

Principles of Coding for Intraoperative Neurophysiologic Monitoring (IOM) and Testing¹

BACKGROUND

Intraoperative neurophysiologic monitoring (IOM) and testing are medical procedures that have been in standard practice for almost 30 years. The procedures allow monitoring of neurophysiologic signals during a surgical procedure whenever the neuroaxis is at risk as a consequence of either the surgical manipulation or the surgical environment. IOM is an umbrella monitoring term and includes electroencephalography (EEG), cranial nerve evoked potentials (EPs), brain-stem auditory EPs (BAEPs), motor EPs (MEP), somatosensory EPs (SEP), nerve conduction, and electromyography (EMG) signals. Much like the other instrumental clinical monitoring technologies,

such as cardiac or capnic monitoring, randomized controlled trials establishing efficacy of IOM have not been done. Current best data, accumulated over the past two decades, have been derived through comparisons with historical controls and in the number of complications avoided through IOM. Difficulties in procedural blinding would impede accumulation of randomized controlled data. This status is not unlike that of intraoperative transesophageal echocardiography (TEE) or perioperative echocardiography (POE), two other widely-endorsed monitoring technologies (Memtsoudis et al., 2006, Ng 2009). Both neurophysiologic IOM and TEE/POE are recognized medical practice standards reliant on experience, case series and retrospective analyses.

IOM is of value in surgeries at diverse locations. The types of diseases for which monitoring is helpful also vary. For instance IOM may be necessary for carotid endarterectomies, removal of cortical-hemispheric lesions, extirpation of epileptic foci, brain stem surgeries, spinal corrections and peripheral nerve repairs to name some examples. IOM is used in neurosurgery, orthopedic, vascular, cardiothoracic and other surgical specialties. A compilation of recent reviews for these various areas is available (Nuwer, 2008). This policy addresses only surgical intraoperative monitoring and does not address monitoring performed in radiologic suites. The quality, extent and type of monitoring are dependent on the nature and location of the lesions. The utility of monitoring is exquisitely reliant on the rigors of the monitoring procedure and protocols, and the clinical expertise of the

monitoring physician. We list below several significant instances each of which has independently demonstrated the value of IOM in averting neural injuries during surgery.

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1. Value of EEG Monitoring in Carotid Surgery

Carotid occlusion, incident to carotid endarterectomies, poses a high risk for cerebral hemispheric injury. EEG monitoring is capable of detecting cerebral ischemia, a serious prelude to injury. Studies of continuous monitoring established the ability of EEG to correctly predict risks of postoperative deficits after a deliberate, but necessary, carotid occlusion as part of the surgical procedure (Redekop & Ferguson, 1992; Cloughesy et al., 1993; Woodworth et al., 2007). The surgeon can respond to adverse EEG events by raising blood pressure, implanting a shunt, adjusting a poorly functioning shunt, or performing other interventions.

2. Multicenter Data in Spinal Surgeries

An extensive multicenter study conducted in 1995 demonstrated that IOM using SEP reduced the risk of paraplegia by 60% in spinal surgeries (Nuwer et al., 1995). The incidence of false negative cases, wherein an operative complication

occurred without having been detected by the monitoring procedure, was small: 0.06% (Nuwer et al., 1995).

3. Technology Assessment of Monitoring in Spinal Surgeries

A technology assessment by the McGill University Health Center (Erickson et al., 2005) reviewed 11 studies and concluded that spinal IOM is capable of substantially reducing injury in surgeries that pose a risk to spinal cord integrity. It recommended combined SEP/MEP monitoring, under the presence or constant availability of a monitoring physician, for all cases of spinal surgery for which there is a risk of spinal cord injury.

4. Value of Combined Motor and Sensory Monitoring

Numerous studies of post-surgical paraparesis and quadriparesis have shown that both SEP and MEP monitoring had predicted adverse outcomes in a timely fashion (Schwartz et al., 2007; Lee et al., 2006; Nuwer

et al., 1995; Jones et al., 2003; Meyer et al., 1988; Pelosi et al., 2002; Hilibrand et al., 2004; Langeloo et al. 2003; Mostegl et al. 1988; Eggspuehler et al 2007; Leung et al. 2005; Khan et al., 2006; Sutter et al., 2007; Weinzierl et al., 2007). The timing of the predictions allowed the surgeons the opportunity to intervene and prevent adverse outcomes. The two different techniques (SEP and MEP) monitor different spinal cord tracts. Sometimes, one of the techniques cannot be used for practical purposes, for anesthetic reasons, or because of pre-operative absence of signals in those pathways. Thus, the decision about which of these techniques to use needs to be tailored to the individual patient's circumstances.

5. Protecting the Spinal Cord from Ischemia during Aortic Procedures

Studies have shown that IOM accurately predicts risks for spinal cord ischemia associated with clamping the aorta or ligating segmental spinal arteries (MacDonald & Janusz, 2002; Jacobs et al., 2000; Cunningham et al., 1987; Kaplan et al., 1986; Leung et al., 2005). IOM can assess whether the spinal cord is tolerating the degree of relative ischemia in these procedures. The surgeon can then respond by raising blood pressure, implanting a shunt, re-implanting segmental vessels, draining spinal fluid, or through other interventions.

6. Common Types of Alerting Events Observed During Monitoring

Another recent study (Lee et al., 2006) described types of neurophysiologic alerts and correlated them with postoperative neurological deficits that occurred during the course of 267 procedures involving anterior cervical spine surgery utilizing EMG, transcranial electrical motor and somatosensory evoked potential monitoring. In this study, 18.4 % of cases resulted in at least one intraoperative neurophysiologic alert; and major alerts believed to be

related to specific intraoperative surgical maneuvers were identified in 4.6% of the patients monitored. In 88% of the patients with relevant amplitude loss that was thought to be related to the surgical procedure, the signal response returned once appropriate intraoperative corrective measures were taken.

7. Value of EMG Monitoring

Selective posterior rhizotomy in cerebral palsy significantly reduces spasticity, increases range of motion, and improves functional skills (Staudt et al., 1995). Electromyography during this procedure can assist in selecting specific dorsal roots to transect. EMG can also be used in peripheral nerve procedures that pose a risk of injuries to nerves (Nuwer, 2008).

8. Futility of Monitoring Inappropriate Pathways

In order to be useful, monitoring should assess the appropriate sensory or motor pathways. Incorrect pathway monitoring could miss detection of neural compromise. Examples of "wrong pathway" monitoring have been shown to have resulted in adverse outcomes (Lesser et al., 1986).

9. Value of Spinal Monitoring using SSEP and MEPs

According to a recent review of spinal monitoring using SSEP and MEPs by the Therapeutics and Technology Assessment Subcommittee of the AAN and the American Clinical Neurophysiology Society, IOM is established as effective to predict an increased risk of the adverse outcomes of paraparesis, paraplegia, and quadriplegia in spinal surgery (4 Class I and 7 Class II studies) (Nuwer et al., 2012). Surgeons and other members of the operating team should be alerted to the increased risk of severe adverse neurologic outcomes in patients with important IOM changes (Level A).

NEUROPHYSIOLOGIC TECHNIQUES USED IN IOM

Several neurophysiologic testing modalities are useful during IOM. The location and type of surgery determine the chosen testing modality. The tests and codes listed here may be used individually or in combination.

- Electroencephalography (EEG);
 - With direct physician supervision, use codes 95822 plus 95940 and/or 95941
 - With general physician supervision, use code 95955
- Electrooculography (EOG);
 - Use code 95829
- Direct cortical stimulation to localize function;
 - Use codes 95961, 95962
- Deep brain stimulation electrode placement
 - Use codes 95961, 95962
- Pallidotomy site testing;
 - Use codes 95961, 95962
- Somatosensory evoked potential (SEP) monitoring
 - Use codes 95925, 95926, 95927, or 95938 plus 95940 and/or 95941

- Intraoperative SEP identification of the sensorimotor cortex
 - Use codes 95961, 95962
- Motor evoked potentials (MEP)
 - Use codes 95928, 95929, or 95939 plus 95940 and/or 95941
- Mapping the descending corticospinal tract
 - Use codes 95928, 95929, or 95939 plus 95940 and/or 95941
- Brainstem auditory evoked potentials
 - Use code 92585 plus 95940 and/or 95941
- Peripheral nerve stimulation and recording
 - Use one code from among codes 95907-95913, plus 95940 and/or 95941
- Oculomotor, facial, trigeminal and lower cranial nerve monitoring
 - Use codes 95867, 95868 and/or 95933 plus 95940 and/or 95941
- EMG monitoring and testing of peripheral limb pathways
 - Use codes 95861, 95862 or 95870 plus 95940 and/or 95941
- Pedicle screw stimulation
 - Use codes 95861, 95862 or 95870 plus 95940 and/or 95941
- Selective dorsal rhizotomy rootlet testing;
 - Use codes 95861, 95862 or 95870 plus 95940 and/or 95941
- Transcranial electrical MEPs (tceMEPs) for external anal and urethral sphincter muscles monitoring.
 - Use code 95870 plus 95940 and/or 95941

LIMITATIONS ON COVERAGE

To derive optimal benefits from this technology it is incumbent on the IOM team to understand the limits of the technology, listed below.

1. Use of Qualified Personnel

IOM must be furnished by qualified personnel. For instance, the beneficial results of monitoring with SSEPs demonstrated by the 1995 multicenter study (Nuwer et al., 1995) showed fewer neurological deficits with experienced monitoring teams. While false positive events were significant in only 1% of cases, the negative predictive value for this technique was over 99%. Thus, absence of events during monitoring signifies and assures safety of the procedure. In general it is recommended that the monitoring team strive to optimize recording and interpreting conditions such that:

- A well-trained, experienced technologist, present at the operating site, is recording and monitoring a single surgical case; and
- A monitoring clinical neurophysiologist supervises the technologist.

2. Effects of the Depth of Anesthesia and Muscle Relaxation

The level of anesthesia may also significantly impact on the ability to interpret intraoperative studies; therefore, pre-operative planning and continuous communication between the anesthesiologist and the monitoring team is expected.

3. Recording Conditions

It is also expected that a specifically trained technologist or non-physician monitorist, preferably with credentials from the American Board of Neurophysiologic Monitoring or the American Board of Registration of Electrodiagnostic

Technologists (ABRET), will be in continuous attendance in the operating room, with either the physical or electronic capability for real-time communication with the supervising physician.

4. Monitoring Necessity

Intraoperative monitoring is not medically necessary in situations where historical data and current practices reveal no potential for damage to neural integrity during surgery. Monitoring under these circumstances will exceed the patient's medical need (Social Security Act (Title XVIII); Medicare Benefit Policy Manual).

5. Communications

Monitoring may be performed from a remote site, as long as a well-trained technologist (see detail above) is in continuous attendance in the operating room, with either the physical or electronic ability for prompt real-time communication with the supervising monitoring physician.

6. Supervision Requirements

Different levels of physician supervision apply to different kinds of IOM procedures. Code 95940 supervision require continuous physician monitoring in the operating room (OR). Code 95941 supervision require continuous physician monitoring which can be provided online or in the operating room (OR). Codes 95961-95962 (Functional cortical localization with brain stimulation) require personal physician supervision in the OR.

USE OF CODES 95940, 95941 AND THEIR BASE PROCEDURE CODES

1. IOM is a procedure that describes ongoing electrophysiologic testing, and monitoring performed during surgical procedures. It includes only the time spent during an ongoing, concurrent, real-time electrophysiologic monitoring.
2. Time spent in clinical activities, other than those above, should not be billed under 95940 and/or 95941. The time spent performing or interpreting the baseline electrophysiologic studies must not be counted as intraoperative monitoring, but represents separately reportable procedures.

For example, 95940 and 95941 are distinct from performance of specific types of pre-procedural baseline electrophysiologic studies (95860, 95861, 95867, 95868, 95907-95913, 95933, 95937) or other interpretation of specific types of baseline electrophysiologic studies (95985, 95922, 95925-95930, 95938, 95939).

The supervising physician time spent in the operating room includes the time from entering until leaving the operating room, except for the time spent interpreting the baseline testing. For remote monitoring, it includes time from initiating to discontinuing monitoring except for the time spent interpreting the baseline testing.

3. Note that the supervision requirements for each underlying test or primary test modality vary, and must be met (Medicare Benefit Policy Manual). For example, cortical mapping during monitoring requires personal supervision.
4. Codes 95940 and 95941 may not be reported by the surgeon or anesthesiologist performing an operative

procedure, since it is included in the global package if they serve as the IOM supervising physician.. The surgeon performing an operative procedure may not bill other 90000 series neurophysiology testing codes for intraoperative neurophysiology testing (e.g., 92585, 95822, 95860, 95861, 95867, 95868, 95870, 95907-95913, 95925-95939) since they are also included in the global package (Medicare Benefit Policy Manual). However, when IOM or baseline procedures are performed by a different, monitoring physician during the procedure, it is separately reportable by the monitoring supervising physician.

5. Codes 95940 and 95941 is performed in the hospital setting. Monitoring of a patient with codes 95940 and 95941 should use hospital site of service (site 21), or hospital outpatient surgery center (site 22), even if the monitoring physician is located in an office. When supervising and interpreting IOM on a hospitalized patient, the supervising physician codes uses modifier -26.
6. Code 95940 requires one-on-one monitoring. Simultaneous cases cannot be coded with 95940. Code 94941 allows for reporting simultaneous cases without division of time between them. The number of cases monitored at any one time will vary, but should not exceed the requirements for providing adequate attention to each. For example, a 2010 AAN survey of IOM practitioners shows that on average 90% of monitoring hours are spent monitoring three (3) or fewer simultaneous cases and that practitioners rarely monitor more than six (6) cases simultaneously (2010 AAN Survey of IOM Practitioners – unpublished).

CPT/HCPCS CODES

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Codes 95940, 95941 describe ongoing neurophysiologic monitoring, testing, and data interpretation distinct from performance of specific type(s) of baseline neurophysiologic study(s) performed during surgical procedures. When the service is performed by the surgeon or anesthesiologist, the professional services are included in the surgeon's or anesthesiologists's primary

services code(s) for the procedure and are not reported separately. Do not report these codes for automated monitoring devices that do not require continuous attendance by a professional qualified to interpret the testing and monitoring.

