional capability may be needed with heavy work or domestic duties, while a more naturally appearing prosthesis with reduced functional capability may be acceptable for an office, school, or other social environment.

Comparative Studies
One prospective controlled study compared preferences for body-powered and myoelectric hands in children. Juvenile amputees (toddlers to teenagers, n=120) were fitted in a randomized order with one of the two types of prostheses; after a three-month period, the terminal devices were switched, and the children selected one of the prostheses to use. After two years, some (n=11) of the original study sites agreed to reevaluate the children, and 78 (74% follow-up from the 11 sites) appeared for interview and examination. At the time of follow-up, 34 (44%) were wearing the myoelectric prosthesis, 26 (34%) were wearing a body-powered prosthesis (13 used hands and 13 used hooks), and 18 (22%) were not using a prosthesis. There was no difference in the children’s ratings of the myoelectric and body-powered devices (3.8 on a 5-point scale). Of the 60 children who wore prosthesis, 19 were considered to be “passive” users, i.e., they did not use the prosthesis to pick up or hold objects (prehensile function). A multicenter within-subject randomized study, published in 1993, compared function with myoelectric and body-powered hands (identical size, shape, and color) in 67 children with congenital limb deficiency and nine children with traumatic amputation. Each type of hand was worn for three months before functional testing. Some specific tasks were performed slightly faster with the myoelectric hand; others were performed better with the body-powered hand. Overall, no clinically important differences were found in performance. Interpretation of these results is limited by changes in technology since this study was published.

Silcox et al conducted a within-subject comparison of preference for body-powered or myoelectric prostheses in adults. Of 44 patients who had been fitted with a myoelectric prosthesis, 40 (91%) also owned a body-powered prosthesis and nine (20%) owned a passive prosthesis. Twenty-two (50%) patients had rejected the myoelectric prosthesis, 13 (32%) had rejected the body-powered prosthesis, and five (55%) had rejected the passive prosthesis. Use of a body-powered prosthesis was unaffected by the type of work; good to excellent use was reported in 35% of patients with heavy work demands and in 39% of patients with light work demands. In contrast, the proportion of patients using a myoelectric prosthesis was higher in the group with light work demands (44%) in comparison with those with heavy work demands (26%). There was also a trend toward higher use of the myoelectric prosthesis (n=16) in comparison with a body-powered prosthesis (n=10) in social situations. Appearance was cited more frequently (19 patients) as a reason for using a myoelectric prosthesis than any other factor. Weight (16 patients) and speed (ten patients) were more frequently cited than any other factor as reasons for non-use of the myoelectric prosthesis.
McFarland et al conducted a cross-sectional survey of upper limb loss in veterans and service members from Vietnam (n=47) and Iraq (n=50) who were recruited through a national survey of veterans and service members who experienced combat-related major limb loss. In the first year of limb loss, the Vietnam group received a mean of 1.2 devices (usually body-powered), while the Iraq group received a mean of 3.0 devices (typically one myoelectric/hybrid, one body-powered, and one cosmetic). At the time of the survey, upper-limb prosthetic devices were used by 70% of the Vietnam group and 76% of the Iraq group. Body-powered devices were favored by the Vietnam group (78%), while a combination of myoelectric/hybrid (46%) and body-powered (38%) devices were favored by the Iraq group. Replacement of myoelectric/hybrid devices was three years or longer in the Vietnam group while 89% of the Iraq group replaced myoelectric/hybrid devices in under two years. All types of upper limb prostheses were abandoned in 30% of the Vietnam group and 22% of the Iraq group; the most common reasons for rejection included short residual limbs, pain, poor comfort (e.g., weight of the device), and lack of functionality.

