Otoacoustic Emissions Testing

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Guideline

Covered indications for CPT code 92558 (should be used for screening):

- Neonatal hearing screening as a preventive service using otoacoustic emissions (OAEs) is proven and/or medically necessary for infants who are 90 days or younger
- Evoked OAE is considered medically necessary to screen children 3 years of age and younger who did not have the initial neonatal screening and/or cannot be effectively measured or monitored through audiometry

Covered indications for CPT codes 92587 and 92588 (diagnostic evaluations to confirm the presence or absence of hearing disorders):

- Infants over 90 days old and children up to 4 years of age
- Children and adults who are or who are unable to cooperate with other methods of hearing testing (e.g., individuals with autism or stroke)
- Children with developmental or delayed speech or language disorders
- Individuals with tinnitus, acoustic trauma, noise induced hearing loss, or sudden hearing loss
- Individuals with auditory neuropathy spectrum disorder (ANSD) or auditory processing disorder (APD)
- Individuals with sensorineural hearing loss
- Individuals with abnormal auditory function studies or failed hearing exam
- Individuals who may be feigning a hearing loss
- Monitoring of ototoxicity in individuals before, during, and after administration of agents known to be ototoxic (e.g., aminoglycosides, chemotherapy agents)

Limitations/Exclusions

Non-covered indications:

- Routine evoked OAE screening (CPT code 92558) at a well-child visit is not considered medically necessary for children 3 years of age and younger who have passed the newborn hearing screen unless the child has a risk factor for hearing loss, has impairment of speech or auditory skills, or has an abnormal middle ear status.

- Comprehensive otoacoustic emissions (CPT code 92588) is considered experimental and investigational for initial screening because there is a lack of evidence of the value of comprehensive testing over the limited otoacoustic emissions for this indication.
- Auditory screening or diagnostic testing using otoacoustic emissions (OAEs) is unproven and/or not medically necessary for all other populations and conditions other than those listed as a covered indication

Clinical Background

Otoacoustic emissions testing evaluates the integrity of the inner ear (cochlea). In response to noise, vibrations of the hair cells in a healthy inner ear generate electrical responses, known as otoacoustic emissions. The absence of OAEs indicates that the inner ear is not responding appropriately to sound. Transient evoked otoacoustic emissions (TEOAEs) are generated in response to wide-band clicks, while distortion product otoacoustic emissions (DPOAE) are a response to tones. Both stimuli are presented via a light-weight ear canal probe. A microphone picks up the signal, and multiple responses are averaged to get a specific repeatable waveform. Otoacoustic emissions are used in screening and diagnosis of hearing impairments in infants, and in young children and patients with cognitive impairments (e.g., mental retardation, dementia) who are unable to respond reliably to standard hearing tests. Otoacoustic emissions are also useful for evaluating patients with tinnitus, suspected malingering, and for monitoring cochlear damage from ototoxic drugs.

Auditory screening or diagnostic testing using otoacoustic emissions (OAEs) is unproven and/or not medically necessary for all other populations and conditions other than those listed as proven and medically necessary. There is inadequate evidence that hearing screening with OAEs is superior to screening audiometry in improving health outcomes such as timely facilitation of speech, language, and communication skills in older children or adults. There is also inadequate evidence to indicate that the use of diagnostic otoacoustic emissions (OAEs) testing is superior to screening audiometry in improving health outcomes such as timely facilitation of speech, language, and communication skills in individuals with other conditions other than those indicated as proven and medically necessary.

Professional Societies and Guidelines

U.S. Preventive Services Task Force (USPSTF)

The USPSTF recommends that newborn hearing screening programs include (USPSTF, 2014):

- A one-step or two-step validated protocol which frequently involves otoacoustic emissions (OAEs) followed by auditory brainstem response (ABR) in those who failed the first test;
- Protocols to ensure that infants with positive screening-test results receive appropriate audiologic evaluation and follow-up after discharge;
- Screening and follow-up should be in place for newborns delivered at home, birthing centers, or hospitals without hearing screening facilities; and
- Hearing screening before one month of age. Those infants who do not pass the newborn screening should undergo audiologic and medical evaluation before 3 months of age

American Academy of Pediatrics (AAP)

In February 1999, the American Academy of Pediatrics endorsed the implementation of universal newborn hearing screening. (AAP, 1999)

In a clinical report for hearing assessment in infants and children, the AAP states that ABR and OAEs are tests of auditory pathway structural integrity but are not true tests of hearing. Even if ABR or OAE test results are normal, hearing cannot be definitively considered normal until a child is mature enough for a reliable behavioral audiogram to be obtained. Behavioral pure-tone audiometry remains the standard for hearing evaluation. According to the AAP, a failed infant hearing screening or a failed screening in an older child should always be confirmed by further testing. Audiologists may repeat the audiometric tests in a sound booth and using a variety of other tests. ABR can also be used for definitive testing of the auditory system. Diagnostic ABR is often the definitive test used by audiologists in children and infants who are unable to cooperate with other methods of hearing testing. A diagnostic ABR is usually performed under sedation or