Recording and testing are performed either personally or by a technologist who is physically present with the patient during the service. Supervision is performed either in the operating room or by real time connection outside the operating room. The monitoring professional must be solely dedicated to performing the intraoperative neurophysiologic monitoring

and must be available to intervene at all times during the service as necessary, for the reported time period(s). For any given period of time spent providing these services, the service takes full attention and, therefore, other clinical activities beyond providing and interpreting of monitoring cannot be provided during the same period of time.

Throughout the monitoring, there must be provisions for continuous and immediate communication directly with the operating room team in the surgical suite. One or more simultaneous cases may be reported (95941). When monitoring more than one procedure, there must be the immediate ability to transfer patient monitoring to another monitoring professional during at he surgical procedure should that individual's exclusive attention be required for another procedure. Report 95941 for all remote or non-one-on-one monitoring time connected to each case regardless of overlap with other cases.

Codes 95940, 95941 include only the ongoing neurophysiologic monitoring time distinct from performance of specific type(s) of baseline neurophysiologic study(s), or other services such as intraoperative functional cortical or subcortical mapping. Codes 95940 and 95941 are reported based upon the time spent monitoring only, and not the number of baseline tests performed or parameters monitored. The time spent performing or interpreting the baseline neurophysiologic study(ies) should not be counted as intraoperative monitoring, but represents separately reportable procedures. When reporting 95940 and 95941, the same neurophysiologic study(ies) performed at baseline should be reported not more than once per operative session. Baseline study reporting is based upon the total unique studies performed. For example, if during the course of baseline testing and one-on-one monitoring, two separate nerves have motor testing performed in conjunction with limited single extremity EMG, then 95885 and 95907 would be reported in addition to 95940. For procedures that last beyond midnight, report services using the day on which the monitoring began and using the total time monitored.

Code 95940 is reported per 15 minutes of service. Code 95940 requires reporting only the portion of time the monitoring professional was physically present in the operating room providing one-on-one patient monitoring and no other cases may be monitored at the same time. Report continuous intraoperative neurophysiologic monitoring in the operating room (95940) in addition to the services related to monitoring from outside the operating room (95941).

Code 95941 should be used once per hour even if multiple methods of neurophysiologic monitoring are used during the time. Code 95941 requires the monitoring of neurophysiological data that is collected from the operating room continuously on-line in real time via a secure data link. When reporting 95941, real-time ability must be available through sufficient data bandwidth transfer rates to view and interrogate the neurophysiologic data contemporaneously.

Report 95941 for all cases in which there was no physical presence by the monitoring professional in the operating room during the monitoring time or when monitoring more than one case in an operating room. It is also used to report the time of monitoring physically performed outside of the operating room in those cases where monitoring occurred both within and outside the operating room. Do not report 95941 if the monitoring lasted 30 minutes or less.

Intraoperative neurophysiology monitoring codes 95940 and 95941 are each used to report the total duration of respective time spent providing each services, even if that time is not in a single continuous block.

95940 Continuous intraoperative neurophysiology monitoring in the operating room, one on one monitoring requiring personal attendance, each 15 minutes (List separately in addition to code for primary procedure)

95941 Continuous intraoperative neurophysiologic monitoring, from outside the operating room (remote or nearby) or for monitoring of more than one case while in the operating room, per hour (List separately in addition to code for primary procedure)

(Use 95940 & 95941 in conjunction with the study performed, 92585, 95822, 95860-95870, 95907-95913, 95925-95939)

(For time spent waiting on standby before monitoring, use 99360) (For electrocorticography, use 95829)

(For intraoperative EEG during nonintracranial surgery, use 95955)

(For intraoperative functional cortical or subcortical mapping, see 95961- 95962)

(For intraoperative neurostimulator programming and analysis, see 95970- 95979)

CODES FOR PRIMARY PROCEDURES USED AS BASE CODES

92585	Auditory evoked potentials for evoked response audiometry and/or testing of the central nervous system; comprehensive	95925	Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in upper limbs
95822	Electroencephalogram (EEG); recording in coma or sleep only	95926	Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in lower limbs
95860	Needle electromyography; one extremity with or without related paraspinal areas	95927	Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in the trunk or head
95861	Needle electromyography; two extremities with or without related paraspinal areas	95928	Central motor evoked potential study (transcranial motor stimulation); upper limbs
95867	Needle electromyography; cranial nerve supplied muscle(s), unilateral	95929	Central motor evoked potential study (transcranial motor stimulation); lower limbs
95868	Needle electromyography; cranial nerve supplied muscles, bilateral	95930	Visual evoked potential
95870	Needle electromyography; limited study of muscles in one extremity or non-limb (axial) muscles (unilateral or bilateral), other than thoracic paraspinal, cranial nerve supplied muscles, or sphincters	95933	Orbicularis oculi (blink) reflex, by electrodiagnostic testing
95907	Nerve conduction studies; 1-2 studies	95937	Neuromuscular junction testing (repetitive stimulation, paired stimuli), each nerve, any one method
95908	3-4 studies	95938	Short-latency somatosensory evoked potential study, stimulation of any/all peripheral nerves or skin sites, recording from the central nervous system; in upper and lower limbs
95909	5-6 studies	95939	Central motor evoked potential study (transcranial motor stimulation); in upper and lower limbs
95910	7-8 studies		
95911	9-10 studies		
95912	11-12 studies		
95913	13 or more studies		

USE OF OTHER PROCEDURE CODES FOR INTRAOPERATIVE MONITORING AND/OR TESTING

Implanted Device Neurophysiology Codes

Codes for use with implanted devices (95961, 96962, 95970-95979) Two series of codes are used to locate the proper sites for deep brain or spinal cord implanted devices and to test the device's integrity.

Codes 96961 (first hour) and 96962 (additional hours) are used for intraoperative testing of electrode placement. Code 95970 is used to check a device's integrity. Rarely, the devices are also programmed while in the operating room, and when done those services are coded using 95971 through 95979. These codes are:

95970	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); simple or complex brain, spinal cord, or peripheral (ie, cranial nerve, peripheral nerve, autonomic nerve, neuromuscular) neurostimulator pulse generator/ transmitter, without reprogramming
95971	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form,

	battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); simple spinal cord, or peripheral (ie, peripheral nerve, autonomic nerve, neuromuscular) neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming		compliance measurements); complex cranial nerve neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming, each additional 30 minutes after first hour (List separately in addition to code for primary procedure)
95972	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); complex spinal cord, or peripheral (except cranial nerve) neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming, first hour	95978	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, battery status, electrode selectability and polarity, impedance and patient compliance measurements), complex deep brain neurostimulator pulse generator/transmitter, with initial or subsequent programming; first hour
95973	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); complex spinal cord, or peripheral (except cranial nerve) neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming, each additional 30 minutes after first hour (List separately in addition to code for primary procedure)	95979	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, battery status, electrode selectability and polarity, impedance and patient compliance measurements), complex deep brain neurostimulator pulse generator/transmitter, with initial or subsequent programming; each additional 30 minutes after first hour (List separately in addition to code for primary procedure)
			Functional Cortical Mapping Codes
95974	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient compliance measurements); complex cranial nerve neurostimulator pulse generator/transmitter, with intraoperative or subsequent programming, with or without nerve interface testing, first hour	95829	Electrocorticogram at surgery (separate procedure)
95975	Electronic analysis of implanted neurostimulator pulse generator system (eg, rate, pulse amplitude and duration, configuration of wave form, battery status, electrode selectability, output modulation, cycling, impedance and patient	95961	Functional cortical and subcortical mapping by stimulation and/ or recording of electrodes on brain surface, or of depth electrodes, to provoke seizures or identify vital brain structures; initial hour of physician attendance
		95962	Functional cortical and subcortical mapping by stimulation and/ or recording of electrodes on brain surface, or of depth electrodes, to provoke seizures or identify vital brain structures; each additional hour of physician attendance (List separately in addition to code for primary procedure)

Three codes are used in the operating room to locate abnormal regions or regions that serve key brain functions. This includes the electrocorticography (ECoG) code 95829, which is used to record EEG directly from the exposed brain. This is used to find areas of cortex that are damaged or that may be the source of epileptic seizures. This also includes the functional cortical stimulation codes 95961 (first hour) and 95962 (additional hours). Most often those codes are used when the brain is stimulated electrically and the results are monitored behaviorally in a patient who is awake during neurosurgery. These guide the surgeon as to which portions of the exposed brain could or should be removed or which should be preserved.

APPENDIX A – DIAGNOSES THAT SUPPORT MEDICAL NECESSITY

Note: All ICD-10-CM codes listed below may be viewed as medically necessary; however, there may be other diagnostic codes not included in this list that are deserving of consideration for coverage. Such instances may require individual consideration.

I71.3	Abdominal aortic aneurysm, ruptured	S14.134A	Anterior cord syndrome at C4 level of cervical spinal cord, initial encounter
I71.4	Abdominal aortic aneurysm, without rupture	S14.135A	Anterior cord syndrome at C5 level of cervical spinal cord, initial encounter
G95.11	Acute infarction of spinal cord (embolic) (nonembolic)	S14.136A	Anterior cord syndrome at C6 level of cervical spinal cord, initial encounter
H70.009	Acute mastoiditis without complications, unspecified ear	S14.137A	Anterior cord syndrome at C7 level of cervical spinal cord, initial encounter
M41.122	Adolescent idiopathic scoliosis, cervical region	S24.131A	Anterior cord syndrome at T1 level of thoracic spinal cord, initial encounter
M41.123	Adolescent idiopathic scoliosis, cervicothoracic region	S24.131A	Anterior cord syndrome at T1 level of thoracic spinal cord, initial encounter
M41.126	Adolescent idiopathic scoliosis, lumbar region	S24.134A	Anterior cord syndrome at T11-T12 level of thoracic spinal cord, initial encounter
M41.127	Adolescent idiopathic scoliosis, lumbosacral region	S24.134A	Anterior cord syndrome at T11-T12 level of thoracic spinal cord, initial encounter
M41.129	Adolescent idiopathic scoliosis, site unspecified	S24.132A	Anterior cord syndrome at T2-T6 level of thoracic spinal cord, initial encounter
M41.124	Adolescent idiopathic scoliosis, thoracic region	S24.132A	Anterior cord syndrome at T2-T6 level of thoracic spinal cord, initial encounter
M41.125	Adolescent idiopathic scoliosis, thoracolumbar region	S24.133A	Anterior cord syndrome at T7-T10 level of thoracic spinal cord, initial encounter
M80.08XA	Age-related osteoporosis with current pathological fracture, vertebra(e), initial encounter for fracture	S24.133A	Anterior cord syndrome at T7-T10 level of thoracic spinal cord, initial encounter
I79.0	Aneurysm of aorta in diseases classified elsewhere	M47.012	Anterior spinal artery compression syndromes, cervical region
G46.1	Anterior cerebral artery syndrome	M47.013	Anterior spinal artery compression syndromes, cervicothoracic region
S14.131A	Anterior cord syndrome at C1 level of cervical spinal cord, initial encounter	M47.016	Anterior spinal artery compression syndromes, lumbar region
S14.131A	Anterior cord syndrome at C1 level of cervical spinal cord, initial encounter	M47.011	Anterior spinal artery compression syndromes, occipito-atlanto-axial region
S14.132A	Anterior cord syndrome at C2 level of cervical spinal cord, initial encounter	M47.019	Anterior spinal artery compression syndromes, site unspecified
S14.132A	Anterior cord syndrome at C2 level of cervical spinal cord, initial encounter	M47.014	Anterior spinal artery compression syndromes, thoracic region
S14.133A	Anterior cord syndrome at C3 level of cervical spinal cord, initial encounter	M47.015	Anterior spinal artery compression syndromes, thoracolumbar region
S14.133A	Anterior cord syndrome at C3 level of cervical spinal cord, initial encounter	I71.8	Aortic aneurysm of unspecified site, ruptured
S14.134A	Anterior cord syndrome at C4 level of cervical spinal cord, initial encounter	I71.9	Aortic aneurysm of unspecified site, without rupture

Q07.02	Arnold-Chiari syndrome with hydrocephalus	S14.123A	Central cord syndrome at C3 level of cervical spinal cord, initial encounter
Q07.01	Arnold-Chiari syndrome with spina bifida	S14.124A	Central cord syndrome at C4 level of cervical spinal cord, initial encounter
Q07.01	Arnold-Chiari syndrome with spina bifida	S14.125A	Central cord syndrome at C5 level of cervical spinal cord, initial encounter
Q07.03	Arnold-Chiari syndrome with spina bifida and hydrocephalus	S14.125A	Central cord syndrome at C5 level of cervical spinal cord, initial encounter
Q07.00	Arnold-Chiari syndrome without spina bifida or hydrocephalus	S14.126A	Central cord syndrome at C6 level of cervical spinal cord, initial encounter
Q28.2	Arteriovenous malformation of cerebral vessels	S14.126A	Central cord syndrome at C6 level of cervical spinal cord, initial encounter
G80.4	Ataxic cerebral palsy	S14.126A	Central cord syndrome at C6 level of cervical spinal cord, initial encounter
G50.1	Atypical facial pain	S14.127A	Central cord syndrome at C7 level of cervical spinal cord, initial encounter
B16.4	Benign neoplasm of bones of skull and face	S14.127A	Central cord syndrome at C7 level of cervical spinal cord, initial encounter
D33.1	Benign neoplasm of brain, infratentorial	S14.127A	Central cord syndrome at C7 level of cervical spinal cord, initial encounter
D33.0	Benign neoplasm of brain, supratentorial	I67.1	Cerebral aneurysm, nonruptured
D33.2	Benign neoplasm of brain, unspecified	I63.6	Cerebral infarction due to cerebral venous thrombosis, nonpyogenic
D33.9	Benign neoplasm of central nervous system, unspecified	I63.12	Cerebral infarction due to embolism of basilar artery
D32.0	Benign neoplasm of cerebral meninges	I63.4	Cerebral infarction due to embolism of cerebral arteries
D33.3	Benign neoplasm of cranial nerves	I63.422	Cerebral infarction due to embolism of left anterior cerebral artery
D32.9	Benign neoplasm of meninges, unspecified	I63.132	Cerebral infarction due to embolism of left carotid artery
D32.9	Benign neoplasm of meninges, unspecified	I63.442	Cerebral infarction due to embolism of left cerebellar artery
D33.7	Benign neoplasm of other specified parts of central nervous system	I63.412	Cerebral infarction due to embolism of left middle cerebral artery
D33.4	Benign neoplasm of spinal cord	I63.432	Cerebral infarction due to embolism of left posterior cerebral artery
D32.1	Benign neoplasm of spinal meninges	I63.112	Cerebral infarction due to embolism of left vertebral artery
D16.6	Benign neoplasm of vertebral column	I63.49	Cerebral infarction due to embolism of other cerebral artery
P14.8	Birth injuries to other parts of peripheral nervous system	I63.19	Cerebral infarction due to embolism of other precerebral artery
P11.3	Birth injury to facial nerve	I63.421	Cerebral infarction due to embolism of right anterior cerebral artery
P11.4	Birth injury to other cranial nerves		
P14.9	Birth injury to peripheral nervous system, unspecified		
P11.5	Birth injury to spine and spinal cord		
G54.0	Brachial plexus disorders		
G45.1	Carotid artery syndrome (hemispheric)		
S14.121A	Central cord syndrome at C1 level of cervical spinal cord, initial encounter		
S14.122A	Central cord syndrome at C2 level of cervical spinal cord, initial encounter		