A cross-sectional study from ten Shriners Hospitals assessed the benefit of prosthesis (type not described) on function and health-related quality of life in 489 children 2 to 20 years of age with a congenital below-the-elbow deficiency (specific type of hand malformation). Outcomes consisted of parent- and child-reported quality of life and musculoskeletal health questionnaires and subjective and objective functional testing of children with and without prosthesis. Age-stratified results were compared for 321 children who wore prosthesis and 168 who did not, along with normative values for each age group. The study found no clinically relevant benefit for prosthesis wearers compared with non-wearers, or for when the wearers were using their prosthesis. Non-wearers performed better than wearers on a number of tasks. For example, in the 13- to 20-year-old group, non-wearers scored higher than wearers for zipping a jacket, putting on gloves, peeling back the plastic cover of a snack pack, raking leaves, and throwing a basketball. Although prostheses have been assumed to improve function, no benefit was identified for young or adolescent children with this type of congenital hand malformation.

**Non-Comparative Studies**

A 2007 systematic review of 40 articles published over the previous 25 years assessed upper limb prosthesis acceptance and abandonment. For pediatric patients the mean rejection rate was 38% for passive prostheses (one study), 45% for body-powered prostheses (three studies), and 32% for myoelectric prostheses (12 studies). For adults, there was considerable variation between studies, with mean rejection rates of 39% for passive (six studies), 26% for body-powered (eight studies), and 23% for myoelectric (ten studies) prostheses. The study authors found no evidence that the acceptability of passive prostheses had declined over the period from 1983 to 2004, “despite the advent of myoelectric devices with functional as well as cosmetic appeal.” Body-powered prostheses were also found to have remained a popular choice, with the type of hand-attachment being the major factor in acceptance. Body-powered hooks were considered acceptable by many users, but body-powered hands were frequently rejected (80–87% rejection rates) due to slowness in movement, awkward use, maintenance issues, excessive weight, insufficient grip strength, and the energy needed to operate. Rejection rates of myoelectric prostheses tended to increase with longer follow-up. There was no evidence of a change in rejection rates over the 25 years of study, but the results are limited by sampling bias from isolated populations and the generally poor quality of the studies included.
Biddiss and Chau published results from an online or mailed survey of 242 upper limb amputees from the United States, Canada, and Europe in 2007. Of the survey respondents, 14% had never worn a prosthesis and 28% had rejected regular prosthetic use; 64% were either full-time or consistent part-time wearers. Factors in device use and abandonment were the level of limb absence, gender, and perceived need (e.g., working, vs. unemployed). Prosthesis rejectors were found to discontinue use due to a lack of functional need, discomfort (excessive weight and heat), and impediment to sensory feedback. Dissatisfaction with available prosthesis technology was a major factor in abandoning prosthesis use. No differences between users and non-users were found for experience with a particular type of prosthesis (passive, body-powered, or myoelectric) or terminal device (hand or hook).

In another online survey, the majority of the 43 responding adults used a myoelectric prosthetic arm and/or hand for 8 or more hours at work/school (approximately 86%) or for recreation (67%), while the majority of the 11 child respondents used their prosthesis for four hours or less at school (72%) or for recreation (88%). Satisfaction was greatest (more than 50% of adults and 100% of children) for the appearance of the myoelectric prosthesis and least (more than 75% of adults and 50% of children) for the grasping speed, which was considered too slow. Of 33 respondents with a transradial amputation, 55% considered the weight “a little too heavy” and 24% considered the weight to be “much too high.” The types of activities that the majority of adults (between 50% and 80%) desired to perform with the myoelectric prosthesis were handicrafts, operation of electronic and domestic devices, using cutlery, personal hygiene, dressing and undressing, and to a lesser extent, writing. The majority (80%) of children indicated that they wanted to use their prosthesis for dressing and undressing, personal hygiene, using cutlery, and handicrafts.

