


MEDICAL POLICY	Surface Electromyography (sEMG) Testing
Effective Date: 07/01/2021  7/1/2021	Medical Policy Number 136
	Technology Assessment Committee Approved Date: 10/10; 11/12; 12/13; 10/14; 10/15 Medical Policy Committee Approved Date: 9/08; 10/16; 12/17; 11/18; 12/19; 04/2020; 6/2021
Medical Officer	Date

See Policy CPT/HCPCS CODE section below for any prior authorization requirements

SCOPE:

Providence Health Plan, Providence Health Assurance, Providence Plan Partners, and Ayin Health Solutions as applicable (referred to individually as “Company” and collectively as “Companies”).

APPLIES TO:

All lines of business

BENEFIT APPLICATION

Medicaid Members

Oregon: Services requested for Oregon Health Plan (OHP) members follow the OHP Prioritized List and Oregon Administrative Rules (OARs) as the primary resource for coverage determinations. Medical policy criteria below may be applied when there are no criteria available in the OARs and the OHP Prioritized List.

POLICY CRITERIA

Surface electromyography testing, such as the MyoVision PhysioMonitoring Systems, is considered **investigational and is not covered** as a treatment of any condition.

CPT/HCPCS CODES

All Lines of Business	
Not Covered	
96002	Dynamic surface electromyography, during walking or other functional activities, 1-12 muscles
S3900	Surface electromyography (emg)

MEDICAL POLICY	Surface Electromyography (sEMG) Testing
-----------------------	--

Unlisted Codes	
All unlisted codes will be reviewed for medical necessity, correct coding, and pricing at the claim level. If an unlisted code is billed related to services addressed in this policy then it will be denied as not covered .	
95999	Unlisted neurological or neuromuscular diagnostic procedure

DESCRIPTION

Surface electromyography (sEMG) is marketed to be a surface electrophysiological technique that quantifies muscle contractions in specific muscle groups. Testing has been proposed to evaluate the performance of muscles and nerves in patients with a variety of neuromuscular disorders.

Dynamic sEMG testing and static sEMG testing are techniques where electrodes are used to measure muscle contractions.

REVIEW OF EVIDENCE

A review of the ECRI, Hayes, Cochrane, and PubMed databases was conducted regarding the use of sEMG testing for myopathic and neuropathic conditions such as low back pain, myofascial pain, paraspinal fatigue and other neuromuscular disorders. Below is a summary of the available evidence identified through April 2021.

Study results regarding the use of surface electromyography (sEMG) in the assessment neuropathic and myopathic conditions were inconsistent.¹⁻⁷ There was variability of results dependent on which muscle groups were being studied. In addition, study results were mixed regarding the use of sEMG to distinguish between neuropathic and myopathic conditions or to diagnose specific neuromuscular diseases.

Most studies which evaluated the use of sEMG were limited by small sample size and were retrospective in nature, with 8-10 year follow-up. Large, well-designed, randomized controlled trials are needed to determine the accuracy and validity of sEMG testing for the diagnosis of neuropathic and myopathic pain.

CLINICAL PRACTICE GUIDELINES

The Council on Chiropractic Practice

In 2013, the Council on Chiropractic Practice published consensus guidelines indicating sEMG may be used for recording changes in the electrical activity muscle changes associated with subluxation.⁸ Data used to support this recommendation contained similar limitations as noted above, such as a lack of randomized study design comparing sEMG to standard of care diagnostic techniques.

CENTERS FOR MEDICARE & MEDICAID

As of 4/16/2021, two Centers for Medicare & Medicaid (CMS) coverage guidelines were identified. Local Coverage Determination L36526 states that the necessity and reasonableness of surface and macro EMGs “have not been established.”⁹ The accompanying Local Coverage Article, A54992 states that, in addition to reasons for denial stated in the LCD’s, “surface and/or macro EMG’s will not be paid.”¹⁰

INSTRUCTIONS FOR USE

Company Medical Policies serve as guidance for the administration of plan benefits. Medical policies do not constitute medical advice nor a guarantee of coverage. Company Medical Policies are reviewed annually and are based upon published, peer-reviewed scientific evidence and evidence-based clinical practice guidelines that are available as of the last policy update. The Companies reserve the right to determine the application of Medical Policies and make revisions to Medical Policies at any time. Providers will be given at least 60-days notice of policy changes that are restrictive in nature.

