



MASSACHUSETTS

Blue Cross Blue Shield of Massachusetts is an Independent Licensee of the Blue Cross and Blue Shield Association

Medical Policy

Functional Neuromuscular Electrical Stimulation

Table of Contents

- [Policy: Commercial](#)
- [Policy: Medicare](#)
- [Authorization Information](#)
- [Description](#)
- [Policy History](#)
- [Information Pertaining to All Policies](#)
- [References](#)
- [Coding Information](#)

Policy Number: 201

BCBSA Reference Number: 8.03.01

NCD/LCD: National Coverage Determination (NCD) for Neuromuscular Electrical Stimulation (NMES) (160.12)

Related Policies

- Microprocessor Controlled Prostheses for the Lower Limb, #[133](#)
- Myoelectric Prosthetic Components for the Upper Limb, #[227](#)

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity

Neuromuscular electrical stimulation (NMES) is **INVESTIGATIONAL** as a technique to restore function following nerve damage or nerve injury, including but not limited to the following situations:

- As a technique to provide ambulation in patients with spinal cord injury,
- To provide upper extremity function in patients with nerve damage (e.g., spinal cord injury or post-stroke), or
- To improve ambulation in patients with foot drop caused by congenital disorders (e.g., cerebral palsy) or nerve damage (e.g., post-stroke, or in those with multiple sclerosis).

Medicare HMO BlueSM and Medicare PPO BlueSM Members

NMES is covered for the following indications, in accordance with the Centers for Medicare and Medicaid (CMS) NCD and Medicare inclusion criteria:

- Persons with intact lower motor units (L1 and below), both muscle and peripheral nerve,
- Persons with muscle and joint stability for weight bearing at upper and lower extremities that can demonstrate balance and control to maintain an upright support posture independently,
- Persons who demonstrate brisk muscle contraction to NMES and have sensory perception of electrical stimulation sufficient for muscle contraction,
- Persons who possess high motivation, commitment, and cognitive ability to use such devices for walking,
- Persons who can transfer independently and can demonstrate independent standing tolerance for at least 3 minutes,
- Persons who can demonstrate hand and finger function to manipulate controls,

- Persons with at least 6-month post-recovery spinal cord injury and restorative surgery,
- Persons without hip and knee degenerative disease and no history of long bone fracture secondary to osteoporosis, and
- Persons who have demonstrated a willingness to use the device long-term.

Coverage for Medicare HMO BlueSM and Medicare PPO BlueSM members for Neuromuscular Electrical Stimulation (NMES) is limited to Spinal Cord Injury patients for walking, who have completed a training program which consists of at least 32 physical therapy sessions with the device over a period of three months. The trial period of physical therapy will enable the physician treating the patient for his or her spinal cord injury to properly evaluate the person's ability to use these devices frequently and for the long term. Physical therapy necessary to perform this training must be directly performed by the physical therapist as part of a one-on-one training program.

NMES is not covered for the following indications, in accordance with the CMS NCD and Medicare exclusion criteria:

- Persons with cardiac pacemakers,
- Severe scoliosis or severe osteoporosis,
- Skin disease or cancer at area of stimulation,
- Irreversible contracture, or
- Autonomic dysreflexia.

National Coverage Determination (NCD) for Neuromuscular Electrical Stimulation (NMES) (160.12)

<https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=175&ncdver=2&bc=AgAAgAAAAAAA&>

Prior Authorization Information

Pre-service approval is required for all inpatient services for all products.

See below for situations where prior authorization may be required or may not be required for outpatient services.

Yes indicates that prior authorization is required.

No indicates that prior authorization is not required.

N/A indicates that this service is primarily performed in an inpatient setting.

| | Outpatient |
|--|--------------------------------|
| Commercial Managed Care (HMO and POS) | This is not a covered service. |
| Commercial PPO and Indemnity | This is not a covered service. |
| Medicare HMO BlueSM | No |
| Medicare PPO BlueSM | No |

Description

Functional neuromuscular electrical stimulation (NMES) is a method being developed to restore function to patients with damaged or destroyed nerve pathways through use of an orthotic device with microprocessor controlled electrical neuromuscular stimulation.

Neural prosthetic devices consist of an orthotic and a microprocessor-based electronic stimulator with one or more channels for delivery of individual pulses through surface or implanted electrodes connected to the neuromuscular system. Microprocessor programs activate the channels sequentially or in unison to stimulate peripheral nerves and trigger muscle contractions to produce functionally useful movements that allow patients to sit, stand, walk, and grasp. Functional neuromuscular stimulators are closed loop systems which provide feedback information on muscle force and joint position, thus allowing constant modification of stimulation parameters required for complex activities such as walking.

One application of functional NMES is to restore upper extremity functions, such as grasp-release, forearm pronation and elbow extension, in patients with stroke or C5 and C6 tetraplegia (quadraplegia).

Other neural prosthetic devices have been developed for functional NMES in patients with foot drop. Foot drop is weakness of the foot and ankle that causes reduced dorsiflexion and difficulty with ambulation. Functional electrical stimulation of the peroneal nerve has been suggested for these patients as an aid in raising the toes during the swing phase of ambulation.

Another application of functional electrical stimulation is to provide spinal cord injured patients with the ability to stand and walk. Using percutaneous stimulation, the device delivers trains of electrical pulses to trigger action potentials at selected nerves at the quadriceps (for knee extension), the common peroneal nerve (for hip flexion), and the paraspinals and gluteals (for trunk stability). Patients use a walker or elbow-support crutches for further support. The electrical impulses are controlled by a computer microchip attached to the patient's belt that synchronizes and distributes the signals. In addition, there is a finger-controlled switch that permits patient activation of the stepping.