A 2009 study evaluated the acceptance of a myoelectric prosthesis in 41 children 2 to 5 years of age. To be fitted with a myoelectric prosthesis, the children had to communicate well and follow instructions from strangers, have interest in an artificial limb, have bimanual handling (use of both limbs in handling objects), and have a supportive family setting. A one- to two-week interdisciplinary training program (in-patient or out-patient) was provided for the child and parents. At a mean two years’ follow-up (range 0.7–5.1 years), a questionnaire was distributed to evaluate acceptance and use during daily life (100% return rate). Successful use, defined as a mean daily wearing time of more than two hours, was achieved in 76% of the study group. The average daily use was 5.8 hours per day (range 0–14 hours). The level of amputation significantly influenced the daily wearing time, with above elbow amputees wearing the prosthesis for longer periods than children with below elbow amputations. Three of five children (60%) with amputations at or below the wrist refused use of any prosthetic device. There were trends (i.e., did not achieve statistical significance in this sample) for increased use in younger children, in those who had in-patient occupational training, and in those children who had a previous passive (vs. body-powered) prosthesis. During the follow-up period, maintenance averaged 1.9 times per year (range of 0–8 repairs); this was correlated with the daily wearing time. The authors discussed that a more important selection criteria than age was the activity and temperament of the child; for example, a myoelectric prosthesis would more likely be used in a calm child interested in quiet bimanual play, whereas a body-powered prosthesis would be more durable for outdoor sports, and in sand or water. Due to the poor
durability of the myoelectric hand, this group provides a variety of prosthetic options to use depending on the situation. The impact of multiple prostheses types (e.g., providing both a myoelectric and body-powered prosthesis) on supply costs, including maintenance frequency, are unknown at this time.

An evaluation of a rating scale called the Assessment of Capacity for Myoelectric Control (ACMC) was described by Lindner et al in 2009. For this evaluation of the ACMC, a rater identified 30 types of hand movements in a total of 96 patients (age range 2–57 years) who performed a self-chosen bimanual task, such as preparation of a meal, making the bed, doing crafts, or playing with different toys; each of the 30 types of movements was rated on a 4-point scale (not capable or not performed, sometimes capable, capable on request, and spontaneously capable). The types of hand movements were variations of four main functional categories (gripping, releasing, holding, and coordinating), and the evaluations took approximately 30 minutes. Statistical analysis indicated that the ACMC is a valid assessment for measuring differing ability among users of upper limb prostheses, although the assessment was limited by having the task difficulty determined by the patient (e.g., a person with low ability might have chosen a very easy and familiar task). Lindner et al recommended that further research with standard tasks is needed and that additional tests of reliability are required to examine the consistency of the ACMC over time.

Although the availability of a myoelectric hand with individual control of digits has been widely reported in lay technology reports, video clips and basic science reports, no peer-reviewed publications were found to evaluate functional outcomes of individual digit control in amputees.

Summary of Evidence
The goals of upper limb prostheses relate to restoration of both appearance and function while maintaining sufficient comfort for continued use. The identified literature focuses primarily on patient acceptance and reasons for disuse; detailed data on function and functional status, and direct comparisons of body-powered and newer model myoelectric prostheses are limited/lacking. The limited evidence available suggests that in comparison with body-powered prostheses, myoelectric components may improve range of motion to some extent, have similar capability for light work but may have reduced performance under heavy working conditions. The literature also indicates that the percentage of amputees who accept use of a myoelectric prosthesis is approximately the same as those who prefer to use a body-powered prosthesis and that self-selected use depends at least in part on the individual’s activities of daily living. Appearance is most frequently cited as an advantage of myoelectric prostheses, and for patients who desire a restorative appearance; the myoelectric prosthesis can provide greater function than a passive prosthesis, with equivalent function to a body-powered prosthesis for light work. Nonuse of any prosthesis is associated with lack of functional need, discomfort (excessive weight and heat), and impediment to sensory feedback. Because of the differing advantages and disadvantages of the currently available prostheses, myoelectric components for individuals with an amputation at the wrist or above may be considered when passive or body-powered prostheses cannot be used or are insufficient to meet the functional needs of the patient in activities of daily living. Evidence is insufficient to evaluate full or partial hand prostheses with individually powered digits; these are considered investigational.
Practice Guidelines and Position Statements
No guidelines or statements were identified.

U.S. Preventive Services Task Force Recommendations
Not applicable.