The scope and availability of all plan benefits are determined in accordance with the applicable coverage agreement. Any conflict or variance between the terms of the coverage agreement and Company Medical Policy will be resolved in favor of the coverage agreement.

REGULATORY STATUS

Mental Health Parity Statement

Coverage decisions are made on the basis of individualized determinations of medical necessity and the experimental or investigational character of the treatment in the individual case. In cases where medical necessity is not established by policy for specific treatment modalities, evidence not previously considered regarding the efficacy of the modality that is presented shall be given consideration to determine if the policy represents current standards of care.

REFERENCES

1. Mohseni Bandpei MA, Rahmani N, Majdoleslam B, Abdollahi I, Ali SS, Ahmad A. Reliability of surface electromyography in the assessment of paraspinal muscle fatigue: an updated systematic review. *J Manipulative Physiol Ther.* 2014;37(7):510-521.
<https://www.ncbi.nlm.nih.gov/pubmed/25204717>
2. Manfredini D, Cocilovo F, Favero L, Ferronato G, Tonello S, Guarda-Nardini L. Surface electromyography of jaw muscles and kinesiographic recordings: diagnostic accuracy for myofascial pain. *J Oral Rehabil.* 2011;38(11):791-799.
<https://www.ncbi.nlm.nih.gov/pubmed/21480942>
3. Meekins GD, So Y, Quan D. American Association of Neuromuscular & Electrodiagnostic Medicine evidenced-based review: use of surface electromyography in the diagnosis and study

- of neuromuscular disorders. *Muscle Nerve*. 2008;38(4):1219-1224.
<https://www.ncbi.nlm.nih.gov/pubmed/18816611>
4. Geisser ME, Ranavaya M, Haig AJ, et al. A meta-analytic review of surface electromyography among persons with low back pain and normal, healthy controls. *J Pain*. 2005;6(11):711-726.
<https://www.ncbi.nlm.nih.gov/pubmed/16275595>
 5. Brandt M, Andersen LL, Samani A, Jakobsen MD, Madeleine P. Inter-day reliability of surface electromyography recordings of the lumbar part of erector spinae longissimus and trapezius descendens during box lifting. *BMC Musculoskelet Disord*. 2017;18(1):519.
<https://www.ncbi.nlm.nih.gov/pubmed/29228936>
 6. Kothari M, Stubbs PW, Pedersen AR, Jensen J, Nielsen JF. Reliability of surface electromyography measurements from the suprahyoid muscle complex. *J Oral Rehabil*. 2017;44(9):683-690.
<https://www.ncbi.nlm.nih.gov/pubmed/28644567>
 7. Musto F, Rosati R, Sforza C, Toma M, Dellavia C. Standardised surface electromyography allows effective submental muscles assessment. *J Electromyogr Kinesiol*. 2017;34:1-5.
<https://www.ncbi.nlm.nih.gov/pubmed/28273612>
 8. Council on Chiropractic Practice | Clinical Practice Guidelines | Fourth Edition - 2013, "Subluxation Chiropractic Practice". <https://ccp-guidelines.org/wp-content/uploads/2019/11/guideline-2013.pdf>. Accessed 3/23/2020.
 9. Centers for Medicare & Medicaid Services Local Coverage Determination (LCD): Nerve Conduction Studies and Electromyography (L36526). Revision Effective Date: For services performed on or after 12/01/2019. <https://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=36526>. Accessed 03/23/2020.
 10. Centers for Medicare & Medicaid Services Local Coverage Article: Billing and Coding: Nerve Conduction Studies and Electromyography (A54992). Revision Effective Date: 12/01/2019. <https://www.cms.gov/medicare-coverage-database/details/article-details.aspx?articleId=54992>. Accessed 03/23/2020.