



An Independent Licensee of the Blue Cross Blue Shield Association

EVIDENCE-BASED CRITERIA
SECTION: DURABLE MEDICAL EQUIPMENT (DME)

ORIGINAL EFFECTIVE DATE: 05/19/26
LAST REVIEW DATE: 05/19/26
CURRENT EFFECTIVE DATE: 05/19/26
LAST CRITERIA REVISION DATE:
ARCHIVE DATE:

NEXT ANNUAL REVIEW DATE: 2ND QTR 2027

MYOELECTRIC PROSTHETIC AND ORTHOTIC COMPONENTS FOR THE UPPER LIMB

Non-Discrimination Statement and Multi-Language Interpreter Services information are located at the end of this document.

Coverage for services, procedures, medical devices and drugs are dependent upon benefit eligibility as outlined in the member's specific benefit plan. This Evidence-Based Criteria must be read in its entirety to determine coverage eligibility, if any.

This Evidence-Based Criteria provides information related to coverage determinations only and does not imply that a service or treatment is clinically appropriate or inappropriate. The provider and the member are responsible for all decisions regarding the appropriateness of care. Providers should provide BCBSAZ complete medical rationale when requesting any exceptions to these guidelines.

The section identified as "Description" defines or describes a service, procedure, medical device or drug and is in no way intended as a statement of medical necessity and/or coverage.

The section identified as "Criteria" defines criteria to determine whether a service, procedure, medical device or drug is considered medically necessary or experimental or investigational.

State or federal mandates, e.g., FEP program, may dictate that any drug, device or biological product approved by the U.S. Food and Drug Administration (FDA) may not be considered experimental or investigational and thus the drug, device or biological product may be assessed only on the basis of medical necessity.

Evidence-Based Criteria are subject to change as new information becomes available.

For purposes of this Evidence-Based Criteria, the terms "experimental" and "investigational" are considered to be interchangeable.

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Description:

Myoelectric prostheses are powered by electric motors with an external power source. The joint movement of an upper-limb prosthesis or orthosis (e.g., hand, wrist, and/or elbow) is driven by microchip-processed electrical activity in the muscles of the remaining limb or limb stump.

The need for an upper-limb prosthesis can occur for a number of reasons, including trauma, surgery, or congenital anomalies. The primary goals of the upper-limb prostheses are to restore function and natural appearance. 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 with the level of amputation (digits, hand, wrist, elbow, shoulder), and thus the complexity of joint movement increases.

Amputees should be evaluated by an independent qualified professional to determine the most appropriate prosthetic components and control mechanism (e.g., body-powered, myoelectric, or combination of body-powered and myoelectric). A trial period may be indicated to evaluate the tolerability and efficacy of the prosthesis in a real-life setting.

Myoelectric Upper Limb Prostheses:

Myoelectric prostheses use muscle activity from the remaining limb for control of joint movement. Electromyographic 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 1 joint at a time, myoelectric control of movement may be considered the most physiologically natural. Myoelectric upper limb prosthetic devices include the LTI Boston Digital ARM™ System (Liberating Technologies) and the Utah Arm Series 3 (Fillauer Motion Control).

Myoelectric Hand Prostheses:

Myoelectric hand attachments are similar in form to those offered with the body-powered prosthesis but are battery-powered. Myoelectric hand prosthetic devices include i-Digits® Quantum and i-limb™ (Touch Bionics [now part of Össur]), the SensorHand™ Speed (Otto Bock), Michelangelo® Hand (Otto Bock), and bebionic (Ottobock).

Hybrid System:

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 for control of 2 joints at once (i.e., 1 body-powered, 1 myoelectric) and are generally lighter and less expensive than a prosthesis composed entirely of myoelectric components.

Sensor and Myoelectric Controlled Upper-Limb Prosthetic Components:

The LUKE Arm (previously known as the DEKA Arm System), is the first commercially available myoelectric upper-limb that can perform complex tasks with multiple simultaneous powered movements (e.g., movement of the elbow, wrist, and hand at the same time). In addition to the electromyographic electrodes, the LUKE Arm contains a combination of mechanisms, including switches, movement



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sensors, and force sensors. The primary control resides with inertial measurement sensors on top of the feet. The prosthesis includes vibration pressure and grip sensors.