Key Words:
Myoelectric hand, myoelectric arm, myoelectric elbow, electric prosthesis, electronic prosthesis, Utah Arm and Hand System, Otto Bock myoelectric prosthesis, LTI Boston Digital arm System, SensorHand™, ProDigits™ and i-LIMBTM, LIVINGSKIN™, MyoPro™, MyoMo, Inc.

Approved by Governing Bodies:
Manufacturers must register prostheses with the restorative devices branch of the U.S. Food and Drug Administration (FDA) and keep a record of any complaints, but do not have to undergo a full FDA review.

Available myoelectric devices include the ProDigits™ and i-LIMB™ (touch Bionics), Otto Bock myoelectric prosthesis and the Michelangelo® Hand (Otto Bock), the LTI Boston Digital Arm™ System (Liberating Technologies Inc.), and the Utah Arm Systems (Motion Control).

In 2014, the FDA cleared the Deka Arm System (Deka Integrated Solutions) for marketing. FDA reviewed the DEKA Arm System through its de novo classification process, a regulatory pathway for some novel low- to moderate-risk medical devices that are a first-of-a-kind.

Currently available myoelectric orthotic device for the upper extremity is the MyoPro™ (MyoMo, Inc.) which began marketing in April, 2012.

Benefit Application:
Coverage is subject to member’s specific benefits. Group specific policy will supersede this policy when applicable.

ITS: Home Policy provisions apply
FEP contracts: Special benefit consideration may apply. Refer to member’s benefit plan.
Pre-certification requirements: Not applicable

Current Coding:
HCPC codes:

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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>L3999</td>
<td>Upper limb orthosis, no otherwise specified</td>
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<tr>
<td>L6026</td>
<td>Transcarpal/metacarpal or partial hand disarticulation prosthesis, external power, self-suspended, inner socket with removable forearm section,</td>
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electrodes and cables, two batteries, charger, myoelectric control of terminal device, excludes terminal device(s) *(Effective 01/01/15)*

L6629 Upper extremity addition, quick disconnect lamination collar with coupling piece, otto bock or equal

L6672 Upper extremity addition, harness, chest or shoulder, saddle type

L6680 Upper extremity addition, test socket, wrist disarticulation or below elbow

L6682 Upper extremity addition, test socket, elbow disarticulation or above elbow

L6684 Upper extremity addition, test socket, shoulder disarticulation or interscapular thoracic

L6686 Upper extremity addition, suction socket

L6687 Upper extremity addition, frame type socket, below elbow or wrist disarticulation

L6688 Upper extremity addition, frame type socket, above elbow or elbow disarticulation

L6689 Upper extremity addition, frame type socket, shoulder disarticulation

L6690 Upper extremity addition, frame type socket, interscapular-thoracic
electrodes, cables, two batteries and one charger, myoelectronic control of terminal device

L6691 Terminal device, multiple articulating digit, includes motor(s), initial issue or replacement.

L6692 Electric hand, switch or myoelectric controlled, independently articulating digits, any grasp pattern or combination of grasp patterns, includes motor(s).

L6693 Terminal device, glove for above hands, production glove

L6694 Terminal device, glove for above hands, custom glove

L6695 Wrist disarticulation, external power, self-suspended inner socket, removable forearm shell, otto bock or equal electrodes, cables, two batteries and one charger, myoelectronic control of terminal device

L6696 Below elbow, external power, self-suspended inner socket, removable forearm shell, otto bock or equal electrodes, cables, two batteries and one charger, myoelectronic control of terminal device

L6697 Elbow disarticulation, external power, molded inner socket, removable humeral shell, outside locking hinges, forearm, otto bock or equal electrodes, cables, two batteries and one charger, myoelectronic control of terminal device

L6698 Above elbow, external power, molded inner socket, removable humeral shell, internal locking elbow, forearm, otto bock or equal switch, cables, two batteries and one charger, switch control of terminal device

L6699 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

L6700 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, myoelectric control of terminal device