Examples of neuromuscular electrical stimulators to restore upper extremity functions include the Neurocontrol Freehand system and the Handmaster NMS I [neuromuscular stimulator. Examples of neural prosthetic devices developed for functional NMES in patients with foot drop include Walk Aide ® from Innovative Neurotronics (formerly NeuroMotion, Inc.), NESS L300 ™ from Bioness, and Odstock ® Dropped Foot Stimulator. An example of a functional walking neuromuscular stimulation device is the Parastep® Ambulation System. All neuromuscular stimulation devices are considered investigational regardless of the commercial name, the manufacturer or FDA approval status except when used for the medically necessary indications that are consistent with the policy statement.

Summary

Functional neuromuscular electrical stimulation (NMES) is a method being developed to restore function to patients with damaged or destroyed nerve pathways (e.g., stroke, spinal cord injury, multiple sclerosis, cerebral palsy) through use of an orthotic device with microprocessor-controlled electrical stimulation. Evidence for neuromuscular stimulation to provide functional movement is limited by the small number of subjects studied to date. A cross-over study of NMES and ankle-foot orthosis (AFO) in patients with chronic post-stroke foot drop showed improved satisfaction with NMES but no change in walking speed. A small randomized trial examining neuromuscular stimulation for foot drop in patients with MS showed a reduction in falls and improvement in satisfaction when compared to a program of exercise, but did not demonstrate a clinically significant benefit in walking speed. The literature on NMES in children with cerebral palsy includes a systematic review of small studies with within-subject designs. Additional study in a larger number of subjects is needed to permit conclusions regarding the effect of this technology on health outcomes. Therefore, functional NMES remains investigational.

Policy History

| Date | Action |
|----------------|---|
| 9/2017 | New references added from BCBSA National medical policy. |
| 10/2016 | New references added from BCBSA National medical policy. |
| 3/2015 | New references added from BCBSA National medical policy. |
| 5/2014 | Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015. |
| 5/2014 | New references from BCBSA National medical policy. |
| 8/2013 | BCBSA National medical policy review. New investigational indications described. Effective 8/1/2013. |
| 11/2011-4/2012 | Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements. |
| 6/2011 | Reviewed - Medical Policy Group – Orthopedics, Rehabilitation and Rheumatology. No changes to policy statement. |
| 1/2011 | Reviewed - Medical Policy Group – Neurology and Neurosurgery. No changes to policy statements. |
| 7/2010 | Reviewed - Medical Policy Group – Orthopedics, Rehabilitation and Rheumatology. No changes to policy statements. |

| | |
|----------|---|
| 7/1/2010 | Medical Policy 201 effective 7/1/10 describing ongoing coverage and non-coverage. |
|----------|---|

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

References

- Centers for Medicare and Medicaid Services. Decision Memo for Neuromuscular Electrical Stimulation (NMES) for Spinal Cord Injury (CAG-00153R). 2002; <https://www.cms.gov/medicare-coverage-database/details/nca-decision-memo.aspx?NCAId=55&ver=7&viewAMA=Y&bc=AAAAAAAAEAAA&>. Accessed August 17, 2017.
- Mulcahey MJ, Betz RR, Kozin SH, et al. Implantation of the Freehand System during initial rehabilitation using minimally invasive techniques. *Spinal Cord*. Mar 2004;42(3):146-155. PMID 15001979
- Mulcahey MJ, Betz RR, Smith BT, et al. Implanted functional electrical stimulation hand system in adolescents with spinal injuries: an evaluation. *Arch Phys Med Rehabil*. Jun 1997;78(6):597-607. PMID 9196467
- Taylor P, Esnouf J, Hobby J. The functional impact of the Freehand System on tetraplegic hand function. *Clinical Results*. *Spinal Cord*. Nov 2002;40(11):560-566. PMID 12411963
- Venugopalan L, Taylor PN, Cobb JE, et al. Upper limb functional electrical stimulation devices and their man-machine interfaces. *J Med Eng Technol*. 2015;39(8):471-479. PMID 26508077
- Snoek GJ, IJzerman MJ, in 't Groen FA, et al. Use of the NESS handmaster to restore handfunction in tetraplegia: clinical experiences in ten patients. *Spinal Cord*. Apr 2000;38(4):244-249. PMID 10822395
- Alon G, McBride K. Persons with C5 or C6 tetraplegia achieve selected functional gains using a neuroprosthesis. *Arch Phys Med Rehabil*. Jan 2003;84(1):119-124. PMID 12589632
- Alon G, McBride K, Ring H. Improving selected hand functions using a noninvasive neuroprosthesis in persons with chronic stroke. *J Stroke Cerebrovasc Dis*. Mar-Apr 2002;11(2):99-106. PMID 17903863
- Bethoux F, Rogers HL, Nolan KJ, et al. The effects of peroneal nerve functional electrical stimulation versus ankle-foot orthosis in patients with chronic stroke: a randomized controlled trial. *Neurorehabil Neural Repair*. Sep 2014;28(7):688-697. PMID 24526708
- Kluding PM, Dunning K, O'Dell MW, et al. Foot drop stimulation versus ankle foot orthosis after stroke: 30-week outcomes. *Stroke*. Jun 2013;44(6):1660-1669. PMID 23640829
- O'Dell MW, Dunning K, Kluding P, et al. Response and prediction of improvement in gait speed from functional electrical stimulation in persons with poststroke drop foot. *PM R*. Jul 2014;6(7):587-601; quiz 601. PMID 24412265
- Barrett CL, Mann GE, Taylor PN, et al. A randomized trial to investigate the effects of functional electrical stimulation and therapeutic exercise on walking performance for people with multiple sclerosis. *Mult Scler*. Apr 2009;15(4):493-504. PMID 19282417
- Esnouf JE, Taylor PN, Mann GE, et al. Impact on activities of daily living using a functional electrical stimulation device to improve dropped foot in people with multiple sclerosis, measured by the Canadian Occupational Performance Measure. *Mult Scler*. Sep 2010;16(9):1141-1147. PMID 20601398
- Stein RB, Everaert DG, Thompson AK, et al. Long-term therapeutic and orthotic effects of a foot drop stimulator on walking performance in progressive and nonprogressive neurological disorders. *Neurorehabil Neural Repair*. Feb 2010;24(2):152-167. PMID 19846759
- Cauraugh JH, Naik SK, Hsu WH, et al. Children with cerebral palsy: a systematic review and meta-analysis on gait and electrical stimulation. *Clin Rehabil*. Nov 2010;24(11):963-978. PMID 20685722
- Prosser LA, Curatalo LA, Alter KE, et al. Acceptability and potential effectiveness of a foot drop stimulator in children and adolescents with cerebral palsy. *Dev Med Child Neurol*. Nov 2012;54(11):1044-1049. PMID 22924431
- Meilahn JR. Tolerability and effectiveness of a neuroprosthesis for the treatment of footdrop in pediatric patients with hemiparetic cerebral palsy. *PM R*. Jun 2013;5(6):503-509. PMID 23313040
- Chaplin E. Functional neuromuscular stimulation for mobility in people with spinal cord injuries. The Parastep I System. *J Spinal Cord Med*. Apr 1996;19(2):99-105. PMID 8732878