163.131	Cerebral infarction due to embolism of right carotid artery	163.39	Cerebral infarction due to thrombosis of other cerebral artery
163.441	Cerebral infarction due to embolism of right cerebellar artery	163.09	Cerebral infarction due to thrombosis of other precerebral artery
163.411	Cerebral infarction due to embolism of right middle cerebral artery	163.321	Cerebral infarction due to thrombosis of right anterior cerebral artery
163.431	Cerebral infarction due to embolism of right posterior cerebral artery	163.031	Cerebral infarction due to thrombosis of right carotid artery
163.111	Cerebral infarction due to embolism of right vertebral artery	163.341	Cerebral infarction due to thrombosis of right cerebellar artery
163.429	Cerebral infarction due to embolism of unspecified anterior cerebral artery	163.311	Cerebral infarction due to thrombosis of right middle cerebral artery
163.139	Cerebral infarction due to embolism of unspecified carotid artery	163.331	Cerebral infarction due to thrombosis of right posterior cerebral artery
163.449	Cerebral infarction due to embolism of unspecified cerebellar artery	163.011	Cerebral infarction due to thrombosis of right vertebral artery
163.40	Cerebral infarction due to embolism of unspecified cerebral artery	163.329	Cerebral infarction due to thrombosis of unspecified anterior cerebral artery
163.419	Cerebral infarction due to embolism of unspecified middle cerebral artery	163.039	Cerebral infarction due to thrombosis of unspecified carotid artery
163.439	Cerebral infarction due to embolism of unspecified posterior cerebral artery	163.349	Cerebral infarction due to thrombosis of unspecified cerebellar artery
163.10	Cerebral infarction due to embolism of unspecified precerebral artery	163.30	Cerebral infarction due to thrombosis of unspecified cerebral artery
163.119	Cerebral infarction due to embolism of unspecified vertebral artery	163.319	Cerebral infarction due to thrombosis of unspecified middle cerebral artery
163.02	Cerebral infarction due to thrombosis of basilar artery	163.339	Cerebral infarction due to thrombosis of unspecified posterior cerebral artery
163.3	Cerebral infarction due to thrombosis of cerebral arteries	163.00	Cerebral infarction due to thrombosis of unspecified precerebral artery
163.322	Cerebral infarction due to thrombosis of left anterior cerebral artery	163.019	Cerebral infarction due to thrombosis of unspecified vertebral artery
163.032	Cerebral infarction due to thrombosis of left carotid artery	163.22	Cerebral infarction due to unspecified occlusion or stenosis of basilar arteries
163.342	Cerebral infarction due to thrombosis of left cerebellar artery	163.522	Cerebral infarction due to unspecified occlusion or stenosis of left anterior cerebral artery
163.312	Cerebral infarction due to thrombosis of left middle cerebral artery	163.232	Cerebral infarction due to unspecified occlusion or stenosis of left carotid arteries
163.332	Cerebral infarction due to thrombosis of left posterior cerebral artery	163.542	Cerebral infarction due to unspecified occlusion or stenosis of left cerebellar artery
163.012	Cerebral infarction due to thrombosis of left vertebral artery	163.512	Cerebral infarction due to unspecified occlusion or stenosis of left middle cerebral artery

163.532	Cerebral infarction due to unspecified occlusion or stenosis of left posterior cerebral artery	G80.9	Cerebral palsy, unspecified
163.212	Cerebral infarction due to unspecified occlusion or stenosis of left vertebral arteries	G96.0	Cerebrospinal fluid leak
163.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	M50.03	Cervical disc disorder with myelopathy, cervicothoracic region
163.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	M50.01	Cervical disc disorder with myelopathy, high cervical region
163.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	M50.02	Cervical disc disorder with myelopathy, mid-cervical region
163.59	Cerebral infarction due to unspecified occlusion or stenosis of other cerebral artery	M50.00	Cervical disc disorder with myelopathy, unspecified cervical region
163.29	Cerebral infarction due to unspecified occlusion or stenosis of other precerebral arteries	M50.13	Cervical disc disorder with radiculopathy, cervicothoracic region
163.521	Cerebral infarction due to unspecified occlusion or stenosis of right anterior cerebral artery	M50.11	Cervical disc disorder with radiculopathy, high cervical region
163.231	Cerebral infarction due to unspecified occlusion or stenosis of right carotid arteries	M50.12	Cervical disc disorder with radiculopathy, mid-cervical region
163.541	Cerebral infarction due to unspecified occlusion or stenosis of right cerebellar artery	M50.10	Cervical disc disorder with radiculopathy, unspecified cervical region
163.511	Cerebral infarction due to unspecified occlusion or stenosis of right middle cerebral artery	M50.93	Cervical disc disorder, unspecified, cervicothoracic region
163.531	Cerebral infarction due to unspecified occlusion or stenosis of right posterior cerebral artery	M50.91	Cervical disc disorder, unspecified, high cervical region
163.211	Cerebral infarction due to unspecified occlusion or stenosis of right vertebral arteries	M50.92	Cervical disc disorder, unspecified, mid-cervical region
163.529	Cerebral infarction due to unspecified occlusion or stenosis of unspecified anterior cerebral artery	M50.90	Cervical disc disorder, unspecified, unspecified cervical region
163.239	Cerebral infarction due to unspecified occlusion or stenosis of unspecified carotid arteries	G54.2	Cervical root disorders, not elsewhere classified
163.549	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebellar artery	Q05.0	Cervical spina bifida with hydrocephalus
163.50	Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery	Q05.5	Cervical spina bifida without hydrocephalus
163.519	Cerebral infarction due to unspecified occlusion or stenosis of unspecified middle cerebral artery	H71.23	Cholesteatoma of mastoid, bilateral
163.539	Cerebral infarction due to unspecified occlusion or stenosis of unspecified posterior cerebral artery	H71.23	Cholesteatoma of mastoid, bilateral
163.20	Cerebral infarction due to unspecified occlusion or stenosis of unspecified precerebral arteries	H71.22	Cholesteatoma of mastoid, left ear
163.219	Cerebral infarction due to unspecified occlusion or stenosis of unspecified vertebral arteries	H71.21	Cholesteatoma of mastoid, right ear
163.9	Cerebral infarction, unspecified	H71.20	Cholesteatoma of mastoid, unspecified ear
		G51.3	Clonic hemifacial spasm
		M48.52XA	Collapsed vertebra, not elsewhere classified, cervical region, initial encounter for fracture
		M48.53XA	Collapsed vertebra, not elsewhere classified, cervicothoracic region, initial encounter for fracture

M48.56XA Collapsed vertebra, not elsewhere classified, lumbar region, initial encounter for fracture	S24.113A Complete lesion at T7-T10 level of thoracic spinal cord, initial encounter
M48.57XA Collapsed vertebra, not elsewhere classified, lumbosacral region, initial encounter for fracture	S24.113A Complete lesion at T7-T10 level of thoracic spinal cord, initial encounter
M48.51XA Collapsed vertebra, not elsewhere classified, occipito-atlanto-axial region, initial encounter for fracture	S34.111A Complete lesion of L1 level of lumbar spinal cord, initial encounter
M48.58XA Collapsed vertebra, not elsewhere classified, sacral and sacrococcygeal region, initial encounter for fracture	S34.111A Complete lesion of L1 level of lumbar spinal cord, initial encounter
M48.50XA Collapsed vertebra, not elsewhere classified, site unspecified, initial encounter for fracture	S34.112A Complete lesion of L2 level of lumbar spinal cord, initial encounter
M48.54XA Collapsed vertebra, not elsewhere classified, thoracic region, initial encounter for fracture	S34.112A Complete lesion of L2 level of lumbar spinal cord, initial encounter
M48.55XA Collapsed vertebra, not elsewhere classified, thoracolumbar region, initial encounter for fracture	S34.113A Complete lesion of L3 level of lumbar spinal cord, initial encounter
S14.111A Complete lesion at C1 level of cervical spinal cord, initial encounter	S34.113A Complete lesion of L3 level of lumbar spinal cord, initial encounter
S14.112A Complete lesion at C2 level of cervical spinal cord, initial encounter	S34.114A Complete lesion of L4 level of lumbar spinal cord, initial encounter
S14.113A Complete lesion at C3 level of cervical spinal cord, initial encounter	S34.114A Complete lesion of L4 level of lumbar spinal cord, initial encounter
S14.114A Complete lesion at C4 level of cervical spinal cord, initial encounter	S34.115A Complete lesion of L5 level of lumbar spinal cord, initial encounter
S14.115A Complete lesion at C5 level of cervical spinal cord, initial encounter	S34.115A Complete lesion of L5 level of lumbar spinal cord, initial encounter
S14.116A Complete lesion at C6 level of cervical spinal cord, initial encounter	S34.131A Complete lesion of sacral spinal cord, initial encounter
S14.117A Complete lesion at C7 level of cervical spinal cord, initial encounter	S34.119A Complete lesion of unspecified level of lumbar spinal cord, initial encounter
S24.111A Complete lesion at T1 level of thoracic spinal cord, initial encounter	S34.119A Complete lesion of unspecified level of lumbar spinal cord, initial encounter
S24.111A Complete lesion at T1 level of thoracic spinal cord, initial encounter	G93.5 Compression of brain
S24.114A Complete lesion at T11-T12 level of thoracic spinal cord, initial encounter	S06.0X6A Concussion with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving, initial encounter
S24.114A Complete lesion at T11-T12 level of thoracic spinal cord, initial encounter	Q27.9 Congenital malformation of peripheral vascular system, unspecified
S24.112A Complete lesion at T2-T6 level of thoracic spinal cord, initial encounter	Q76.2 Congenital spondylolisthesis
S24.112A Complete lesion at T2-T6 level of thoracic spinal cord, initial encounter	Q76.2 Congenital spondylolisthesis
S24.112A Complete lesion at T2-T6 level of thoracic spinal cord, initial encounter	M99.79 Connective tissue and disc stenosis of intervertebral foramina of abdomen and other regions

M99.76	Connective tissue and disc stenosis of intervertebral foramina of lower extremity	M46.48	Discitis, unspecified, sacral and sacrococcygeal region
M99.73	Connective tissue and disc stenosis of intervertebral foramina of lumbar region	M46.40	Discitis, unspecified, site unspecified
M99.75	Connective tissue and disc stenosis of intervertebral foramina of pelvic region	M46.44	Discitis, unspecified, thoracic region
M99.78	Connective tissue and disc stenosis of intervertebral foramina of rib cage	M46.45	Discitis, unspecified, thoracolumbar region
M99.74	Connective tissue and disc stenosis of intervertebral foramina of sacral region	G95.9	Disease of spinal cord, unspecified
M99.72	Connective tissue and disc stenosis of intervertebral foramina of thoracic region	I71.02	Dissection of abdominal aorta
M99.77	Connective tissue and disc stenosis of intervertebral foramina of upper extremity	I77.71	Dissection of carotid artery
M99.49	Connective tissue stenosis of neural canal of abdomen and other regions	I67.0	Dissection of cerebral arteries, nonruptured
M99.46	Connective tissue stenosis of neural canal of lower extremity	I77.79	Dissection of other artery
M99.43	Connective tissue stenosis of neural canal of lumbar region	I71.01	Dissection of thoracic aorta
M99.45	Connective tissue stenosis of neural canal of pelvic region	I71.03	Dissection of thoracoabdominal aorta
M99.48	Connective tissue stenosis of neural canal of rib cage	I71.00	Dissection of unspecified site of aorta
M99.44	Connective tissue stenosis of neural canal of sacral region	I77.74	Dissection of vertebral artery
M99.42	Connective tissue stenosis of neural canal of thoracic region	Q01.8	Encephalocele of other sites
M99.47	Connective tissue stenosis of neural canal of upper extremity	Q01.9	Encephalocele, unspecified
G95.81	Conus medullaris syndrome	P14.0	Erb's paralysis due to birth injury
R25.2	Cramp and spasm	G06.2	Extradural and subdural abscess, unspecified
G52.9	Cranial nerve disorder, unspecified	G51.4	Facial myokymia
G53	Cranial nerve disorders in diseases classified elsewhere	M40.36	Flatback syndrome, lumbar region
M43.9	Deforming dorsopathy, unspecified	M40.37	Flatback syndrome, lumbosacral region
M46.42	Discitis, unspecified, cervical region	M40.30	Flatback syndrome, site unspecified
M46.46	Discitis, unspecified, lumbar region	M40.35	Flatback syndrome, thoracolumbar region
M46.47	Discitis, unspecified, lumbosacral region	S32.2XXB	Fracture of coccyx, initial encounter for open fracture
M46.49	Discitis, unspecified, multiple sites in spine	S32.2XXB	Fracture of coccyx, initial encounter for open fracture
M46.41	Discitis, unspecified, occipito-atlanto-axial region	S32.2XXB	Fracture of coccyx, initial encounter for open fracture
		S12.9XXA	Fracture of neck, unspecified, initial encounter
		S12.9XXA	Fracture of neck, unspecified, initial encounter
		Q01.0	Frontal encephalocele
		D18.02	Hemangioma of intracranial structures
		S34.121A	Incomplete lesion of L1 level of lumbar spinal cord, initial encounter