L6701 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, myoelectric control of terminal device
L7007 Electric hand, switch or myoelectric controlled, adult
L7008 Electric hand, switch or myoelectric, controlled, pediatric
L7009 Electric hook, switch or myoelectric controlled, adult
L7045 Electric hook, switch or myoelectric controlled, pediatric
L7180 Electronic elbow, Boston, Utah or equal, myoelectronically controlled
L7190 Electronic elbow, adolescent, Variety Village or equal, myoelectronically controlled
L7191 Electronic elbow, child, Variety Village or equal, myoelectronically controlled
L7259 Electronic wrist rotator, any type (Effective 01/01/15)
L7261 Electronic wrist rotator, for Utah arm
L7360 Six volt battery, otto bock or equal, each
L7362 Battery charger, six volt, otto bock or equal
L7364 Twelve volt battery, Utah or equal, each
L7366 Battery charger, twelve volt, Utah or equal
L7499 Upper extremity prosthesis, not otherwise specified
L8465 Prosthetic shrinker, upper limb, each

Previous Coding:
L6025 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 device (Deleted 01/01/15)
L7274 Proportional control, 6-12 volt, liberty, Utah or equal

References:
1. Atkins DJ, Heard DCY and Donovan WH. Epidemiologic overview of individuals with upper-limb loss and their reported research priorities, J Pros and Orth, 1996: 8(1).

Policy History:
Medical Policy Group, June 2003 (2)
Medical Policy Administration Committee, June 2003
Available for comment July 1-August 14, 2003
Medical Policy Group, December 2004 (1)
Medical Policy Group, April 2005 (2)
Medical Policy Administration Committee, April 2005
Available for comment April 27-June 10, 2005
Medical Policy Group, April 2006 (1)
Medical Policy Group, April 2007 (1)
Medical Policy Group, May 2009 (1)
Medical Policy Panel, February 2010
Medical Policy Group, March 2010 (2)
Medical Policy Administration Committee, April 2010
Available for comment April 7-May 21, 2010
Medical Policy Panel, March 2011
Medical Policy Group, June 2011 (2): Key Points, Key Words, Regulatory Status updated
Medical Policy Panel, June 2012
Medical Policy Group, June 2012 (2): Updated policy to indicate a prosthesis with individually powered digits as investigational. Description, Key Words, Approved by Governing Bodies, Coding, References updated. Key Points rewritten.

Medical Policy Administration Committee, June 2012
Available for comment June 29, 2012 through August 12, 2012

Medical Policy Group, June 2013

Medical Policy Group, September 2013 (2): title changed to Myoelectric Prosthetic Components for the Upper Limb, Policy statements unchanged, Codes added for partial hand myoelectric prosthesis, child and adolescent myoelectric arm prosthesis.

Medical Policy Panel, June 2014

Medical Policy Group, June 2014 (5): Policy updated with literature review through May 23, 2014; Updated Approved by Governing Bodies; no references added; policy statement unchanged.


Medical Policy Group, December 2014 (5) Added statement of coverage of one computerized prostheses per limb per five years when medically indicated. Coverage will not be provided if the prosthesis is functioning properly and in good general condition. This language of limits has always been applied to prosthesis.

Medical Policy Panel, June 2015

Medical Policy Group, June 2015 (6): Updates to Key Points and Approved by Governing Bodies; no change to policy statement.

Medical Policy Group, August 2015 (6): Updates to Title, Description, Key Points, Approved by Governing Bodies, Key Words and Coding sections to include myoelectric orthotic upper extremity devices. Policy statement updated to include myoelectric orthotic devices for the upper extremity as investigational. No change in coverage as these devices have been considered investigational.

This medical policy is not an authorization, certification, explanation of benefits, or a contract. Eligibility and benefits are determined on a case-by-case basis according to the terms of the member’s plan in effect as of the date services are rendered. All medical policies are based on (i) research of current medical literature and (ii) review of common medical practices in the treatment and diagnosis of disease as of the date hereof. Physicians and other providers are solely responsible for all aspects of medical care and treatment, including the type, quality, and levels of care and treatment.

This policy is intended to be used for adjudication of claims (including pre-admission certification, pre-determinations, and pre-procedure review) in Blue Cross and Blue Shield’s administration of plan contracts.