19. Klose KJ, Jacobs PL, Broton JG, et al. Evaluation of a training program for persons with SCI paraplegia using the Parastep 1 ambulation system: part 1. Ambulation performance and anthropometric measures. Arch Phys Med Rehabil. Aug 1997;78(8):789-793. PMID 9344294
20. Jacobs PL, Nash MS, Klose KJ, et al. Evaluation of a training program for persons with SCI paraplegia using the Parastep 1 ambulation system: part 2. Effects on physiological responses to peak arm ergometry. Arch Phys Med Rehabil. Aug 1997;78(8):794-798. PMID 9344295
21. Needham-Shropshire BM, Broton JG, Klose KJ, et al. Evaluation of a training program for persons with SCI paraplegia using the Parastep 1 ambulation system: part 3. Lack of effect on bone mineral density. Arch Phys Med Rehabil. Aug 1997;78(8):799-803. PMID 9344296
22. Guest RS, Klose KJ, Needham-Shropshire BM, et al. Evaluation of a training program for persons with SCI paraplegia using the Parastep 1 ambulation system: part 4. Effect on physical self-concept and depression. Arch Phys Med Rehabil. Aug 1997;78(8):804-807. PMID 9344297
23. Nash MS, Jacobs PL, Montalvo BM, et al. Evaluation of a training program for persons with SCI paraplegia using the Parastep 1 ambulation system: part 5. Lower extremity blood flow and hyperemic responses to occlusion are augmented by ambulation training. Arch Phys Med Rehabil. Aug 1997;78(8):808-814. PMID 9344298
24. Graupe D, Kohn KH. Functional neuromuscular stimulator for short-distance ambulation by certain thoracic-level spinal-cord-injured paraplegics. Surg Neurol. Sep 1998;50(3):202-207. PMID 9736079
25. Brissot R, Gallien P, Le Bot MP, et al. Clinical experience with functional electrical stimulation-assisted gait with Parastep in spinal cord-injured patients. Spine (Phila Pa 1976). Feb 15 2000;25(4):501-508. PMID 10707398
26. Sykes L, Ross ER, Powell ES, et al. Objective measurement of use of the reciprocating gait orthosis (RGO) and the electrically augmented RGO in adult patients with spinal cord lesions. Prosthet Orthot Int. Dec 1996;20(3):182-190. PMID 8985998
27. Davis JA, Jr., Triolo RJ, Uhlir J, et al. Preliminary performance of a surgically implanted neuroprosthesis for standing and transfers--where do we stand? J Rehabil Res Dev. Nov-Dec 2001;38(6):609-617. PMID 11767968
28. Rohde LM, Bonder BR, Triolo RJ. Exploratory study of perceived quality of life with implanted standing neuroprostheses. J Rehabil Res Dev. 2012;49(2):265-278. PMID 22773528
29. Triolo RJ, Bailey SN, Miller ME, et al. Longitudinal performance of a surgically implanted neuroprosthesis for lower-extremity exercise, standing, and transfers after spinal cord injury. Arch Phys Med Rehabil. May 2012;93(5):896-904. PMID 22541312
30. National Institute for Health and Care Excellence (NICE). Functional electrical stimulation for drop foot of central neurological origin [IPG278]. 2009; <http://www.nice.org.uk/nicemedia/pdf/IPG278Guidance.pdf>. Accessed August 15, 2017.
31. Centers for Medicare and Medicaid Services. National Coverage Determination (NCD) for Neuromuscular Electrical Stimulaton (NMES) (160.12). 2006; <https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=175&nacdver=2&DocId=160.12&SearchType=Advanced&bc=IAAABAAAA&>. Accessed August 15, 2017.

CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

CPT Codes

There is no specific CPT code for this service.

HCPCS Codes

| HCPCS codes: | Code Description |
|--------------|--|
| E0764 | Functional neuromuscular stimulation, transcutaneous stimulation of sequential muscle groups of ambulation with computer control, used for walking by spinal cord injured, entire system, after completion of training program |

| | |
|-------|--|
| E0770 | Functional electrical stimulator, transcutaneous stimulation of nerve and/or muscle groups, any type, complete system, not otherwise specified |
|-------|--|