S34.121A	Incomplete lesion of L1 level of lumbar spinal cord, initial encounter	M41.04	Infantile idiopathic scoliosis, thoracic region
S34.122A	Incomplete lesion of L2 level of lumbar spinal cord, initial encounter	M41.05	Infantile idiopathic scoliosis, thoracolumbar region
S34.122A	Incomplete lesion of L2 level of lumbar spinal cord, initial encounter	M41.05	Infantile idiopathic scoliosis, thoracolumbar region
S34.123A	Incomplete lesion of L3 level of lumbar spinal cord, initial encounter	S44.32XA	Injury of axillary nerve, left arm, initial encounter
S34.123A	Incomplete lesion of L3 level of lumbar spinal cord, initial encounter	S44.31XA	Injury of axillary nerve, right arm, initial encounter
S34.124A	Incomplete lesion of L4 level of lumbar spinal cord, initial encounter	S44.30XA	Injury of axillary nerve, unspecified arm, initial encounter
S34.124A	Incomplete lesion of L4 level of lumbar spinal cord, initial encounter	S14.3XXA	Injury of brachial plexus, initial encounter
S34.125A	Incomplete lesion of L5 level of lumbar spinal cord, initial encounter	S34.3XXA	Injury of cauda equina, initial encounter
S34.125A	Incomplete lesion of L5 level of lumbar spinal cord, initial encounter	S34.3XXA	Injury of cauda equina, initial encounter
S34.132A	Incomplete lesion of sacral spinal cord, initial encounter	S94.32XA	Injury of cutaneous sensory nerve at ankle and foot level, left leg, initial encounter
S34.129A	Incomplete lesion of unspecified level of lumbar spinal cord, initial encounter	S94.31XA	Injury of cutaneous sensory nerve at ankle and foot level, right leg, initial encounter
S34.129A	Incomplete lesion of unspecified level of lumbar spinal cord, initial encounter	S94.30XA	Injury of cutaneous sensory nerve at ankle and foot level, unspecified leg, initial encounter
M41.02	Infantile idiopathic scoliosis, cervical region	S54.32XA	Injury of cutaneous sensory nerve at forearm level, left arm, initial encounter
M41.02	Infantile idiopathic scoliosis, cervical region	S54.31XA	Injury of cutaneous sensory nerve at forearm level, right arm, initial encounter
M41.03	Infantile idiopathic scoliosis, cervicothoracic region	S54.30XA	Injury of cutaneous sensory nerve at forearm level, unspecified arm, initial encounter
M41.03	Infantile idiopathic scoliosis, cervicothoracic region	S74.21XA	Injury of cutaneous sensory nerve at hip and high level, right leg, initial encounter
M41.06	Infantile idiopathic scoliosis, lumbar region	S74.22XA	Injury of cutaneous sensory nerve at hip and thigh level, left leg, initial encounter
M41.06	Infantile idiopathic scoliosis, lumbar region	S74.20XA	Injury of cutaneous sensory nerve at hip and thigh level, unspecified leg, initial encounter
M41.07	Infantile idiopathic scoliosis, lumbosacral region	S84.22XA	Injury of cutaneous sensory nerve at lower leg level, left leg, initial encounter
M41.07	Infantile idiopathic scoliosis, lumbosacral region	S84.21XA	Injury of cutaneous sensory nerve at lower leg level, right leg, initial encounter
M41.08	Infantile idiopathic scoliosis, sacral and sacrococcygeal region	S84.20XA	Injury of cutaneous sensory nerve at lower leg level, unspecified leg, initial encounter
M41.08	Infantile idiopathic scoliosis, sacral and sacrococcygeal region	S44.52XA	Injury of cutaneous sensory nerve at shoulder and upper arm level, left arm, initial encounter
M41.00	Infantile idiopathic scoliosis, site unspecified	S44.51XA	Injury of cutaneous sensory nerve at shoulder and upper arm level, right arm, initial encounter
M41.00	Infantile idiopathic scoliosis, site unspecified	S44.50XA	Injury of cutaneous sensory nerve at shoulder and upper arm level, unspecified arm, initial encounter
M41.04	Infantile idiopathic scoliosis, thoracic region		

S94.22XA Injury of deep peroneal nerve at ankle and foot level, left leg, initial encounter	S94.00XA Injury of lateral plantar nerve, unspecified leg, initial encounter
S94.21XA Injury of deep peroneal nerve at ankle and foot level, right leg, initial encounter	S34.4XXA Injury of lumbosacral plexus, initial encounter
S94.20XA Injury of deep peroneal nerve at ankle and foot level, unspecified leg, initial encounter	S34.4XXA Injury of lumbosacral plexus, initial encounter
S64.491A Injury of digital nerve of left index finger, initial encounter	S34.4XXA Injury of lumbosacral plexus, initial encounter
S64.497A Injury of digital nerve of left little finger, initial encounter	S94.12XA Injury of medial plantar nerve, left leg, initial encounter
S64.493A Injury of digital nerve of left middle finger, initial encounter	S94.11XA Injury of medial plantar nerve, right leg, initial encounter
S64.495A Injury of digital nerve of left ring finger, initial encounter	S94.10XA Injury of medial plantar nerve, unspecified leg, initial encounter
S64.32XA Injury of digital nerve of left thumb, initial encounter	S54.12XA Injury of median nerve at forearm level, left arm, initial encounter
S64.498A Injury of digital nerve of other finger, initial encounter	S54.11XA Injury of median nerve at forearm level, right arm, initial encounter
S64.490A Injury of digital nerve of right index finger, initial encounter	S54.10XA Injury of median nerve at forearm level, unspecified arm, initial encounter
S64.496A Injury of digital nerve of right little finger, initial encounter	S44.12XA Injury of median nerve at upper arm level, left arm, initial encounter
S64.492A Injury of digital nerve of right middle finger, initial encounter	S44.11XA Injury of median nerve at upper arm level, right arm, initial encounter
S64.494A Injury of digital nerve of right ring finger, initial encounter	S44.10XA Injury of median nerve at upper arm level, unspecified arm, initial encounter
S64.31XA Injury of digital nerve of right thumb, initial encounter	S64.12XA Injury of median nerve at wrist and hand level of left arm, initial encounter
S64.40XA Injury of digital nerve of unspecified finger, initial encounter	S64.11XA Injury of median nerve at wrist and hand level of right arm, initial encounter
S64.30XA Injury of digital nerve of unspecified thumb, initial encounter	S64.10XA Injury of median nerve at wrist and hand level of unspecified arm, initial encounter
S74.12XA Injury of femoral nerve at hip and thigh level, left leg, initial encounter	S44.42XA Injury of musculocutaneous nerve, left arm, initial encounter
S74.11XA Injury of femoral nerve at hip and thigh level, right leg, initial encounter	S44.41XA Injury of musculocutaneous nerve, right arm, initial encounter
S74.10XA Injury of femoral nerve at hip and thigh level, unspecified leg, initial encounter	S44.40XA Injury of musculocutaneous nerve, unspecified arm, initial encounter
S94.02XA Injury of lateral plantar nerve, left leg, initial encounter	S14.2XXA Injury of nerve root of cervical spine, initial encounter
S94.01XA Injury of lateral plantar nerve, right leg, initial encounter	S14.2XXA Injury of nerve root of cervical spine, initial encounter
	S14.2XXA Injury of nerve root of cervical spine, initial encounter

S34.21XA Injury of nerve root of lumbar spine, initial encounter	S84.802A Injury of other nerves at lower leg level, left leg, initial encounter
S34.21XA Injury of nerve root of lumbar spine, initial encounter	S84.802A Injury of other nerves at lower leg level, left leg, initial encounter
S34.21XA Injury of nerve root of lumbar spine, initial encounter	S84.801A Injury of other nerves at lower leg level, right leg, initial encounter
S34.22XA Injury of nerve root of sacral spine, initial encounter	S84.801A Injury of other nerves at lower leg level, right leg, initial encounter
S34.22XA Injury of nerve root of sacral spine, initial encounter	S84.809A Injury of other nerves at lower leg level, unspecified leg, initial encounter
S34.22XA Injury of nerve root of sacral spine, initial encounter	S84.809A Injury of other nerves at lower leg level, unspecified leg, initial encounter
S24.2XXA Injury of nerve root of thoracic spine, initial encounter	S44.8X2A Injury of other nerves at shoulder and upper arm level, left arm, initial encounter
S24.2XXA Injury of nerve root of thoracic spine, initial encounter	S44.8X2A Injury of other nerves at shoulder and upper arm level, left arm, initial encounter
S24.2XXA Injury of nerve root of thoracic spine, initial encounter	S44.8X1A Injury of other nerves at shoulder and upper arm level, right arm, initial encounter
S94.8X2A Injury of other nerves at ankle and foot level, left leg, initial encounter	S44.8X1A Injury of other nerves at shoulder and upper arm level, right arm, initial encounter
S94.8X2A Injury of other nerves at ankle and foot level, left leg, initial encounter	S44.8X9A Injury of other nerves at shoulder and upper arm level, unspecified arm, initial encounter
S94.8X1A Injury of other nerves at ankle and foot level, right leg, initial encounter	S44.8X9A Injury of other nerves at shoulder and upper arm level, unspecified arm, initial encounter
S94.8X1A Injury of other nerves at ankle and foot level, right leg, initial encounter	S64.8X2A Injury of other nerves at wrist and hand level of left arm, initial encounter
S94.8X9A Injury of other nerves at ankle and foot level, unspecified leg, initial encounter	S64.8X2A Injury of other nerves at wrist and hand level of left arm, initial encounter
S94.8X9A Injury of other nerves at ankle and foot level, unspecified leg, initial encounter	S64.8X1A Injury of other nerves at wrist and hand level of right arm, initial encounter
S74.8X2A Injury of other nerves at hip and thigh level, left leg, initial encounter	S64.8X1A Injury of other nerves at wrist and hand level of right arm, initial encounter
S74.8X2A Injury of other nerves at hip and thigh level, left leg, initial encounter	S64.8X9A Injury of other nerves at wrist and hand level of unspecified arm, initial encounter
S74.8X1A Injury of other nerves at hip and thigh level, right leg, initial encounter	S64.8X9A Injury of other nerves at wrist and hand level of unspecified arm, initial encounter
S74.8X1A Injury of other nerves at hip and thigh level, right leg, initial encounter	S84.12XA Injury of peroneal nerve at lower leg level, left leg, initial encounter
S74.8X9A Injury of other nerves at hip and thigh level, unspecified leg, initial encounter	S84.11XA Injury of peroneal nerve at lower leg level, right leg, initial encounter
S74.8X9A Injury of other nerves at hip and thigh level, unspecified leg, initial encounter	S84.10XA Injury of peroneal nerve at lower leg level, unspecified leg, initial encounter

S54.22XA Injury of radial nerve at forearm level, left arm, initial encounter	S64.02XA Injury of ulnar nerve at wrist and hand level of left arm, initial encounter
S54.21XA Injury of radial nerve at forearm level, right arm, initial encounter	S64.01XA Injury of ulnar nerve at wrist and hand level of right arm, initial encounter
S54.20XA Injury of radial nerve at forearm level, unspecified arm, initial encounter	S64.00XA Injury of ulnar nerve at wrist and hand level of unspecified arm, initial encounter
S44.22XA Injury of radial nerve at upper arm level, left arm, initial encounter	S04.9XXS Injury of unspecified cranial nerve, sequela
S44.21XA Injury of radial nerve at upper arm level, right arm, initial encounter	S04.9XXA Injury of unspecified cranial nerve, initial encounter
S44.20XA Injury of radial nerve at upper arm level, unspecified arm, initial encounter	S04.9XXD Injury of unspecified cranial nerve, subsequent encounter
S64.22XA Injury of radial nerve at wrist and hand level of left arm, initial encounter	S94.92XA Injury of unspecified nerve at ankle and foot level, left leg, initial encounter
S64.21XA Injury of radial nerve at wrist and hand level of right arm, initial encounter	S94.91XA Injury of unspecified nerve at ankle and foot level, right leg, initial encounter
S64.20XA Injury of radial nerve at wrist and hand level of unspecified arm, initial encounter	S94.90XA Injury of unspecified nerve at ankle and foot level, unspecified leg, initial encounter
S74.02XA Injury of sciatic nerve at hip and thigh level, left leg, initial encounter	S54.92XA Injury of unspecified nerve at forearm level, left arm, initial encounter
S74.01XA Injury of sciatic nerve at hip and thigh level, right leg, initial encounter	S54.91XA Injury of unspecified nerve at forearm level, right arm, initial encounter
S74.00XA Injury of sciatic nerve at hip and thigh level, unspecified leg, initial encounter	S54.90XA Injury of unspecified nerve at forearm level, unspecified arm, initial encounter
S84.02XA Injury of tibial nerve at lower leg level, left leg, initial encounter	S74.92XA Injury of unspecified nerve at hip and thigh level, left leg, initial encounter
S84.01XA Injury of tibial nerve at lower leg level, right leg, initial encounter	S74.91XA Injury of unspecified nerve at hip and thigh level, right leg, initial encounter
S84.00XA Injury of tibial nerve at lower leg level, unspecified leg, initial encounter	S74.90XA Injury of unspecified nerve at hip and thigh level, unspecified leg, initial encounter
S54.02XA Injury of ulnar nerve at forearm level, left arm, initial encounter	S84.92XA Injury of unspecified nerve at lower leg level, left leg, initial encounter
S54.01XA Injury of ulnar nerve at forearm level, right arm, initial encounter	S84.91XA Injury of unspecified nerve at lower leg level, right leg, initial encounter
S54.00XA Injury of ulnar nerve at forearm level, unspecified arm, initial encounter	S84.90XA Injury of unspecified nerve at lower leg level, unspecified leg, initial encounter
S44.02XA Injury of ulnar nerve at upper arm level, left arm, initial encounter	S44.92XA Injury of unspecified nerve at shoulder and upper arm level, left arm, initial encounter
S44.01XA Injury of ulnar nerve at upper arm level, right arm, initial encounter	S44.91XA Injury of unspecified nerve at shoulder and upper arm level, right arm, initial encounter
S44.00XA Injury of ulnar nerve at upper arm level, unspecified arm, initial encounter	S44.90XA Injury of unspecified nerve at shoulder and upper arm level, unspecified arm, initial encounter