Myoelectric Orthoses:

The MyoPro® (Myomo) is a myoelectric powered upper-extremity orthotic. This orthotic device weighs about 1.8 kilograms (4 pounds), has manual wrist articulation, and myoelectric initiated bi-directional elbow movement. The MyoPro detects weak muscle activity from the affected muscle groups. A therapist or prosthetist/orthoptist can adjust the gain (amount of assistance), signal boost, thresholds, and range of motion. Potential users include patients with traumatic brain injury, spinal cord injury, brachial plexus injury, amyotrophic lateral sclerosis, and multiple sclerosis. Use of robotic devices for therapy has been reported. The MyoPro is the first myoelectric orthotic available for home use.

Criteria:

COVERAGE FOR BIOMECHANICAL OR MYOELECTRIC DEVICES IS DEPENDENT UPON BENEFIT PLAN LANGUAGE. REFER TO MEMBER'S SPECIFIC BENEFIT PLAN BOOKLET TO VERIFY BENEFITS.

- **If benefit coverage for biomechanical or myoelectric devices are available**, myoelectric upper limb prosthetic components are considered **medically necessary** with documentation of **ALL** of the following:
1. Individual has an amputation or missing limb at the wrist or above (e.g., forearm, elbow)
 2. 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 (ADLs)
 3. The remaining musculature of the arm(s) contains the minimum microvolt threshold to allow operation of a myoelectric prosthetic device
 4. The individual has demonstrated sufficient neurologic and cognitive function to operate the prosthesis effectively
 5. The individual is free of comorbidities that could interfere with function of the prosthesis (e.g., neuromuscular disease)
 6. Functional evaluation by an independent qualified professional indicates that with training, use of a myoelectric prosthesis is likely to meet the functional needs of the individual (e.g., gripping, releasing, holding, coordinating movement of the prosthesis) when performing activities of daily living. This evaluation should consider the individual needs for control, durability (maintenance), function (speed, work capability), and usability



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- Myoelectric upper limb prosthetic components for all other indications not previously listed or if above criteria not met are considered **experimental or investigational** when any **ONE** or more of the following criteria are met:
 1. Lack of final approval from the appropriate governmental regulatory bodies (e.g., Food and Drug Administration); or
 2. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes; or
 3. Insufficient evidence to support improvement of the net health outcome; or
 4. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives; or
 5. Insufficient evidence to support improvement outside the investigational setting.

- Advanced upper-limb prosthetic components with both sensor and myoelectric control (e.g., LUKE Arm) are considered **experimental or investigational** when any **ONE** or more of the following criteria are met:
 1. Lack of final approval from the appropriate governmental regulatory bodies (e.g., Food and Drug Administration); or
 2. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes; or
 3. Insufficient evidence to support improvement of the net health outcome; or
 4. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives; or
 5. Insufficient evidence to support improvement outside the investigational setting.

- A prosthesis with individually powered digits, including but not limited to a partial hand prosthesis, is considered **experimental or investigational** when any **ONE** or more of the following criteria are met:
 1. Lack of final approval from the appropriate governmental regulatory bodies (e.g., Food and Drug Administration); or
 2. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes; or
 3. Insufficient evidence to support improvement of the net health outcome; or
 4. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives; or
 5. Insufficient evidence to support improvement outside the investigational setting.

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- Myoelectric controlled upper-limb orthoses are considered *experimental or investigational* when any **ONE** or more of the following criteria are met:
1. Lack of final approval from the appropriate governmental regulatory bodies (e.g., Food and Drug Administration); or
 2. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes; or
 3. Insufficient evidence to support improvement of the net health outcome; or
 4. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives; or
 5. Insufficient evidence to support improvement outside the investigational setting.

Resources:

Literature reviewed 05/19/26. We do not include marketing materials, poster boards and non-published literature in our review