ICD-10 Diagnosis Codes

| ICD-10-CM Diagnosis codes: | Code Description |
|---|---|
| S14.101A | Unspecified injury at C1 level of cervical spinal cord, initial encounter |
| S14.101D | Unspecified injury at C1 level of cervical spinal cord, subsequent encounter |
| S14.101S | Unspecified injury at C1 level of cervical spinal cord, sequela |
| S14.102A | Unspecified injury at C2 level of cervical spinal cord, initial encounter |
| S14.102D | Unspecified injury at C2 level of cervical spinal cord, subsequent encounter |
| S14.102S | Unspecified injury at C2 level of cervical spinal cord, sequela |
| S14.103A | Unspecified injury at C3 level of cervical spinal cord, initial encounter |
| S14.103D | Unspecified injury at C3 level of cervical spinal cord, subsequent encounter |
| S14.103S | Unspecified injury at C3 level of cervical spinal cord, sequela |
| S14.104A | Unspecified injury at C4 level of cervical spinal cord, initial encounter |
| S14.104D | Unspecified injury at C4 level of cervical spinal cord, subsequent encounter |
| S14.104S | Unspecified injury at C4 level of cervical spinal cord, sequela |
| S14.105A | Unspecified injury at C5 level of cervical spinal cord, initial encounter |
| S14.105D | Unspecified injury at C5 level of cervical spinal cord, subsequent encounter |
| S14.105S | Unspecified injury at C5 level of cervical spinal cord, sequela |
| S14.106A | Unspecified injury at C6 level of cervical spinal cord, initial encounter |
| S14.106D | Unspecified injury at C6 level of cervical spinal cord, subsequent encounter |
| S14.106S | Unspecified injury at C6 level of cervical spinal cord, sequela |
| S14.107A | Unspecified injury at C7 level of cervical spinal cord, initial encounter |
| S14.107D | Unspecified injury at C7 level of cervical spinal cord, subsequent encounter |
| S14.107S | Unspecified injury at C7 level of cervical spinal cord, sequela |
| S14.108A | Unspecified injury at C8 level of cervical spinal cord, initial encounter |
| S14.108D | Unspecified injury at C8 level of cervical spinal cord, subsequent encounter |
| S14.108S | Unspecified injury at C8 level of cervical spinal cord, sequela |
| S14.109A | Unspecified injury at unspecified level of cervical spinal cord, initial encounter |
| S14.109D | Unspecified injury at unspecified level of cervical spinal cord, subsequent encounter |
| S14.109S | Unspecified injury at unspecified level of cervical spinal cord, sequela |
| S14.111A | Complete lesion at C1 level of cervical spinal cord, initial encounter |
| S14.111D | Complete lesion at C1 level of cervical spinal cord, subsequent encounter |
| S14.111S | Complete lesion at C1 level of cervical spinal cord, sequela |
| S14.112A | Complete lesion at C2 level of cervical spinal cord, initial encounter |
| S14.112D | Complete lesion at C2 level of cervical spinal cord, subsequent encounter |
| S14.112S | Complete lesion at C2 level of cervical spinal cord, sequela |
| S14.113A | Complete lesion at C3 level of cervical spinal cord, initial encounter |
| S14.113D | Complete lesion at C3 level of cervical spinal cord, subsequent encounter |
| S14.113S | Complete lesion at C3 level of cervical spinal cord, sequela |
| S14.114A | Complete lesion at C4 level of cervical spinal cord, initial encounter |
| S14.114D | Complete lesion at C4 level of cervical spinal cord, subsequent encounter |
| S14.114S | Complete lesion at C4 level of cervical spinal cord, sequela |
| S14.115A | Complete lesion at C5 level of cervical spinal cord, initial encounter |
| S14.115D | Complete lesion at C5 level of cervical spinal cord, subsequent encounter |
| S14.115S | Complete lesion at C5 level of cervical spinal cord, sequela |
| S14.116A | Complete lesion at C6 level of cervical spinal cord, initial encounter |
| S14.116D | Complete lesion at C6 level of cervical spinal cord, subsequent encounter |

| | |
|----------|--|
| S14.116S | Complete lesion at C6 level of cervical spinal cord, sequela |
| S14.117A | Complete lesion at C7 level of cervical spinal cord, initial encounter |
| S14.117D | Complete lesion at C7 level of cervical spinal cord, subsequent encounter |
| S14.117S | Complete lesion at C7 level of cervical spinal cord, sequela |
| S14.118A | Complete lesion at C8 level of cervical spinal cord, initial encounter |
| S14.118D | Complete lesion at C8 level of cervical spinal cord, subsequent encounter |
| S14.118S | Complete lesion at C8 level of cervical spinal cord, sequela |
| S14.119A | Complete lesion at unspecified level of cervical spinal cord, initial encounter |
| S14.119D | Complete lesion at unspecified level of cervical spinal cord, subsequent encounter |
| S14.119S | Complete lesion at unspecified level of cervical spinal cord, sequela |
| S14.121A | Central cord syndrome at C1 level of cervical spinal cord, initial encounter |
| S14.121D | Central cord syndrome at C1 level of cervical spinal cord, subsequent encounter |
| S14.121S | Central cord syndrome at C1 level of cervical spinal cord, sequela |
| S14.122A | Central cord syndrome at C2 level of cervical spinal cord, initial encounter |
| S14.122D | Central cord syndrome at C2 level of cervical spinal cord, subsequent encounter |
| S14.122S | Central cord syndrome at C2 level of cervical spinal cord, sequela |
| S14.123A | Central cord syndrome at C3 level of cervical spinal cord, initial encounter |
| S14.123D | Central cord syndrome at C3 level of cervical spinal cord, subsequent encounter |
| S14.123S | Central cord syndrome at C3 level of cervical spinal cord, sequela |
| S14.124A | Central cord syndrome at C4 level of cervical spinal cord, initial encounter |
| S14.124D | Central cord syndrome at C4 level of cervical spinal cord, subsequent encounter |
| S14.124S | Central cord syndrome at C4 level of cervical spinal cord, sequela |
| S14.125A | Central cord syndrome at C5 level of cervical spinal cord, initial encounter |
| S14.125D | Central cord syndrome at C5 level of cervical spinal cord, subsequent encounter |
| S14.125S | Central cord syndrome at C5 level of cervical spinal cord, sequela |
| S14.126A | Central cord syndrome at C6 level of cervical spinal cord, initial encounter |
| S14.126D | Central cord syndrome at C6 level of cervical spinal cord, subsequent encounter |
| S14.126S | Central cord syndrome at C6 level of cervical spinal cord, sequela |
| S14.127A | Central cord syndrome at C7 level of cervical spinal cord, initial encounter |
| S14.127D | Central cord syndrome at C7 level of cervical spinal cord, subsequent encounter |
| S14.127S | Central cord syndrome at C7 level of cervical spinal cord, sequela |
| S14.128A | Central cord syndrome at C8 level of cervical spinal cord, initial encounter |
| S14.128D | Central cord syndrome at C8 level of cervical spinal cord, subsequent encounter |
| S14.128S | Central cord syndrome at C8 level of cervical spinal cord, sequela |
| S14.129A | Central cord syndrome at unspecified level of cervical spinal cord, initial encounter |
| S14.129D | Central cord syndrome at unspecified level of cervical spinal cord, subsequent encounter |
| S14.129S | Central cord syndrome at unspecified level of cervical spinal cord, sequela |
| S14.131A | Anterior cord syndrome at C1 level of cervical spinal cord, initial encounter |
| S14.131D | Anterior cord syndrome at C1 level of cervical spinal cord, subsequent encounter |
| S14.131S | Anterior cord syndrome at C1 level of cervical spinal cord, sequela |
| S14.132A | Anterior cord syndrome at C2 level of cervical spinal cord, initial encounter |
| S14.132D | Anterior cord syndrome at C2 level of cervical spinal cord, subsequent encounter |
| S14.132S | Anterior cord syndrome at C2 level of cervical spinal cord, sequela |
| S14.133A | Anterior cord syndrome at C3 level of cervical spinal cord, initial encounter |
| S14.133D | Anterior cord syndrome at C3 level of cervical spinal cord, subsequent encounter |
| S14.133S | Anterior cord syndrome at C3 level of cervical spinal cord, sequela |
| S14.134A | Anterior cord syndrome at C4 level of cervical spinal cord, initial encounter |
| S14.134D | Anterior cord syndrome at C4 level of cervical spinal cord, subsequent encounter |
| S14.134S | Anterior cord syndrome at C4 level of cervical spinal cord, sequela |
| S14.135A | Anterior cord syndrome at C5 level of cervical spinal cord, initial encounter |