S64.92XA	Injury of unspecified nerve at wrist and hand level of left arm, initial encounter	M41.114	Juvenile idiopathic scoliosis, thoracic region
S64.91XA	Injury of unspecified nerve at wrist and hand level of right arm, initial encounter	M41.115	Juvenile idiopathic scoliosis, thoracolumbar region
S64.90XA	Injury of unspecified nerve at wrist and hand level of unspecified arm, initial encounter	P14.1	Klumpke's paralysis due to birth injury
S14.9XXA	Injury of unspecified nerves of neck, initial encounter	H83.1	Labyrinthine fistula
M51.06	Intervertebral disc disorders with myelopathy, lumbar region	G40.001	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with seizures of localized onset, not intractable, with status epilepticus
M51.04	Intervertebral disc disorders with myelopathy, thoracic region	G40.009	Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with seizures of localized onset, not intractable, without status epilepticus
M51.05	Intervertebral disc disorders with myelopathy, thoracolumbar region	M40.56	Lordosis, unspecified, lumbar region
M99.59	Intervertebral disc stenosis of neural canal of abdomen and other regions	M40.57	Lordosis, unspecified, lumbosacral region
M99.56	Intervertebral disc stenosis of neural canal of lower extremity	M40.50	Lordosis, unspecified, site unspecified
M99.53	Intervertebral disc stenosis of neural canal of lumbar region	M40.55	Lordosis, unspecified, thoracolumbar region
M99.55	Intervertebral disc stenosis of neural canal of pelvic region	Q05.2	Lumbar spina bifida with hydrocephalus
M99.58	Intervertebral disc stenosis of neural canal of rib cage	Q05.7	Lumbar spina bifida without hydrocephalus
M99.54	Intervertebral disc stenosis of neural canal of sacral region	G54.1	Lumbosacral plexus disorders
M99.52	Intervertebral disc stenosis of neural canal of thoracic region	G54.4	Lumbosacral root disorders, not elsewhere classified
M99.57	Intervertebral disc stenosis of neural canal of upper extremity	C41.0	Malignant neoplasm of bones of skull and face
G06.0	Intracranial abscess and granuloma	C71.9	Malignant neoplasm of brain, unspecified
G07	Intracranial and intraspinal abscess and granuloma in diseases classified elsewhere	C72.1	Malignant neoplasm of cauda equina
G06.1	Intraspinal abscess and granuloma	C72.9	Malignant neoplasm of central nervous system, unspecified
M41.112	Juvenile idiopathic scoliosis, cervical region	C72.9	Malignant neoplasm of central nervous system, unspecified
M41.113	Juvenile idiopathic scoliosis, cervicothoracic region	C70.0	Malignant neoplasm of cerebral meninges
M41.116	Juvenile idiopathic scoliosis, lumbar region	C72.42	Malignant neoplasm of left acoustic nerve
M41.117	Juvenile idiopathic scoliosis, lumbosacral region	C72.22	Malignant neoplasm of left olfactory nerve
M41.119	Juvenile idiopathic scoliosis, site unspecified	C72.32	Malignant neoplasm of left optic nerve
		C70.9	Malignant neoplasm of meninges, unspecified
		C72.59	Malignant neoplasm of other cranial nerves
		C72.41	Malignant neoplasm of right acoustic nerve
		C72.21	Malignant neoplasm of right olfactory nerve
		C72.31	Malignant neoplasm of right optic nerve
		C72.0	Malignant neoplasm of spinal cord

C70.1	Malignant neoplasm of spinal meninges	D42.0	Neoplasm of uncertain behavior of cerebral meninges
C72.40	Malignant neoplasm of unspecified acoustic nerve	D43.3	Neoplasm of uncertain behavior of cranial nerves
C72.50	Malignant neoplasm of unspecified cranial nerve	D44.4	Neoplasm of uncertain behavior of craniopharyngeal duct
C72.20	Malignant neoplasm of unspecified olfactory nerve	D42.9	Neoplasm of uncertain behavior of meninges, unspecified
C72.30	Malignant neoplasm of unspecified optic nerve	D43.8	Neoplasm of uncertain behavior of other specified parts of central nervous system
C41.2	Malignant neoplasm of vertebral column	D44.5	Neoplasm of uncertain behavior of pineal gland
G51.2	Melkersson's syndrome	D44.3	Neoplasm of uncertain behavior of pituitary gland
H81.03	Meniere's disease, bilateral	D43.4	Neoplasm of uncertain behavior of spinal cord
H81.03	Meniere's disease, bilateral	D42.1	Neoplasm of uncertain behavior of spinal meninges
H81.03	Meniere's disease, bilateral	D49.6	Neoplasm of unspecified behavior of brain
H81.02	Meniere's disease, left ear	Q85.01	Neurofibromatosis, type 1
H81.02	Meniere's disease, left ear	Q85.02	Neurofibromatosis, type 2
H81.02	Meniere's disease, left ear	Q85.00	Neurofibromatosis, unspecified
H81.01	Meniere's disease, right ear	M41.42	Neuromuscular scoliosis, cervical region
H81.01	Meniere's disease, right ear	M41.43	Neuromuscular scoliosis, cervicothoracic region
H81.01	Meniere's disease, right ear	M41.46	Neuromuscular scoliosis, lumbar region
H81.09	Meniere's disease, unspecified ear	M41.47	Neuromuscular scoliosis, lumbosacral region
H81.09	Meniere's disease, unspecified ear	M41.41	Neuromuscular scoliosis, occipito-atlanto-axial region
H81.09	Meniere's disease, unspecified ear	M41.40	Neuromuscular scoliosis, site unspecified
G46.0	Middle cerebral artery syndrome	M41.44	Neuromuscular scoliosis, thoracic region
I67.5	Moyamoya disease	M41.45	Neuromuscular scoliosis, thoracolumbar region
G45.2	Multiple and bilateral precerebral artery syndromes	I62.01	Nontraumatic acute subdural hemorrhage
G99.2	Myelopathy in diseases classified elsewhere	I62.03	Nontraumatic chronic subdural hemorrhage
Q01.1	Nasofrontal encephalocele	I62.1	Nontraumatic extradural hemorrhage
D44.7	Neoplasm of uncertain behavior of aortic body and other paraganglia	I61.3	Nontraumatic intracerebral hemorrhage in brain stem
D43.1	Neoplasm of uncertain behavior of brain, infratentorial	I61.4	Nontraumatic intracerebral hemorrhage in cerebellum
D43.0	Neoplasm of uncertain behavior of brain, supratentorial	I61.1	Nontraumatic intracerebral hemorrhage in hemisphere, cortical
D43.2	Neoplasm of uncertain behavior of brain, unspecified	I61.0	Nontraumatic intracerebral hemorrhage in hemisphere, subcortical
D44.6	Neoplasm of uncertain behavior of carotid body		
D43.9	Neoplasm of uncertain behavior of central nervous system, unspecified		

I61.2	Nontraumatic intracerebral hemorrhage in hemisphere, unspecified	I60.10	Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery
I61.5	Nontraumatic intracerebral hemorrhage, intraventricular	I60.30	Nontraumatic subarachnoid hemorrhage from unspecified posterior communicating artery
I61.6	Nontraumatic intracerebral hemorrhage, multiple localized	I60.50	Nontraumatic subarachnoid hemorrhage from unspecified vertebral artery
I61.9	Nontraumatic intracerebral hemorrhage, unspecified	I60.9	Nontraumatic subarachnoid hemorrhage, unspecified
I62.9	Nontraumatic intracranial hemorrhage, unspecified	I62.00	Nontraumatic subdural hemorrhage, unspecified
I62.02	Nontraumatic subacute subdural hemorrhage	Q01.2	Occipital encephalocele
I60.4	Nontraumatic subarachnoid hemorrhage from basilar artery	I65.1	Occlusion and stenosis of basilar artery
I60.22	Nontraumatic subarachnoid hemorrhage from left anterior communicating artery	I66.13	Occlusion and stenosis of bilateral anterior cerebral arteries
I60.02	Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation	I65.23	Occlusion and stenosis of bilateral carotid arteries
I60.12	Nontraumatic subarachnoid hemorrhage from left middle cerebral artery	I66.03	Occlusion and stenosis of bilateral middle cerebral arteries
I60.32	Nontraumatic subarachnoid hemorrhage from left posterior communicating artery	I66.23	Occlusion and stenosis of bilateral posterior cerebral arteries
I60.52	Nontraumatic subarachnoid hemorrhage from left vertebral artery	I65.03	Occlusion and stenosis of bilateral vertebral arteries
I60.6	Nontraumatic subarachnoid hemorrhage from other intracranial arteries	I66.3	Occlusion and stenosis of cerebellar arteries
I60.21	Nontraumatic subarachnoid hemorrhage from right anterior communicating artery	I66.12	Occlusion and stenosis of left anterior cerebral artery
I60.01	Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation	I65.22	Occlusion and stenosis of left carotid artery
I60.11	Nontraumatic subarachnoid hemorrhage from right middle cerebral artery	I66.02	Occlusion and stenosis of left middle cerebral artery
I60.31	Nontraumatic subarachnoid hemorrhage from right posterior communicating artery	I66.22	Occlusion and stenosis of left posterior cerebral artery
I60.51	Nontraumatic subarachnoid hemorrhage from right vertebral artery	I65.02	Occlusion and stenosis of left vertebral artery
I60.20	Nontraumatic subarachnoid hemorrhage from unspecified anterior communicating artery	I66.8	Occlusion and stenosis of other cerebral arteries
I60.00	Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation	I65.8	Occlusion and stenosis of other precerebral arteries
I60.7	Nontraumatic subarachnoid hemorrhage from unspecified intracranial artery	I65.8	Occlusion and stenosis of other precerebral arteries
		I66.11	Occlusion and stenosis of right anterior cerebral artery
		I65.21	Occlusion and stenosis of right carotid artery
		I66.01	Occlusion and stenosis of right middle cerebral artery
		I66.21	Occlusion and stenosis of right posterior cerebral artery

I65.01	Occlusion and stenosis of right vertebral artery	M99.34	Osseous stenosis of neural canal of sacral region
I66.19	Occlusion and stenosis of unspecified anterior cerebral artery	M99.32	Osseous stenosis of neural canal of thoracic region
I65.29	Occlusion and stenosis of unspecified carotid artery	M99.37	Osseous stenosis of neural canal of upper extremity
I66.9	Occlusion and stenosis of unspecified cerebral artery	M86.8X9	Other osteomyelitis, unspecified sites
I66.9	Occlusion and stenosis of unspecified cerebral artery	I77.7	Other arterial dissection
I66.09	Occlusion and stenosis of unspecified middle cerebral artery	P14.3	Other brachial plexus birth injuries
I66.29	Occlusion and stenosis of unspecified posterior cerebral artery	I63.8	Other cerebral infarction
I65.9	Occlusion and stenosis of unspecified precerebral artery	G80.8	Other cerebral palsy
I65.09	Occlusion and stenosis of unspecified vertebral artery	I67.848	Other cerebrovascular vasospasm and vasoconstriction
M99.69	Osseous and subluxation stenosis of intervertebral foramina of abdomen and other regions	M50.83	Other cervical disc disorders, cervicothoracic region
M99.66	Osseous and subluxation stenosis of intervertebral foramina of lower extremity	M50.81	Other cervical disc disorders, high cervical region
M99.63	Osseous and subluxation stenosis of intervertebral foramina of lumbar region	M50.82	Other cervical disc disorders, mid-cervical region
M99.65	Osseous and subluxation stenosis of intervertebral foramina of pelvic region	M50.80	Other cervical disc disorders, unspecified cervical region
M99.68	Osseous and subluxation stenosis of intervertebral foramina of rib cage	M50.20	Other cervical disc displacement, unspecified cervical region
M99.64	Osseous and subluxation stenosis of intervertebral foramina of sacral region	G95.29	Other cord compression
M99.62	Osseous and subluxation stenosis of intervertebral foramina of thoracic region	G51.8	Other disorders of facial nerve
M99.67	Osseous and subluxation stenosis of intervertebral foramina of upper extremity	M41.82	Other forms of scoliosis, cervical region
M99.39	Osseous stenosis of neural canal of abdomen and other regions	M41.83	Other forms of scoliosis, cervicothoracic region
M99.36	Osseous stenosis of neural canal of lower extremity	M41.86	Other forms of scoliosis, lumbar region
M99.33	Osseous stenosis of neural canal of lumbar region	M41.87	Other forms of scoliosis, lumbosacral region
M99.35	Osseous stenosis of neural canal of pelvic region	M41.80	Other forms of scoliosis, site unspecified
M99.38	Osseous stenosis of neural canal of rib cage	M41.84	Other forms of scoliosis, thoracic region
		M41.85	Other forms of scoliosis, thoracolumbar region
		S22.018A	Other fracture of first thoracic vertebra, initial encounter for closed fracture
		S22.048A	Other fracture of fourth thoracic vertebra, initial encounter for closed fracture
		S22.028A	Other fracture of second thoracic vertebra, initial encounter for closed fracture
		S22.088A	Other fracture of T11-T12 vertebra, initial encounter for closed fracture
		S22.058A	Other fracture of T5-T6 vertebra, initial encounter for closed fracture