1. Biddiss EA, Chau TT. Upper limb prosthesis use and abandonment: a survey of the last 25 years. *Prosthet Orthot Int.* Sep 2007; 31(3): 236-57. PMID 17979010
2. Kruger LM, Fishman S. Myoelectric and body-powered prostheses. *J Pediatr Orthop.* 1993; 13(1): 68-75. PMID 8416358
3. Silcox DH, Rooks MD, Vogel RR, et al. Myoelectric prostheses. A long-term follow-up and a study of the use of alternate prostheses. *J Bone Joint Surg Am.* Dec 1993; 75(12): 1781-9. PMID 8258548
4. McFarland LV, Hubbard Winkler SL, Heinemann AW, et al. Unilateral upper-limb loss: satisfaction and prosthetic-device use in veterans and servicemembers from Vietnam and OIF/OEF conflicts. *J Rehabil Res Dev.* 2010; 47(4): 299-316. PMID 20803400
5. Sjöberg L, Lindner H, Hermansson L. Long-term results of early myoelectric prosthesis fittings: A prospective case-control study. *Prosthet Orthot Int.* Oct 2018; 42(5): 527-533. PMID 28905686
6. Egermann M, Kasten P, Thomsen M. Myoelectric hand prostheses in very young children. *Int Orthop.* Aug 2009; 33(4): 1101-5. PMID 18636257
7. Resnik LJ, Borgia ML, Acluche F. Perceptions of satisfaction, usability and desirability of the DEKA Arm before and after a trial of home use. *PLoS One.* 2017; 12(6): e0178640. PMID 28575025
8. Resnik L, Cancio J, Klinger S, et al. Predictors of retention and attrition in a study of an advanced upper limb prosthesis: implications for adoption of the DEKA Arm. *Disabil Rehabil Assist Technol.* Feb 2018; 13(2): 206-210. PMID 28375687



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9. Resnik L, Klinger S. Attrition and retention in upper limb prosthetics research: experience of the VA home study of the DEKA arm. Disabil Rehabil Assist Technol. Nov 2017; 12(8): 816-821. PMID 28098513
10. Resnik LJ, Borgia ML, Acluche F, et al. How do the outcomes of the DEKA Arm compare to conventional prostheses?. PLoS One. 2018; 13(1): e0191326. PMID 29342217
11. Resnik L, Acluche F, Lieberman Klinger S, et al. Does the DEKA Arm substitute for or supplement conventional prostheses. Prosthet Orthot Int. Oct 2018; 42(5): 534-543. PMID 28905665
12. Resnik L, Acluche F, Borgia M. The DEKA hand: A multifunction prosthetic terminal device-patterns of grip usage at home. Prosthet Orthot Int. Aug 2018; 42(4): 446-454. PMID 28914583
13. Peters HT, Page SJ, Persch A. Giving Them a Hand: Wearing a Myoelectric Elbow-Wrist-Hand Orthosis Reduces Upper Extremity Impairment in Chronic Stroke. Arch Phys Med Rehabil. Sep 2017; 98(9): 1821-1827. PMID 28130084
14. Androwis GJ, Engler A, Craven C, et al. Effectiveness of myoelectric wearable orthoses for upper extremity functional recovery in spinal cord injury- a pilot study. J Neuroeng Rehabil. Dec 02 2025; 23(1): 6. PMID 41331457

Coding:

HCPCS: A8005, A8006, L6026, L6700, L6880, L6925, L6935, L6945, L6955, L6965, L6975, L7007, L7008, L7009, L7045, L7190, L7191, L8701, L8702

History:

<u>History:</u>	<u>Date:</u>	<u>Activity:</u>
Medical Policy Panel	05/19/26	Approved guideline
Medical Director (Dr. Raja, Dr. Sutanto)	04/30/26	Development

Policy Revisions:



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Non-Discrimination Statement:

Blue Cross Blue Shield of Arizona (BCBSAZ) complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex. BCBSAZ provides appropriate free aids and services, such as qualified interpreters and written information in other formats, to people with disabilities to communicate effectively with us. BCBSAZ also provides free language services to people whose primary language is not English, such as qualified interpreters and information written in other languages. If you need these services, call (602) 864-4884 for Spanish and (877) 475-4799 for all other languages and other aids and services.

If you believe that BCBSAZ has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability or sex, you can file a grievance with: BCBSAZ's Civil Rights Coordinator, Attn: Civil Rights Coordinator, Blue Cross Blue Shield of Arizona, P.O. Box 13466, Phoenix, AZ 85002-3466, (602) 864-2288, TTY/TDD (602) 864-4823, crc@azblue.com. You can file a grievance in person or by mail or email. If you need help filing a grievance BCBSAZ's Civil Rights Coordinator is available to help you. 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, DC 20201, 1-800-368-1019, 800-537-7697 (TDD). Complaint forms are available at <http://www.hhs.gov/ocr/office/file/index.html>

Multi-Language Interpreter Services:

Spanish: Si usted, o alguien a quien usted está ayudando, tiene preguntas acerca de Blue Cross Blue Shield of Arizona, tiene derecho a obtener ayuda e información en su idioma sin costo alguno. Para hablar con un intérprete, llame al 602-864-4884.