| | |
|----------|---|
| S14.135D | Anterior cord syndrome at C5 level of cervical spinal cord, subsequent encounter |
| S14.135S | Anterior cord syndrome at C5 level of cervical spinal cord, sequela |
| S14.136A | Anterior cord syndrome at C6 level of cervical spinal cord, initial encounter |
| S14.136D | Anterior cord syndrome at C6 level of cervical spinal cord, subsequent encounter |
| S14.136S | Anterior cord syndrome at C6 level of cervical spinal cord, sequela |
| S14.137A | Anterior cord syndrome at C7 level of cervical spinal cord, initial encounter |
| S14.137D | Anterior cord syndrome at C7 level of cervical spinal cord, subsequent encounter |
| S14.137S | Anterior cord syndrome at C7 level of cervical spinal cord, sequela |
| S14.138A | Anterior cord syndrome at C8 level of cervical spinal cord, initial encounter |
| S14.138D | Anterior cord syndrome at C8 level of cervical spinal cord, subsequent encounter |
| S14.138S | Anterior cord syndrome at C8 level of cervical spinal cord, sequela |
| S14.139A | Anterior cord syndrome at unspecified level of cervical spinal cord, initial encounter |
| S14.139D | Anterior cord syndrome at unspecified level of cervical spinal cord, subsequent encounter |
| S14.139S | Anterior cord syndrome at unspecified level of cervical spinal cord, sequela |
| S14.141A | Brown-Sequard syndrome at C1 level of cervical spinal cord, initial encounter |
| S14.141D | Brown-Sequard syndrome at C1 level of cervical spinal cord, subsequent encounter |
| S14.141S | Brown-Sequard syndrome at C1 level of cervical spinal cord, sequela |
| S14.142A | Brown-Sequard syndrome at C2 level of cervical spinal cord, initial encounter |
| S14.142D | Brown-Sequard syndrome at C2 level of cervical spinal cord, subsequent encounter |
| S14.142S | Brown-Sequard syndrome at C2 level of cervical spinal cord, sequela |
| S14.143A | Brown-Sequard syndrome at C3 level of cervical spinal cord, initial encounter |
| S14.143D | Brown-Sequard syndrome at C3 level of cervical spinal cord, subsequent encounter |
| S14.143S | Brown-Sequard syndrome at C3 level of cervical spinal cord, sequela |
| S14.144A | Brown-Sequard syndrome at C4 level of cervical spinal cord, initial encounter |
| S14.144D | Brown-Sequard syndrome at C4 level of cervical spinal cord, subsequent encounter |
| S14.144S | Brown-Sequard syndrome at C4 level of cervical spinal cord, sequela |
| S14.145A | Brown-Sequard syndrome at C5 level of cervical spinal cord, initial encounter |
| S14.145D | Brown-Sequard syndrome at C5 level of cervical spinal cord, subsequent encounter |
| S14.145S | Brown-Sequard syndrome at C5 level of cervical spinal cord, sequela |
| S14.146A | Brown-Sequard syndrome at C6 level of cervical spinal cord, initial encounter |
| S14.146D | Brown-Sequard syndrome at C6 level of cervical spinal cord, subsequent encounter |
| S14.146S | Brown-Sequard syndrome at C6 level of cervical spinal cord, sequela |
| S14.147A | Brown-Sequard syndrome at C7 level of cervical spinal cord, initial encounter |
| S14.147D | Brown-Sequard syndrome at C7 level of cervical spinal cord, subsequent encounter |
| S14.147S | Brown-Sequard syndrome at C7 level of cervical spinal cord, sequela |
| S14.148A | Brown-Sequard syndrome at C8 level of cervical spinal cord, initial encounter |
| S14.148D | Brown-Sequard syndrome at C8 level of cervical spinal cord, subsequent encounter |
| S14.148S | Brown-Sequard syndrome at C8 level of cervical spinal cord, sequela |
| S14.149A | Brown-Sequard syndrome at unspecified level of cervical spinal cord, initial encounter |
| S14.149D | Brown-Sequard syndrome at unspecified level of cervical spinal cord, subsequent encounter |
| S14.149S | Brown-Sequard syndrome at unspecified level of cervical spinal cord, sequela |
| S14.151A | Other incomplete lesion at C1 level of cervical spinal cord, initial encounter |
| S14.151D | Other incomplete lesion at C1 level of cervical spinal cord, subsequent encounter |
| S14.151S | Other incomplete lesion at C1 level of cervical spinal cord, sequela |
| S14.152A | Other incomplete lesion at C2 level of cervical spinal cord, initial encounter |
| S14.152D | Other incomplete lesion at C2 level of cervical spinal cord, subsequent encounter |
| S14.152S | Other incomplete lesion at C2 level of cervical spinal cord, sequela |
| S14.153A | Other incomplete lesion at C3 level of cervical spinal cord, initial encounter |