S22.068A	Other fracture of T7-T8 thoracic vertebra, initial encounter for closed fracture	S24.151A	Other incomplete lesion at T1 level of thoracic spinal cord, initial encounter
S22.078A	Other fracture of T9-T10 vertebra, initial encounter for closed fracture	S24.151A	Other incomplete lesion at T1 level of thoracic spinal cord, initial encounter
S22.038A	Other fracture of third thoracic vertebra, initial encounter for closed fracture	S24.154A	Other incomplete lesion at T11-T12 level of thoracic spinal cord, initial encounter
S22.008A	Other fracture of unspecified thoracic vertebra, initial encounter for closed fracture	S24.154A	Other incomplete lesion at T11-T12 level of thoracic spinal cord, initial encounter
S02.19	Other fractures of base of skull	S24.154A	Other incomplete lesion at T11-T12 level of thoracic spinal cord, initial encounter
M41.22	Other idiopathic scoliosis, cervical region	S24.154A	Other incomplete lesion at T11-T12 level of thoracic spinal cord, initial encounter
M41.23	Other idiopathic scoliosis, cervicothoracic region	S24.152A	Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter
M41.26	Other idiopathic scoliosis, lumbar region	S24.152A	Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter
M41.27	Other idiopathic scoliosis, lumbosacral region	S24.152A	Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter
M41.20	Other idiopathic scoliosis, site unspecified	S24.152A	Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter
M41.24	Other idiopathic scoliosis, thoracic region	S24.152A	Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter
M41.25	Other idiopathic scoliosis, thoracolumbar region	S24.152A	Other incomplete lesion at T2-T6 level of thoracic spinal cord, initial encounter
S14.151A	Other incomplete lesion at C1 level of cervical spinal cord, initial encounter	S24.153A	Other incomplete lesion at T7-T10 level of thoracic spinal cord, initial encounter
S14.152A	Other incomplete lesion at C2 level of cervical spinal cord, initial encounter	S24.153A	Other incomplete lesion at T7-T10 level of thoracic spinal cord, initial encounter
S14.153A	Other incomplete lesion at C3 level of cervical spinal cord, initial encounter	S24.153A	Other incomplete lesion at T7-T10 level of thoracic spinal cord, initial encounter
S14.154A	Other incomplete lesion at C4 level of cervical spinal cord, initial encounter	S24.153A	Other incomplete lesion at T7-T10 level of thoracic spinal cord, initial encounter
S14.155A	Other incomplete lesion at C5 level of cervical spinal cord, initial encounter	S24.153A	Other incomplete lesion at T7-T10 level of thoracic spinal cord, initial encounter
S14.155A	Other incomplete lesion at C5 level of cervical spinal cord, initial encounter	M51.36	Other intervertebral disc degeneration, lumbar region
S14.156A	Other incomplete lesion at C6 level of cervical spinal cord, initial encounter	M51.37	Other intervertebral disc degeneration, lumbosacral region
S14.156A	Other incomplete lesion at C6 level of cervical spinal cord, initial encounter	M51.34	Other intervertebral disc degeneration, thoracic region
S14.157A	Other incomplete lesion at C7 level of cervical spinal cord, initial encounter	M51.34	Other intervertebral disc degeneration, thoracic region
S14.157A	Other incomplete lesion at C7 level of cervical spinal cord, initial encounter	M51.35	Other intervertebral disc degeneration, thoracolumbar region
S24.151A	Other incomplete lesion at T1 level of thoracic spinal cord, initial encounter	M51.35	Other intervertebral disc degeneration, thoracolumbar region
S24.151A	Other incomplete lesion at T1 level of thoracic spinal cord, initial encounter	M51.86	Other intervertebral disc disorders, lumbar region

M51.87	Other intervertebral disc disorders, lumbosacral region	M43.8X8	Other specified deforming dorsopathies, sacral and sacrococcygeal region
M51.84	Other intervertebral disc disorders, thoracic region	M43.8X9	Other specified deforming dorsopathies, site unspecified
M51.85	Other intervertebral disc disorders, thoracolumbar region	M43.8X9	Other specified deforming dorsopathies, site unspecified
M40.292	Other kyphosis, cervical region	M43.8X4	Other specified deforming dorsopathies, thoracic region
M40.293	Other kyphosis, cervicothoracic region	M43.8X5	Other specified deforming dorsopathies, thoracolumbar region
M40.299	Other kyphosis, site unspecified	G95.89	Other specified diseases of spinal cord
M40.294	Other kyphosis, thoracic region	M47.12	Other spondylosis with myelopathy, cervical region
M40.295	Other kyphosis, thoracolumbar region	M47.13	Other spondylosis with myelopathy, cervicothoracic region
Q28.3	Other malformations of cerebral vessels	M47.16	Other spondylosis with myelopathy, lumbar region
I61.8	Other nontraumatic intracerebral hemorrhage	M47.11	Other spondylosis with myelopathy, occipito-atlanto-axial region
I60.8	Other nontraumatic subarachnoid hemorrhage	M47.10	Other spondylosis with myelopathy, site unspecified
M80.88XA	Other osteoporosis with current pathological fracture, vertebra(e), initial encounter for fracture	M47.14	Other spondylosis with myelopathy, thoracic region
M40.12	Other secondary kyphosis, cervical region	M47.15	Other spondylosis with myelopathy, thoracolumbar region
M40.13	Other secondary kyphosis, cervicothoracic region	M47.22	Other spondylosis with radiculopathy, cervical region
M40.10	Other secondary kyphosis, site unspecified	M47.23	Other spondylosis with radiculopathy, cervicothoracic region
M40.14	Other secondary kyphosis, thoracic region	M47.21	Other spondylosis with radiculopathy, occipito-atlanto-axial region
M40.15	Other secondary kyphosis, thoracolumbar region	M47.24	Other spondylosis with radiculopathy, thoracic region
M41.52	Other secondary scoliosis, cervical region	M47.25	Other spondylosis with radiculopathy, thoracolumbar region
M41.53	Other secondary scoliosis, cervicothoracic region	M47.892	Other spondylosis, cervical region
M41.56	Other secondary scoliosis, lumbar region	M47.893	Other spondylosis, cervicothoracic region
M41.57	Other secondary scoliosis, lumbosacral region	M47.891	Other spondylosis, occipito-atlanto-axial region
M41.50	Other secondary scoliosis, site unspecified	M47.894	Other spondylosis, thoracic region
M41.54	Other secondary scoliosis, thoracic region	M47.895	Other spondylosis, thoracolumbar region
M41.55	Other secondary scoliosis, thoracolumbar region	G45.8	Other transient cerebral ischemic attacks and related syndromes
Q06.8	Other specified congenital malformations of spinal cord		
M43.8X2	Other specified deforming dorsopathies, cervical region		
M43.8X3	Other specified deforming dorsopathies, cervicothoracic region		
M43.8X6	Other specified deforming dorsopathies, lumbar region		
M43.8X7	Other specified deforming dorsopathies, lumbosacral region		
M43.8X1	Other specified deforming dorsopathies, occipito-atlanto-axial region		

G45.8	Other transient cerebral ischemic attacks and related syndromes	C79.51	Secondary malignant neoplasm of bone
G45.8	Other transient cerebral ischemic attacks and related syndromes	C79.52	Secondary malignant neoplasm of bone marrow
G95.19	Other vascular myelopathies	C79.31	Secondary malignant neoplasm of brain
M84.58XA	Pathological fracture in neoplastic disease, other specified site, initial encounter for fracture	C79.32	Secondary malignant neoplasm of cerebral meninges
M84.68XA	Pathological fracture in other disease, other site, initial encounter for fracture	C79.49	Secondary malignant neoplasm of other parts of nervous system
M84.48XA	Pathological fracture, other site, initial encounter for fracture	C79.40	Secondary malignant neoplasm of unspecified part of nervous system
P14.2	Phrenic nerve paralysis due to birth injury	Q05.9	Spina bifida, unspecified
G46.2	Posterior cerebral artery syndrome	Q05.9	Spina bifida, unspecified
M96.3	Postlaminectomy kyphosis	M48.02	Spinal stenosis, cervical region
M96.2	Postradiation kyphosis	M48.06	Spinal stenosis, lumbar region
M96.5	Postradiation scoliosis	M48.07	Spinal stenosis, lumbosacral region
M96.4	Postsurgical lordosis	M48.08	Spinal stenosis, sacral and sacrococcygeal region
M40.03	Postural kyphosis, cervicothoracic region	M48.00	Spinal stenosis, site unspecified
M40.00	Postural kyphosis, site unspecified	M48.00	Spinal stenosis, site unspecified
M40.04	Postural kyphosis, thoracic region	M48.04	Spinal stenosis, thoracic region
M40.05	Postural kyphosis, thoracolumbar region	M48.05	Spinal stenosis, thoracolumbar region
M40.46	Postural lordosis, lumbar region	M43.12	Spondylolisthesis, cervical region
M40.47	Postural lordosis, lumbosacral region	M43.13	Spondylolisthesis, cervicothoracic region
M40.40	Postural lordosis, site unspecified	M43.16	Spondylolisthesis, lumbar region
M40.45	Postural lordosis, thoracolumbar region	M43.17	Spondylolisthesis, lumbosacral region
H95.03	Recurrent cholesteatoma of postmastoidectomy cavity, bilateral ears	M43.19	Spondylolisthesis, multiple sites in spine
H95.02	Recurrent cholesteatoma of postmastoidectomy cavity, left ear	M43.11	Spondylolisthesis, occipito-atlanto-axial region
H95.01	Recurrent cholesteatoma of postmastoidectomy cavity, right ear	M43.18	Spondylolisthesis, sacral and sacrococcygeal region
H95.00	Recurrent cholesteatoma of postmastoidectomy cavity, unspecified ear	M43.10	Spondylolisthesis, site unspecified
I67.841	Reversible cerebrovascular vasoconstriction syndrome	M43.14	Spondylolisthesis, thoracic region
Q05.3	Sacral spina bifida with hydrocephalus	M43.15	Spondylolisthesis, thoracolumbar region
Q05.8	Sacral spina bifida without hydrocephalus	M43.02	Spondylolysis, cervical region
M41.9	Scoliosis, unspecified	M43.03	Spondylolysis, cervicothoracic region
		M43.06	Spondylolysis, lumbar region
		M43.07	Spondylolysis, lumbosacral region
		M43.09	Spondylolysis, multiple sites in spine
		M43.01	Spondylolysis, occipito-atlanto-axial region

M43.08	Spondylolysis, sacral and sacrococcygeal region	M99.29	Subluxation stenosis of neural canal of abdomen and other regions
M43.00	Spondylolysis, site unspecified		
M43.04	Spondylolysis, thoracic region	M99.26	Subluxation stenosis of neural canal of lower extremity
M43.05	Spondylolysis, thoracolumbar region	M99.23	Subluxation stenosis of neural canal of lumbar region
M47.812	Spondylosis without myelopathy or radiculopathy, cervical region	M99.25	Subluxation stenosis of neural canal of pelvic region
M47.813	Spondylosis without myelopathy or radiculopathy, cervicothoracic region	M99.28	Subluxation stenosis of neural canal of rib cage
M47.811	Spondylosis without myelopathy or radiculopathy, occipito-atlanto-axial region	M99.24	Subluxation stenosis of neural canal of sacral region
M47.814	Spondylosis without myelopathy or radiculopathy, thoracic region	M99.22	Subluxation stenosis of neural canal of thoracic region
M47.815	Spondylosis without myelopathy or radiculopathy, thoracolumbar region	M99.27	Subluxation stenosis of neural canal of upper extremity
S22.011A	Stable burst fracture of first thoracic vertebra, initial encounter for closed fracture	H70.013	Subperiosteal abscess of mastoid, bilateral
S22.041A	Stable burst fracture of fourth thoracic vertebra, initial encounter for closed fracture	H70.012	Subperiosteal abscess of mastoid, left ear
S22.021A	Stable burst fracture of second thoracic vertebra, initial encounter for closed fracture	H70.011	Subperiosteal abscess of mastoid, right ear
S22.081A	Stable burst fracture of T11-T12 vertebra, initial encounter for closed fracture	H70.019	Subperiosteal abscess of mastoid, unspecified ear
S22.051A	Stable burst fracture of T5-T6 vertebra, initial encounter for closed fracture	G95.0	Syringomyelia and syringobulbia
S22.061A	Stable burst fracture of T7-T8 vertebra, initial encounter for closed fracture	G93.81	Temporal sclerosis
S22.071A	Stable burst fracture of T9-T10 vertebra, initial encounter for closed fracture	I71.1	Thoracic aortic aneurysm, ruptured
S22.031A	Stable burst fracture of third thoracic vertebra, initial encounter for closed fracture	I71.2	Thoracic aortic aneurysm, without rupture
S22.001A	Stable burst fracture of unspecified thoracic vertebra, initial encounter for closed fracture	G54.3	Thoracic root disorders, not elsewhere classified
G32.0	Subacute combined degeneration of spinal cord in diseases classified elsewhere	Q05.1	Thoracic spina bifida with hydrocephalus
S23.1	Subluxation and dislocation of thoracic vertebra	Q05.6	Thoracic spina bifida without hydrocephalus
S23.100A	Subluxation and dislocation of thoracic vertebra, initial encounter	I71.5	Thoracoabdominal aortic aneurysm, ruptured
S23.100S	Subluxation and dislocation of thoracic vertebra, sequela	I71.6	Thoracoabdominal aortic aneurysm, without rupture
S23110D	Subluxation and dislocation of thoracic vertebra, subsequent encounter	M41.30	Thoracogenic scoliosis, site unspecified
		M41.34	Thoracogenic scoliosis, thoracic region
		M41.35	Thoracogenic scoliosis, thoracolumbar region
		G45.9	Transient cerebral ischemic attack, unspecified
		M48.32	Traumatic spondylopathy, cervical region
		M48.33	Traumatic spondylopathy, cervicothoracic region
		M48.36	Traumatic spondylopathy, lumbar region
		M48.37	Traumatic spondylopathy, lumbosacral region
		M48.31	Traumatic spondylopathy, occipito-atlanto-axial region

M48.38	Traumatic spondylopathy, sacral and sacrococcygeal region	S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
M48.30	Traumatic spondylopathy, site unspecified	S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
M48.34	Traumatic spondylopathy, thoracic region	S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
M48.35	Traumatic spondylopathy, thoracolumbar region	S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
G50.0	Trigeminal neuralgia	S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
A18.01	Tuberculosis of spine	S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
H71.93	Unspecified cholesteatoma, bilateral	S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
H71.92	Unspecified cholesteatoma, left ear	S12.100A	Unspecified displaced fracture of second cervical vertebra, initial encounter for closed fracture
H71.91	Unspecified cholesteatoma, right ear	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
H71.90	Unspecified cholesteatoma, unspecified ear	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
G95.20	Unspecified cord compression	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for <i>open fracture</i>
S12.400A	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for closed fracture	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
S12.400A	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for closed fracture	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture	S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture	S12.600A	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for closed fracture
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture	S12.600A	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for closed fracture
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture	S12.600B	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for open fracture
S12.000A	Unspecified displaced fracture of first cervical vertebra, initial encounter for closed fracture	S12.600B	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for open fracture
S12.000B	Unspecified displaced fracture of first cervical vertebra, initial encounter for open fracture	S12.600B	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for open fracture
S12.000B	Unspecified displaced fracture of first cervical vertebra, initial encounter for open fracture	S12.600B	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for open fracture
S12.000B	Unspecified displaced fracture of first cervical vertebra, initial encounter for open fracture	S12.600B	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for open fracture
S12.000B	Unspecified displaced fracture of first cervical vertebra, initial encounter for open fracture	S12.500A	Unspecified displaced fracture of sixth cervical vertebra, initial encounter for closed fracture
S12.000B	Unspecified displaced fracture of first cervical vertebra, initial encounter for open fracture	S12.500A	Unspecified displaced fracture of sixth cervical vertebra, initial encounter for closed fracture
S12.300A	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for closed fracture	S12.500B	Unspecified displaced fracture of sixth cervical vertebra, initial encounter for open fracture