Navajo: Dii kwe'é atah nilinigií Blue Cross Blue Shield of Arizona haada yit'éego bina'idilkidgo éi doodago Háida bį́į́ anilyeedigií t'áadoo le'é yina'idilkidgo beehaz'áanii hółó dii t'áa hazaadk'ehjí háká a'doowolgo bee haz'ą doo baqah ilinígóó. Ata' halne'ígíí kojį' bich'į́ hodilnih 877-475-4799.

Chinese: 如果您，或是您正在協助的對象，有關於插入項目的名稱 Blue Cross Blue Shield of Arizona 方面的問題，您有權利免費以您的母語得到幫助和訊息。洽詢一位翻譯員，請撥電話 在此插入數字 877-475-4799。

Vietnamese: Nếu quý vị, hay người mà quý vị đang giúp đỡ, có câu hỏi về Blue Cross Blue Shield of Arizona quý vị sẽ có quyền được giúp và có thêm thông tin bằng ngôn ngữ của mình miễn phí. Để nói chuyện với một thông dịch viên, xin gọi 877-475-4799.

Arabic:

إن كان لديك أو لدى شخص تساعد أسئلة بخصوص Blue Cross Blue Shield of Arizona، فلديك الحق في الحصول على المساعدة والمعلومات الضرورية بلغتك من دون أية تكلفة. للتحدث مع مترجم اتصل بـ 877-475-4799.



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Multi-Language Interpreter Services:

Tagalog: Kung ikaw, o ang iyong tinutulungan, ay may mga katanungan tungkol sa Blue Cross Blue Shield of Arizona, may karapatan ka na makakuha ng tulong at impormasyon sa iyong wika ng walang gastos. Upang makausap ang isang tagasalin, tumawag sa 877-475-4799.

Korean: 만약 귀하 또는 귀하가 돕고 있는 어떤 사람이 Blue Cross Blue Shield of Arizona 에 관해서 질문이 있다면 귀하는 그러한 도움과 정보를 귀하의 언어로 비용 부담없이 얻을 수 있는 권리가 있습니다. 그렇게 통역사와 얘기하기 위해서는 877-475-4799 로 전화하십시오.

French: Si vous, ou quelqu'un que vous êtes en train d'aider, a des questions à propos de Blue Cross Blue Shield of Arizona, vous avez le droit d'obtenir de l'aide et l'information dans votre langue à aucun coût. Pour parler à un interprète, appelez 877-475-4799.

German: Falls Sie oder jemand, dem Sie helfen, Fragen zum Blue Cross Blue Shield of Arizona haben, haben Sie das Recht, kostenlose Hilfe und Informationen in Ihrer Sprache zu erhalten. Um mit einem Dolmetscher zu sprechen, rufen Sie bitte die Nummer 877-475-4799 an.

Russian: Если у вас или лица, которому вы помогаете, имеются вопросы по поводу Blue Cross Blue Shield of Arizona, то вы имеете право на бесплатное получение помощи и информации на вашем языке. Для разговора с переводчиком позвоните по телефону 877-475-4799.

Japanese: ご本人様、またはお客様の身の回りの方でも、Blue Cross Blue Shield of Arizona についてご質問がございましたら、ご希望の言語でサポートを受けたり、情報を入手したりすることができます。料金はかかりません。通訳とお話される場合、877-475-4799 までお電話ください。

Farsi:

اگر شما، یا کسی که شما به او کمک میکنید، سوال در مورد Blue Cross Blue Shield of Arizona، داشته باشید حق این را دارید که کمک و اطلاعات به زبان خود را به طور رایگان دریافت نمایید 877-475-4799 [تماس حاصل نمایید].

Assyrian:

Blue Cross Blue Shield of Arizona... 877-475-4799

Serbo-Croatian: Ukoliko Vi ili neko kome Vi pomažete ima pitanje o Blue Cross Blue Shield of Arizona, imate pravo da besplatno dobijete pomoć i informacije na Vašem jeziku. Da biste razgovarali sa prevodiocem, nazovite 877-475-4799.

Thai: หากคุณ หรือคนที่คุณกำลังช่วยเหลือถามเกี่ยวกับ Blue Cross Blue Shield of Arizona คุณมีสิทธิที่จะได้รับความช่วยเหลือและข้อมูลในภาษา ของคุณได้โดยไม่มีค่าใช้จ่าย โปรดสอบถาม โทร 877-475-4799