| | |
|----------|--|
| S14.153D | Other incomplete lesion at C3 level of cervical spinal cord, subsequent encounter |
| S14.153S | Other incomplete lesion at C3 level of cervical spinal cord, sequela |
| S14.154A | Other incomplete lesion at C4 level of cervical spinal cord, initial encounter |
| S14.154D | Other incomplete lesion at C4 level of cervical spinal cord, subsequent encounter |
| S14.154S | Other incomplete lesion at C4 level of cervical spinal cord, sequela |
| S14.155A | Other incomplete lesion at C5 level of cervical spinal cord, initial encounter |
| S14.155D | Other incomplete lesion at C5 level of cervical spinal cord, subsequent encounter |
| S14.155S | Other incomplete lesion at C5 level of cervical spinal cord, sequela |
| S14.156A | Other incomplete lesion at C6 level of cervical spinal cord, initial encounter |
| S14.156D | Other incomplete lesion at C6 level of cervical spinal cord, subsequent encounter |
| S14.156S | Other incomplete lesion at C6 level of cervical spinal cord, sequela |
| S14.157A | Other incomplete lesion at C7 level of cervical spinal cord, initial encounter |
| S14.157D | Other incomplete lesion at C7 level of cervical spinal cord, subsequent encounter |
| S14.157S | Other incomplete lesion at C7 level of cervical spinal cord, sequela |
| S14.158A | Other incomplete lesion at C8 level of cervical spinal cord, initial encounter |
| S14.158D | Other incomplete lesion at C8 level of cervical spinal cord, subsequent encounter |
| S14.158S | Other incomplete lesion at C8 level of cervical spinal cord, sequela |
| S14.159A | Other incomplete lesion at unspecified level of cervical spinal cord, initial encounter |
| S14.159D | Other incomplete lesion at unspecified level of cervical spinal cord, subsequent encounter |
| S14.159S | Other incomplete lesion at unspecified level of cervical spinal cord, sequela |
| S14.2xxA | Injury of nerve root of cervical spine, initial encounter |
| S14.2xxD | Injury of nerve root of cervical spine, subsequent encounter |
| S14.2xxS | Injury of nerve root of cervical spine, sequela |
| S14.3xxA | Injury of brachial plexus, initial encounter |
| S14.3xxD | Injury of brachial plexus, subsequent encounter |
| S14.3xxS | Injury of brachial plexus, sequela |
| S24.101A | Unspecified injury at T1 level of thoracic spinal cord, initial encounter |
| S24.101D | Unspecified injury at T1 level of thoracic spinal cord, subsequent encounter |
| S24.101S | Unspecified injury at T1 level of thoracic spinal cord, sequela |
| S24.102A | Unspecified injury at T2-T6 level of thoracic spinal cord, initial encounter |
| S24.102D | Unspecified injury at T2-T6 level of thoracic spinal cord, subsequent encounter |
| S24.102S | Unspecified injury at T2-T6 level of thoracic spinal cord, sequela |
| S24.103A | Unspecified injury at T7-T10 level of thoracic spinal cord, initial encounter |
| S24.103D | Unspecified injury at T7-T10 level of thoracic spinal cord, subsequent encounter |
| S24.103S | Unspecified injury at T7-T10 level of thoracic spinal cord, sequela |
| S24.104A | Unspecified injury at T11-T12 level of thoracic spinal cord, initial encounter |
| S24.104D | Unspecified injury at T11-T12 level of thoracic spinal cord, subsequent encounter |
| S24.104S | Unspecified injury at T11-T12 level of thoracic spinal cord, sequela |
| S24.109A | Unspecified injury at unspecified level of thoracic spinal cord, initial encounter |
| S24.109D | Unspecified injury at unspecified level of thoracic spinal cord, subsequent encounter |
| S24.109S | Unspecified injury at unspecified level of thoracic spinal cord, sequela |
| S24.111A | Complete lesion at T1 level of thoracic spinal cord, initial encounter |
| S24.111D | Complete lesion at T1 level of thoracic spinal cord, subsequent encounter |
| S24.111S | Complete lesion at T1 level of thoracic spinal cord, sequela |
| S24.112A | Complete lesion at T2-T6 level of thoracic spinal cord, initial encounter |
| S24.112D | Complete lesion at T2-T6 level of thoracic spinal cord, subsequent encounter |
| S24.112S | Complete lesion at T2-T6 level of thoracic spinal cord, sequela |
| S24.113A | Complete lesion at T7-T10 level of thoracic spinal cord, initial encounter |
| S24.113D | Complete lesion at T7-T10 level of thoracic spinal cord, subsequent encounter |
| S24.113S | Complete lesion at T7-T10 level of thoracic spinal cord, sequela |