S12.500B Unspecified displaced fracture of sixth cervical vertebra, initial encounter for open fracture	S22.019B Unspecified fracture of first thoracic vertebra, initial encounter for open fracture
S12.500B Unspecified displaced fracture of sixth cervical vertebra, initial encounter for open fracture	S22.019B Unspecified fracture of first thoracic vertebra, initial encounter for open fracture
S12.500B Unspecified displaced fracture of sixth cervical vertebra, initial encounter for open fracture	S22.019B Unspecified fracture of first thoracic vertebra, initial encounter for open fracture
S12.500B Unspecified displaced fracture of sixth cervical vertebra, initial encounter for open fracture	S22.019B Unspecified fracture of first thoracic vertebra, initial encounter for open fracture
S12.200A Unspecified displaced fracture of third cervical vertebra, initial encounter for closed fracture	S32.049A Unspecified fracture of fourth lumbar vertebra, initial encounter for closed fracture
S12.200B Unspecified displaced fracture of third cervical vertebra, initial encounter for open fracture	S32.049B Unspecified fracture of fourth lumbar vertebra, initial encounter for open fracture
S12.200B Unspecified displaced fracture of third cervical vertebra, initial encounter for open fracture	S22.049A Unspecified fracture of fourth thoracic vertebra, initial encounter for closed fracture
S12.200B Unspecified displaced fracture of third cervical vertebra, initial encounter for open fracture	S22.049A Unspecified fracture of fourth thoracic vertebra, initial encounter for closed fracture
S12.200B Unspecified displaced fracture of third cervical vertebra, initial encounter for open fracture	S22.049A Unspecified fracture of fourth thoracic vertebra, initial encounter for closed fracture
S12.200B Unspecified displaced fracture of third cervical vertebra, initial encounter for open fracture	S22.049A Unspecified fracture of fourth thoracic vertebra, initial encounter for closed fracture
S32.059A Unspecified fracture of fifth lumbar vertebra, initial encounter for closed fracture	S22.049A Unspecified fracture of fourth thoracic vertebra, initial encounter for closed fracture
S32.059B Unspecified fracture of fifth lumbar vertebra, initial encounter for open fracture	S22.049A Unspecified fracture of fourth thoracic vertebra, initial encounter for closed fracture
S32.019A Unspecified fracture of first lumbar vertebra, initial encounter for closed fracture	S22.049B Unspecified fracture of fourth thoracic vertebra, initial encounter for open fracture
S32.019B Unspecified fracture of first lumbar vertebra, initial encounter for open fracture	S22.049B Unspecified fracture of fourth thoracic vertebra, initial encounter for open fracture
S22.019A Unspecified fracture of first thoracic vertebra, initial encounter for closed fracture	S22.049B Unspecified fracture of fourth thoracic vertebra, initial encounter for open fracture
S22.019A Unspecified fracture of first thoracic vertebra, initial encounter for closed fracture	S22.049B Unspecified fracture of fourth thoracic vertebra, initial encounter for open fracture
S22.019A Unspecified fracture of first thoracic vertebra, initial encounter for closed fracture	S22.049B Unspecified fracture of fourth thoracic vertebra, initial encounter for open fracture
S22.019A Unspecified fracture of first thoracic vertebra, initial encounter for closed fracture	S32.10XA Unspecified fracture of sacrum, initial encounter for closed fracture
S22.019A Unspecified fracture of first thoracic vertebra, initial encounter for closed fracture	S32.10XB Unspecified fracture of sacrum, initial encounter for open fracture
S22.019A Unspecified fracture of first thoracic vertebra, initial encounter for closed fracture	S32.10XB Unspecified fracture of sacrum, initial encounter for open fracture
S22.019B Unspecified fracture of first thoracic vertebra, initial encounter for open fracture	S32.10XB Unspecified fracture of sacrum, initial encounter for open fracture

S32.10XB Unspecified fracture of sacrum, initial encounter for open fracture	S22.089B Unspecified fracture of T11-T12 vertebra, initial encounter for open fracture
S32.10XB Unspecified fracture of sacrum, initial encounter for open fracture	S22.089B Unspecified fracture of T11-T12 vertebra, initial encounter for open fracture
S32.029A Unspecified fracture of second lumbar vertebra, initial encounter for closed fracture	S22.089B Unspecified fracture of T11-T12 vertebra, initial encounter for open fracture
S32.029B Unspecified fracture of second lumbar vertebra, initial encounter for open fracture	S22.089B Unspecified fracture of T11-T12 vertebra, initial encounter for open fracture
S22.029A Unspecified fracture of second thoracic vertebra, initial encounter for closed fracture	S22.089B Unspecified fracture of T11-T12 vertebra, initial encounter for open fracture
S22.029A Unspecified fracture of second thoracic vertebra, initial encounter for closed fracture	S22.059A Unspecified fracture of T5-T6 vertebra, initial encounter for closed fracture
S22.029A Unspecified fracture of second thoracic vertebra, initial encounter for closed fracture	S22.059A Unspecified fracture of T5-T6 vertebra, initial encounter for closed fracture
S22.029A Unspecified fracture of second thoracic vertebra, initial encounter for closed fracture	S22.059A Unspecified fracture of T5-T6 vertebra, initial encounter for closed fracture
S22.029A Unspecified fracture of second thoracic vertebra, initial encounter for closed fracture	S22.059A Unspecified fracture of T5-T6 vertebra, initial encounter for closed fracture
S22.029A Unspecified fracture of second thoracic vertebra, initial encounter for closed fracture	S22.059A Unspecified fracture of T5-T6 vertebra, initial encounter for closed fracture
S22.029B Unspecified fracture of second thoracic vertebra, initial encounter for open fracture	S22.059A Unspecified fracture of T5-T6 vertebra, initial encounter for closed fracture
S22.029B Unspecified fracture of second thoracic vertebra, initial encounter for open fracture	S22.059B Unspecified fracture of T5-T6 vertebra, initial encounter for open fracture
S22.029B Unspecified fracture of second thoracic vertebra, initial encounter for open fracture	S22.059B Unspecified fracture of T5-T6 vertebra, initial encounter for open fracture
S22.029B Unspecified fracture of second thoracic vertebra, initial encounter for open fracture	S22.059B Unspecified fracture of T5-T6 vertebra, initial encounter for open fracture
S22.029B Unspecified fracture of second thoracic vertebra, initial encounter for open fracture	S22.059B Unspecified fracture of T5-T6 vertebra, initial encounter for open fracture
S22.089A Unspecified fracture of T11-T12 vertebra, initial encounter for closed fracture	S22.059B Unspecified fracture of T5-T6 vertebra, initial encounter for open fracture
S22.089A Unspecified fracture of T11-T12 vertebra, initial encounter for closed fracture	S22.069A Unspecified fracture of T7-T8 vertebra, initial encounter for closed fracture
S22.089A Unspecified fracture of T11-T12 vertebra, initial encounter for closed fracture	S22.069A Unspecified fracture of T7-T8 vertebra, initial encounter for closed fracture
S22.089A Unspecified fracture of T11-T12 vertebra, initial encounter for closed fracture	S22.069A Unspecified fracture of T7-T8 vertebra, initial encounter for closed fracture
S22.089A Unspecified fracture of T11-T12 vertebra, initial encounter for closed fracture	S22.069A Unspecified fracture of T7-T8 vertebra, initial encounter for closed fracture
S22.089A Unspecified fracture of T11-T12 vertebra, initial encounter for closed fracture	S22.069A Unspecified fracture of T7-T8 vertebra, initial encounter for closed fracture

S22.069A Unspecified fracture of T7-T8 vertebra, initial encounter for closed fracture	S22.039A Unspecified fracture of third thoracic vertebra, initial encounter for closed fracture
S22.069B Unspecified fracture of T7-T8 vertebra, initial encounter for open fracture	S22.039A Unspecified fracture of third thoracic vertebra, initial encounter for closed fracture
S22.069B Unspecified fracture of T7-T8 vertebra, initial encounter for open fracture	S22.039A Unspecified fracture of third thoracic vertebra, initial encounter for closed fracture
S22.069B Unspecified fracture of T7-T8 vertebra, initial encounter for open fracture	S22.039A Unspecified fracture of third thoracic vertebra, initial encounter for closed fracture
S22.069B Unspecified fracture of T7-T8 vertebra, initial encounter for open fracture	S22.039B Unspecified fracture of third thoracic vertebra, initial encounter for open fracture
S22.069B Unspecified fracture of T7-T8 vertebra, initial encounter for open fracture	S22.039B Unspecified fracture of third thoracic vertebra, initial encounter for open fracture
S22.079A Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	S22.039B Unspecified fracture of third thoracic vertebra, initial encounter for open fracture
S22.079A Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	S22.039B Unspecified fracture of third thoracic vertebra, initial encounter for open fracture
S22.079A Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	S22.039B Unspecified fracture of third thoracic vertebra, initial encounter for open fracture
S22.079A Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	S22.039B Unspecified fracture of third thoracic vertebra, initial encounter for open fracture
S22.079A Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	S32.009A Unspecified fracture of unspecified lumbar vertebra, initial encounter for closed fracture
S22.079A Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	S32.009A Unspecified fracture of unspecified lumbar vertebra, initial encounter for closed fracture
S22.079A Unspecified fracture of T9-T10 vertebra, initial encounter for closed fracture	S32.009B Unspecified fracture of unspecified lumbar vertebra, initial encounter for open fracture
S22.079B Unspecified fracture of T9-T10 vertebra, initial encounter for open fracture	S32.009B Unspecified fracture of unspecified lumbar vertebra, initial encounter for open fracture
S22.079B Unspecified fracture of T9-T10 vertebra, initial encounter for open fracture	S22.009A Unspecified fracture of unspecified thoracic vertebra, initial encounter for closed fracture
S22.079B Unspecified fracture of T9-T10 vertebra, initial encounter for open fracture	S22.009A Unspecified fracture of unspecified thoracic vertebra, initial encounter for closed fracture
S22.079B Unspecified fracture of T9-T10 vertebra, initial encounter for open fracture	S22.009B Unspecified fracture of unspecified thoracic vertebra, initial encounter for open fracture
S22.079B Unspecified fracture of T9-T10 vertebra, initial encounter for open fracture	S14.101A Unspecified injury at C1 level of cervical spinal cord, initial encounter
S32.039A Unspecified fracture of third lumbar vertebra, initial encounter for closed fracture	S14.101A Unspecified injury at C1 level of cervical spinal cord, initial encounter
S32.039B Unspecified fracture of third lumbar vertebra, initial encounter for open fracture	S14.101S Unspecified injury at C1 level of cervical spinal cord, sequela
S22.039A Unspecified fracture of third thoracic vertebra, initial encounter for closed fracture	S14.101D Unspecified injury at C1 level of cervical spinal cord, subsequent encounter
S22.039A Unspecified fracture of third thoracic vertebra, initial encounter for closed fracture	S14.102A Unspecified injury at C2 level of cervical spinal cord, initial encounter

S14.102A	Unspecified injury at C2 level of cervical spinal cord, initial encounter	S14.107S	Unspecified injury at C7 level of cervical spinal cord, sequela
S14.102S	Unspecified injury at C2 level of cervical spinal cord, sequela	S14.107D	Unspecified injury at C7 level of cervical spinal cord, subsequent encounter
S14.102D	Unspecified injury at C2 level of cervical spinal cord, subsequent encounter	S14.108A	Unspecified injury at C8 level of cervical spinal cord, initial encounter
S14.103A	Unspecified injury at C3 level of cervical spinal cord, initial encounter	S14.108S	Unspecified injury at C8 level of cervical spinal cord, sequela
S14.103A	Unspecified injury at C3 level of cervical spinal cord, initial encounter	S14.108D	Unspecified injury at C8 level of cervical spinal cord, subsequent encounter
S14.103S	Unspecified injury at C3 level of cervical spinal cord, sequela	S24.101A	Unspecified injury at T1 level of thoracic spinal cord, initial encounter
S14.103D	Unspecified injury at C3 level of cervical spinal cord, subsequent encounter	S24.101A	Unspecified injury at T1 level of thoracic spinal cord, initial encounter
S14.104A	Unspecified injury at C4 level of cervical spinal cord, initial encounter	S24.104A	Unspecified injury at T11-T12 level of thoracic spinal cord, initial encounter
S14.104A	Unspecified injury at C4 level of cervical spinal cord, initial encounter	S24.104A	Unspecified injury at T11-T12 level of thoracic spinal cord, initial encounter
S14.104S	Unspecified injury at C4 level of cervical spinal cord, sequela	S24.102A	Unspecified injury at T2-T6 level of thoracic spinal cord, initial encounter
S14.104D	Unspecified injury at C4 level of cervical spinal cord, subsequent encounter	S24.102A	Unspecified injury at T2-T6 level of thoracic spinal cord, initial encounter
S14.105A	Unspecified injury at C5 level of cervical spinal cord, initial encounter	S24.103A	Unspecified injury at T7-T10 level of thoracic spinal cord, initial encounter
S14.105A	Unspecified injury at C5 level of cervical spinal cord, initial encounter	S24.103A	Unspecified injury at T7-T10 level of thoracic spinal cord, initial encounter
S14.105S	Unspecified injury at C5 level of cervical spinal cord, sequela	S14.109A	Unspecified injury at unspecified level of cervical spinal cord, initial encounter
S14.105D	Unspecified injury at C5 level of cervical spinal cord, subsequent encounter	S14.109A	Unspecified injury at unspecified level of cervical spinal cord, initial encounter
S14.106A	Unspecified injury at C6 level of cervical spinal cord, initial encounter	S14.109S	Unspecified injury at unspecified level of cervical spinal cord, sequela
S14.106A	Unspecified injury at C6 level of cervical spinal cord, initial encounter	S14.109D	Unspecified injury at unspecified level of cervical spinal cord, subsequent encounter
S14.106S	Unspecified injury at C6 level of cervical spinal cord, sequela	S24.109A	Unspecified injury at unspecified level of thoracic spinal cord, initial encounter
S14.106D	Unspecified injury at C6 level of cervical spinal cord, subsequent encounter	S24.109A	Unspecified injury at unspecified level of thoracic spinal cord, initial encounter
S14.107A	Unspecified injury at C7 level of cervical spinal cord, initial encounter	S14.109A	Unspecified injury at unspecified level of cervical spinal cord, initial encounter
S14.107A	Unspecified injury at C7 level of cervical spinal cord, initial encounter	S54.8X2A	Unspecified injury of other nerves at forearm level, left arm, initial encounter

S54.8X2A Unspecified injury of other nerves at forearm level, left arm, initial encounter	S34.109A Unspecified injury to unspecified level of lumbar spinal cord, initial encounter
S54.8X1A Unspecified injury of other nerves at forearm level, right arm, initial encounter	M40.202 Unspecified kyphosis, cervical region
S54.8X1A Unspecified injury of other nerves at forearm level, right arm, initial encounter	M40.203 Unspecified kyphosis, cervicothoracic region
S54.8X9A Unspecified injury of other nerves at forearm level, unspecified arm, initial encounter	M40.209 Unspecified kyphosis, site unspecified
S54.8X9A Unspecified injury of other nerves at forearm level, unspecified arm, initial encounter	M40.204 Unspecified kyphosis, thoracic region
S34.101A Unspecified injury to L1 level of lumbar spinal cord, initial encounter	M40.205 Unspecified kyphosis, thoracolumbar region
S34.101A Unspecified injury to L1 level of lumbar spinal cord, initial encounter	S12.401A Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for closed fracture
S34.102A Unspecified injury to L2 level of lumbar spinal cord, initial encounter	S12.401A Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for closed fracture
S34.102A Unspecified injury to L2 level of lumbar spinal cord, initial encounter	S12.401B Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture
S34.103A Unspecified injury to L3 level of lumbar spinal cord, initial encounter	S12.401B Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture
S34.103A Unspecified injury to L3 level of lumbar spinal cord, initial encounter	S12.401B Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture
S34.104A Unspecified injury to L4 level of lumbar spinal cord, initial encounter	S12.401B Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture
S34.104A Unspecified injury to L4 level of lumbar spinal cord, initial encounter	S12.401B Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture
S34.105A Unspecified injury to L5 level of lumbar spinal cord, initial encounter	S12.001A Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for closed fracture
S34.105A Unspecified injury to L5 level of lumbar spinal cord, initial encounter	S12.001B Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for open fracture
S34.139A Unspecified injury to sacral spinal cord, initial encounter	S12.001B Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for open fracture
S34.139A Unspecified injury to sacral spinal cord, initial encounter	S12.001B Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for open fracture
S34.139A Unspecified injury to sacral spinal cord, initial encounter	S12.301A Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for closed fracture
S34.109A Unspecified injury to unspecified level of lumbar spinal cord, initial encounter	S12.301B Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture
S34.109A Unspecified injury to unspecified level of lumbar spinal cord, initial encounter	S12.301B Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture
S34.109A Unspecified injury to unspecified level of lumbar spinal cord, initial encounter	S12.301B Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture

S12.301B	Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture	S12.501B	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture
S12.301B	Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture	S12.501B	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture
S12.301B	Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture	S12.201A	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for closed fracture
S12.101A	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for closed fracture	S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture	Q05.4	Unspecified spina bifida with hydrocephalus
S12.601A	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for closed fracture	M51.9	Unspecified thoracic, thoracolumbar and lumbosacral intervertebral disc disorder
S12.601A	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for closed fracture	M51.9	Unspecified thoracic, thoracolumbar and lumbosacral intervertebral disc disorder
S12.601B	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture	S22.012A	Unstable burst fracture of first thoracic vertebra, initial encounter for closed fracture
S12.601B	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture	S22.042A	Unstable burst fracture of fourth thoracic vertebra, initial encounter for closed fracture
S12.601B	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture	S22.022A	Unstable burst fracture of second thoracic vertebra, initial encounter for closed fracture
S12.601B	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture	S22.082A	Unstable burst fracture of T11-T12 vertebra, initial encounter for closed fracture
S12.601B	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture	S22.052A	Unstable burst fracture of T5-T6 vertebra, initial encounter for closed fracture
S12.501A	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for closed fracture	S22.062A	Unstable burst fracture of T7-T8 vertebra, initial encounter for closed fracture
S12.501A	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for closed fracture	S22.072A	Unstable burst fracture of T9-T10 vertebra, initial encounter for closed fracture
S12.501B	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture	S22.032A	Unstable burst fracture of third thoracic vertebra, initial encounter for closed fracture
S12.501B	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture	S22.002A	Unstable burst fracture of unspecified thoracic vertebra, initial encounter for closed fracture
S12.501B	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture	M47.022	Vertebral artery compression syndromes, cervical region

M47.021	Vertebral artery compression syndromes, occipito-atlanto-axial region	S22.080A	Wedge compression fracture of T11-T12 vertebra, initial encounter for closed fracture
M47.029	Vertebral artery compression syndromes, site unspecified	S22.050A	Wedge compression fracture of T5-T6 vertebra, initial encounter for closed fracture
G45.0	Vertebro-basilar artery syndrome	S22.060A	Wedge compression fracture of T7-T8 vertebra, initial encounter for closed fracture
G45.0	Vertebro-basilar artery syndrome	S22.070A	Wedge compression fracture of T9-T10 vertebra, initial encounter for closed fracture
G45.0	Vertebro-basilar artery syndrome	S22.030A	Wedge compression fracture of third thoracic vertebra, initial encounter for closed fracture
S22.010A	Wedge compression fracture of first thoracic vertebra, initial encounter for closed fracture	S22.000A	Wedge compression fracture of unspecified thoracic vertebra, initial encounter for closed fracture
S22.040A	Wedge compression fracture of fourth thoracic vertebra, initial encounter for closed fracture		
S22.020A	Wedge compression fracture of second thoracic vertebra, initial encounter for closed fracture		

The following overall criteria must be met:

1. Diagnosis must at least reflect a reason (or need) for surgery
2. Diagnosis should imply a monitorable structure is at risk
3. Current practice includes monitoring the at risk structure
4. There is peer reviewed published literature describing the monitoring of the at risk structure
5. A reasonable monitorist would not question why the surgeon wanted the monitoring

When cranial and/or facial nerves are involved or at risk:

D11.0	Benign neoplasms of parotid gland	E01.0	Iodine-deficiency related diffuse (endemic) goiter
D11.9	Benign neoplasm of major salivary gland, unspecified	R22.0	Localized swelling, mass and lump, head
D11.7	Benign neoplasm of other major salivary glands	R22.1	Localized swelling, mass and lump, neck
D11.0	Benign neoplasm of parotid gland	C08.9	Malignant neoplasm of major salivary gland, unspecified
H71.03	Cholesteatoma of attic, bilateral	C07	Malignant neoplasm of parotid gland
H71.02	Cholesteatoma of attic, left ear	C73	Malignant neoplasm of thyroid gland
H71.01	Cholesteatoma of attic, right ear	D22.22	Melanocytic nevi of left ear and external auricular canal
H71.00	Cholesteatoma of attic, unspecified ear	D22.21	Melanocytic nevi of right ear and external auricular canal
H71.13	Cholesteatoma of tympanum, bilateral	D22.20	Melanocytic nevi of unspecified ear and external auricular canal
H71.12	Cholesteatoma of tympanum, left ear	H83.3X9	Noise effects on inner ear, unspecified ear
H71.11	Cholesteatoma of tympanum, right ear	E04.9	Nontoxic goiter, unspecified
H71.10	Cholesteatoma of tympanum, unspecified ear	D23.22	Other benign neoplasm of skin of left ear and external auricular canal
H70.223	Chronic petrositis, bilateral	D23.21	Other benign neoplasm of skin of right ear and external auricular canal
H70.222	Chronic petrositis, left ear	D23.20	Other benign neoplasm of skin of unspecified ear and external auricular canal
H70.221	Chronic petrositis, right ear	H91.8X3	Other specified hearing loss, bilateral
H70.229	Chronic petrositis, unspecified ear	H91.8X2	Other specified hearing loss, left ear
H71.33	Diffuse cholesteatosis, bilateral	H91.8X1	Other specified hearing loss, right ear
H71.32	Diffuse cholesteatosis, left ear	H91.8X9	Other specified hearing loss, unspecified ear
H71.31	Diffuse cholesteatosis, right ear	H74.42	Polyp of left middle ear
H71.30	Diffuse cholesteatosis, unspecified ear	H74.43	Polyp of middle ear, bilateral
R90.0	Intracranial space-occupying lesion found on diagnostic imaging of central nervous system	H74.40	Polyp of middle ear, unspecified ear
E01.2	Iodine-deficiency related (endemic) goiter, unspecified	H74.41	Polyp of right middle ear
		E05.01	Thyrotoxicosis with diffuse goiter, with thyrotoxic crisis or storm
		E05.00	Thyrotoxicosis with diffuse goiter, without thyrotoxic crisis or storm
		E05.21	Thyrotoxicosis with toxic multinodular goiter, with thyrotoxic crisis or storm
		E05.20	Thyrotoxicosis with toxic multinodular goiter, without thyrotoxic crisis or storm

When in conjunction with superior canal dehiscence and/or when pulsatile tinnitus is a symptom:

- H83.2X9 Labyrinthine dysfunction, unspecified ear
- H83.2X1 Labyrinthine dysfunction, right ear
- H83.2X2 Labyrinthine dysfunction, left ear
- H83.2X9 Labyrinthine dysfunction, unspecified ear
- H83.2X3 Labyrinthine dysfunction, bilateral
- H83.2X9 Labyrinthine dysfunction, unspecified ear
- H83.2X1 Labyrinthine dysfunction, right ear
- H83.2X2 Labyrinthine dysfunction, left ear
- H83.2X9 Labyrinthine dysfunction, unspecified ear
- H83.2X3 Labyrinthine dysfunction, bilateral

When root and/or cord are felt to be at risk and/or pedicular screw thresholding is warranted:

- M50.33 Other cervical disc degeneration, cervicothoracic region
- M50.31 Other cervical disc degeneration, high cervical region
- M50.32 Other cervical disc degeneration, mid-cervical region
- M50.30 Other cervical disc degeneration, unspecified cervical region
- M50.23 Other cervical disc displacement, cervicothoracic region
- M50.21 Other cervical disc displacement, high cervical region
- M50.22 Other cervical disc displacement, mid-cervical region
- M50.20 Other cervical disc displacement, unspecified cervical region
- M51.36 Other intervertebral disc degeneration, lumbar region
- M51.37 Other intervertebral disc degeneration, lumbosacral region
- M51.26 Other intervertebral disc displacement, lumbar region

- M47.26 Other spondylosis with radiculopathy, lumbar region
- M47.27 Other spondylosis with radiculopathy, lumbosacral region
- M47.28 Other spondylosis with radiculopathy, sacral and sacrococcygeal region
- M47.896 Other spondylosis, lumbar region
- M47.897 Other spondylosis, lumbosacral region
- M47.898 Other spondylosis, sacral and sacrococcygeal region
- M96.1 Postlaminectomy syndrome, not elsewhere classified
- M96.1 Postlaminectomy syndrome, not elsewhere classified
- M96.1 Postlaminectomy syndrome, not elsewhere classified
- M96.1 Postlaminectomy syndrome, not elsewhere classified
- M48.9 Spondylopathy, unspecified
- M47.816 Spondylosis without myelopathy or radiculopathy, lumbar region
- M47.817 Spondylosis without myelopathy or radiculopathy, lumbosacral region
- M47.818 Spondylosis without myelopathy or radiculopathy, sacral and sacrococcygeal region
- M51.9 Unspecified thoracic, thoracolumbar and lumbosacral intervertebral disc disorder

When in conjunction with superior canal dehiscence and when indicates significant carotid stenosis:

- H93.19 Tinnitus, unspecified ear
- H93.11 Tinnitus, right ear
- H93.12 Tinnitus, left ear
- H93.13 Tinnitus, bilateral

APPLICABLE SOCIAL SECURITY AND MEDICARE REGULATIONS

1. Social Security Act (Title XVIII) Standard References, Sections:

- Title XVIII of the Social Security Act, Section 1862(a)(1)(A). This section allows coverage and payment for only those services that are considered to be medically reasonable and necessary.
- Title XVIII of the Social Security Act, Section 1833(e). This section prohibits Medicare payment for any claim which lacks the necessary information to process the claim. (Individual sections are available at <http://www.cms.hhs.gov/>)

2. Medicare Benefit Policy Manual – and Medicare National Coverage Determinations Manual

- (1). Pub. 100-08 Medicare Program Integrity.
- 5.1 – Reasonable and Necessary Provisions in LCDs <http://www.cms.hhs.gov/transmittals/Downloads/R63PI.pdf>
- (2). CHAP 4.doc Version 13.3 NATIONAL CORRECT CODING INITIATIVE POLICY MANUAL <http://www.cms.hhs.gov/NationalCorrectCodInitEd/Downloads/manual.zip>

3. Medicare Benefit Policy Manual Chapter 15 – Covered

Medical and Other Health Services, 80 80 - Requirements for Diagnostic X-Ray, Diagnostic Laboratory, and Other Diagnostic Tests.

- Section 410.32(b) of the Code of Federal Regulations (CFR) requires that diagnostic tests covered under §1861(s)(3) of the Act and payable under the physician fee schedule, with certain exceptions listed in the regulation, have to be performed under the supervision of an individual meeting the definition of a physician (§1861(r) of the Act) to be considered reasonable and necessary and, therefore, covered under Medicare.
- Of the three levels of supervision, General, Direct and Personal, the add-on code 95940 and 95941 requires that this "Procedure may be performed by a technician with on-line real-time contact with physician." (Medicare Benefit Policy Manual Chapter 15 – Covered Medical and Other Health Services, 80 80 - Requirements for Diagnostic X-Ray, Diagnostic Laboratory, and Other Diagnostic Tests., <http://www.cms.hhs.gov/manuals/Downloads/bp102c15.pdf> <http://www.access.gpo.gov/nara/cfr>

POLICY HISTORY

Approved February 2010, by the AANPA Board of Directors (AAN Policy 2010-12) Amended on February 10, 2012, by the AAN Board of Directors

This policy is updated annually to reflect changes in procedure codes.

SOURCES OF INFORMATION AND BASIS FOR DECISION

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Erickson L, Costa V, McGregor M. Use of intraoperative neurophysiological monitoring during spinal surgery. Technology Assessment Unit (TAU) of the McGill University Health Centre (MUHC). 2005; Available: www.mcgill.ca/tau. Last accessed Dec 19, 2007.

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Hyun, SJ, Rhim, SC, Kang, JK, Hong, SH, Park, BRG. Combined motor-

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