| | |
|----------|---|
| S24.114A | Complete lesion at T11-T12 level of thoracic spinal cord, initial encounter |
| S24.114D | Complete lesion at T11-T12 level of thoracic spinal cord, subsequent encounter |
| S24.114S | Complete lesion at T11-T12 level of thoracic spinal cord, sequela |
| S24.119A | Complete lesion at unspecified level of thoracic spinal cord, initial encounter |
| S24.119D | Complete lesion at unspecified level of thoracic spinal cord, subsequent encounter |
| S24.119S | Complete lesion at unspecified level of thoracic spinal cord, sequela |
| S24.131A | Anterior cord syndrome at T1 level of thoracic spinal cord, initial encounter |
| S24.131D | Anterior cord syndrome at T1 level of thoracic spinal cord, subsequent encounter |
| S24.131S | Anterior cord syndrome at T1 level of thoracic spinal cord, sequela |
| S24.132A | Anterior cord syndrome at T2-T6 level of thoracic spinal cord, initial encounter |
| S24.132D | Anterior cord syndrome at T2-T6 level of thoracic spinal cord, subsequent encounter |
| S24.132S | Anterior cord syndrome at T2-T6 level of thoracic spinal cord, sequela |
| S24.133A | Anterior cord syndrome at T7-T10 level of thoracic spinal cord, initial encounter |
| S24.133D | Anterior cord syndrome at T7-T10 level of thoracic spinal cord, subsequent encounter |
| S24.133S | Anterior cord syndrome at T7-T10 level of thoracic spinal cord, sequela |
| S24.134A | Anterior cord syndrome at T11-T12 level of thoracic spinal cord, initial encounter |
| S24.134D | Anterior cord syndrome at T11-T12 level of thoracic spinal cord, subsequent encounter |
| S24.134S | Anterior cord syndrome at T11-T12 level of thoracic spinal cord, sequela |
| S24.139A | Anterior cord syndrome at unspecified level of thoracic spinal cord, initial encounter |
| S24.139D | Anterior cord syndrome at unspecified level of thoracic spinal cord, subsequent encounter |
| S24.139S | Anterior cord syndrome at unspecified level of thoracic spinal cord, sequela |
| S24.141A | Brown-Sequard syndrome at T1 level of thoracic spinal cord, initial encounter |
| S24.141D | Brown-Sequard syndrome at T1 level of thoracic spinal cord, subsequent encounter |
| S24.141S | Brown-Sequard syndrome at T1 level of thoracic spinal cord, sequela |
| S24.142A | Brown-Sequard syndrome at T2-T6 level of thoracic spinal cord, initial encounter |
| S24.142D | Brown-Sequard syndrome at T2-T6 level of thoracic spinal cord, subsequent encounter |
| S24.142S | Brown-Sequard syndrome at T2-T6 level of thoracic spinal cord, sequela |
| S24.143A | Brown-Sequard syndrome at T7-T10 level of thoracic spinal cord, initial encounter |
| S24.143D | Brown-Sequard syndrome at T7-T10 level of thoracic spinal cord, subsequent encounter |
| S24.143S | Brown-Sequard syndrome at T7-T10 level of thoracic spinal cord, sequela |
| S24.144A | Brown-Sequard syndrome at T11-T12 level of thoracic spinal cord, initial encounter |
| S24.144D | Brown-Sequard syndrome at T11-T12 level of thoracic spinal cord, subsequent encounter |
| S24.144S | Brown-Sequard syndrome at T11-T12 level of thoracic spinal cord, sequela |
| S24.149A | Brown-Sequard syndrome at unspecified level of thoracic spinal cord, initial encounter |
| S24.149D | Brown-Sequard syndrome at unspecified level of thoracic spinal cord, subsequent encounter |
| S24.149S | Brown-Sequard syndrome at unspecified level of thoracic spinal cord, sequela |
| S24.151A | Other incomplete lesion at T1 level of thoracic spinal cord, initial encounter |
| S24.151D | Other incomplete lesion at T1 level of thoracic spinal cord, subsequent encounter |
| S24.151S | Other incomplete lesion at T1 level of thoracic spinal cord, sequela |
| S24.152A | Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter |
| S24.152D | Other incomplete lesion at T2-T6 level of thoracic spinal cord, subsequent encounter |
| S24.152S | Other incomplete lesion at T2-T6 level of thoracic spinal cord, sequela |
| S24.153A | Other incomplete lesion at T7-T10 level of thoracic spinal cord, initial encounter |

| | |
|----------|--|
| S24.153D | Other incomplete lesion at T7-T10 level of thoracic spinal cord, subsequent encounter |
| S24.153S | Other incomplete lesion at T7-T10 level of thoracic spinal cord, sequela |
| S24.154A | Other incomplete lesion at T11-T12 level of thoracic spinal cord, initial encounter |
| S24.154D | Other incomplete lesion at T11-T12 level of thoracic spinal cord, subsequent encounter |
| S24.154S | Other incomplete lesion at T11-T12 level of thoracic spinal cord, sequela |
| S24.159A | Other incomplete lesion at unspecified level of thoracic spinal cord, initial encounter |
| S24.159D | Other incomplete lesion at unspecified level of thoracic spinal cord, subsequent encounter |
| S24.159S | Other incomplete lesion at unspecified level of thoracic spinal cord, sequela |
| S24.2xxA | Injury of nerve root of thoracic spine, initial encounter |
| S24.2xxD | Injury of nerve root of thoracic spine, subsequent encounter |
| S24.2xxS | Injury of nerve root of thoracic spine, sequela |
| S34.02xA | Concussion and edema of sacral spinal cord, initial encounter |
| S34.02xD | Concussion and edema of sacral spinal cord, subsequent encounter |
| S34.02xS | Concussion and edema of sacral spinal cord, sequela |
| S34.101A | Unspecified injury to L1 level of lumbar spinal cord, initial encounter |
| S34.101D | Unspecified injury to L1 level of lumbar spinal cord, subsequent encounter |
| S34.101S | Unspecified injury to L1 level of lumbar spinal cord, sequela |
| S34.102A | Unspecified injury to L2 level of lumbar spinal cord, initial encounter |
| S34.102D | Unspecified injury to L2 level of lumbar spinal cord, subsequent encounter |
| S34.102S | Unspecified injury to L2 level of lumbar spinal cord, sequela |
| S34.103A | Unspecified injury to L3 level of lumbar spinal cord, initial encounter |
| S34.103D | Unspecified injury to L3 level of lumbar spinal cord, subsequent encounter |
| S34.103S | Unspecified injury to L3 level of lumbar spinal cord, sequela |
| S34.104A | Unspecified injury to L4 level of lumbar spinal cord, initial encounter |
| S34.104D | Unspecified injury to L4 level of lumbar spinal cord, subsequent encounter |
| S34.104S | Unspecified injury to L4 level of lumbar spinal cord, sequela |
| S34.105A | Unspecified injury to L5 level of lumbar spinal cord, initial encounter |
| S34.105D | Unspecified injury to L5 level of lumbar spinal cord, subsequent encounter |
| S34.105S | Unspecified injury to L5 level of lumbar spinal cord, sequela |
| S34.109A | Unspecified injury to unspecified level of lumbar spinal cord, initial encounter |
| S34.109D | Unspecified injury to unspecified level of lumbar spinal cord, subsequent encounter |
| S34.109S | Unspecified injury to unspecified level of lumbar spinal cord, sequela |
| S34.111A | Complete lesion of L1 level of lumbar spinal cord, initial encounter |
| S34.111D | Complete lesion of L1 level of lumbar spinal cord, subsequent encounter |
| S34.111S | Complete lesion of L1 level of lumbar spinal cord, sequela |
| S34.112A | Complete lesion of L2 level of lumbar spinal cord, initial encounter |
| S34.112D | Complete lesion of L2 level of lumbar spinal cord, subsequent encounter |
| S34.112S | Complete lesion of L2 level of lumbar spinal cord, sequela |
| S34.113A | Complete lesion of L3 level of lumbar spinal cord, initial encounter |
| S34.113D | Complete lesion of L3 level of lumbar spinal cord, subsequent encounter |
| S34.113S | Complete lesion of L3 level of lumbar spinal cord, sequela |
| S34.114A | Complete lesion of L4 level of lumbar spinal cord, initial encounter |
| S34.114D | Complete lesion of L4 level of lumbar spinal cord, subsequent encounter |
| S34.114S | Complete lesion of L4 level of lumbar spinal cord, sequela |
| S34.115A | Complete lesion of L5 level of lumbar spinal cord, initial encounter |
| S34.115D | Complete lesion of L5 level of lumbar spinal cord, subsequent encounter |
| S34.115S | Complete lesion of L5 level of lumbar spinal cord, sequela |
| S34.119A | Complete lesion of unspecified level of lumbar spinal cord, initial encounter |

| | |
|----------|--|
| S34.119D | Complete lesion of unspecified level of lumbar spinal cord, subsequent encounter |
| S34.119S | Complete lesion of unspecified level of lumbar spinal cord, sequela |
| S34.121A | Incomplete lesion of L1 level of lumbar spinal cord, initial encounter |
| S34.121D | Incomplete lesion of L1 level of lumbar spinal cord, subsequent encounter |
| S34.121S | Incomplete lesion of L1 level of lumbar spinal cord, sequela |
| S34.122A | Incomplete lesion of L2 level of lumbar spinal cord, initial encounter |
| S34.122D | Incomplete lesion of L2 level of lumbar spinal cord, subsequent encounter |
| S34.122S | Incomplete lesion of L2 level of lumbar spinal cord, sequela |
| S34.123A | Incomplete lesion of L3 level of lumbar spinal cord, initial encounter |
| S34.123D | Incomplete lesion of L3 level of lumbar spinal cord, subsequent encounter |
| S34.123S | Incomplete lesion of L3 level of lumbar spinal cord, sequela |
| S34.124A | Incomplete lesion of L4 level of lumbar spinal cord, initial encounter |
| S34.124D | Incomplete lesion of L4 level of lumbar spinal cord, subsequent encounter |
| S34.124S | Incomplete lesion of L4 level of lumbar spinal cord, sequela |
| S34.125A | Incomplete lesion of L5 level of lumbar spinal cord, initial encounter |
| S34.125D | Incomplete lesion of L5 level of lumbar spinal cord, subsequent encounter |
| S34.125S | Incomplete lesion of L5 level of lumbar spinal cord, sequela |
| S34.129A | Incomplete lesion of unspecified level of lumbar spinal cord, initial encounter |
| S34.129D | Incomplete lesion of unspecified level of lumbar spinal cord, subsequent encounter |
| S34.129S | Incomplete lesion of unspecified level of lumbar spinal cord, sequela |
| S34.131A | Complete lesion of sacral spinal cord, initial encounter |
| S34.131D | Complete lesion of sacral spinal cord, subsequent encounter |
| S34.131S | Complete lesion of sacral spinal cord, sequela |
| S34.132A | Incomplete lesion of sacral spinal cord, initial encounter |
| S34.132D | Incomplete lesion of sacral spinal cord, subsequent encounter |
| S34.132S | Incomplete lesion of sacral spinal cord, sequela |
| S34.139A | Unspecified injury to sacral spinal cord, initial encounter |
| S34.139D | Unspecified injury to sacral spinal cord, subsequent encounter |
| S34.139S | Unspecified injury to sacral spinal cord, sequela |
| S34.21xA | Injury of nerve root of lumbar spine, initial encounter |
| S34.21xD | Injury of nerve root of lumbar spine, subsequent encounter |
| S34.21xS | Injury of nerve root of lumbar spine, sequela |
| S34.22xA | Injury of nerve root of sacral spine, initial encounter |
| S34.22xD | Injury of nerve root of sacral spine, subsequent encounter |
| S34.22xS | Injury of nerve root of sacral spine, sequela |
| S34.3xxA | Injury of cauda equina, initial encounter |
| S34.3xxD | Injury of cauda equina, subsequent encounter |
| S34.3xxS | Injury of cauda equina, sequela |
| S34.4xxA | Injury of lumbosacral plexus, initial encounter |
| S34.4xxD | Injury of lumbosacral plexus, subsequent encounter |
| S34.4xxS | Injury of lumbosacral plexus, sequela |