general anesthesia in children aged approximately 3 to 6 months and older. Diagnostic ABR provides information that is accurate enough to allow for therapeutic intervention. According to the AAP, the OAE test also does not assess the integrity of the neural transmission of sound from the eighth nerve to the brainstem and, therefore, will miss auditory neuropathy and other neuronal abnormalities. Infants with such abnormalities will have normal OAE test results but abnormal auditory brainstem response (ABR) test results. A failed OAE test only implies that a hearing loss of more than 30 to 40 dB may exist or that the middle-ear status is abnormal (Harlor, 2009). In a policy statement for the pediatrician's role in the diagnosis and management of autistic spectrum disorder in children, the AAP states that any child who has language delays should be referred for an audiologic and a comprehensive speech and language evaluation. If the child is uncooperative, diagnostic otoacoustic emissions or sedated brainstem auditory evoked responses should be obtained. (AAP, 2001)

American Academy of Audiology (AAA)

The American Academy of Audiology (AAO, 2011) endorses the detection of hearing disorders in early childhood and school-aged populations using evidence-based hearing screening methods. OAEs are recommended for preschool and school age children for whom pure tone screening is not developmentally appropriate (ability levels less than 3 years).

Revision History

Apr. 14, 2023	Individuals with “abnormal auditory perception” changed to “auditory neuropathy spectrum disorder (ANSD) or auditory processing disorder (APD)”
Apr. 12, 2019	Content changes eff. Jul. 15, 2019 ▪ Changed title from Otoacoustic Emission Testing for Pediatric Populations in the Primary Care Setting to Otoacoustic Emissions Testing. ▪ Added diagnostic indications. ▪ Qualified that routine evoked OAE screening at a well-child visit is not considered medically necessary for children 3 years of age and younger who have passed the newborn hearing screen unless specified clinical indicators are present. ▪ Added that comprehensive auditory evoked response testing and comprehensive otoacoustic emissions are considered experimental and investigational.
Nov. 1, 2011	Inception date.

Applicable Procedure Codes

92558	Evoked otoacoustic emissions, screening (qualitative measurement of distortion product or transient evoked otoacoustic emissions), automated analysis
92587	Distortion product evoked otoacoustic emissions; limited evaluation (to confirm the presence or absence of hearing disorder, 3-6 frequencies) or transient evoked otoacoustic emissions, with interpretation and report
92588	Distortion product evoked otoacoustic emissions; comprehensive diagnostic evaluation (quantitative analysis of outer hair cell function by cochlear mapping, minimum of 12 frequencies), with interpretation and report

Applicable ICD-10 Diagnosis Codes

A17.0	Tuberculous meningitis
A39.0	Meningococcal meningitis
A52.13	Late syphilitic meningitis
A80.0	Acute paralytic poliomyelitis, vaccine-associated
A80.1	Acute paralytic poliomyelitis, wild virus, imported

A80.2	Acute paralytic poliomyelitis, wild virus, indigenous
A80.30	Acute paralytic poliomyelitis, unspecified
A80.39	Other acute paralytic poliomyelitis
A80.9	Acute poliomyelitis, unspecified
A87.0	Enteroviral meningitis
A87.8	Other viral meningitis
A87.9	Viral meningitis, unspecified
B02.1	Zoster meningitis
B26.1	Mumps meningitis
B45.1	Cerebral cryptococcosis
B83.2	Angiostrongyliasis due to Parastrongylus cantonensis
B91	Sequelae of poliomyelitis
F01.50	Vascular dementia without behavioral disturbance
F01.51	Vascular dementia with behavioral disturbance
F02.80	Dementia in other diseases classified elsewhere without behavioral disturbance
F02.81	Dementia in other diseases classified elsewhere with behavioral disturbance
F03.90	Unspecified dementia without behavioral disturbance
F03.91	Unspecified dementia with behavioral disturbance
F07.9	Unspecified personality and behavioral disorder due to known physiological condition
F09	Unspecified mental disorder due to known physiological condition
F44.6	Conversion disorder with sensory symptom or deficit
F45.8	Other somatoform disorders
F68.10	Factitious disorder, unspecified
F68.12	Factitious disorder with predominantly physical signs and symptoms
F68.13	Factitious disorder with combined psychological and physical signs and symptoms
F71	Moderate intellectual disabilities
F72	Severe intellectual disabilities
F73	Profound intellectual disabilities
F78	Other intellectual disabilities
F79	Unspecified intellectual disabilities
F80.1	Expressive language disorder
F80.2	Mixed receptive-expressive language disorder
F80.4	Speech and language development delay due to hearing loss
F80.82	Social pragmatic communication disorder
F80.9	Developmental disorder of speech and language, unspecified
F84.0	Autistic disorder
F84.2	Rett's syndrome
F84.2	Rett’s syndrome
F84.3	Other childhood disintegrative disorder

F84.5	Asperger's syndrome
F84.8	Other pervasive developmental disorders
F84.9	Pervasive developmental disorder, unspecified
F90.1	Attention-deficit hyperactivity disorder, predominantly hyperactive type
F90.2	Attention-deficit hyperactivity disorder, combined type
F90.8	Attention-deficit hyperactivity disorder, other type
F95.2	Tourette's disorder
G00.0	Hemophilus meningitis
G00.1	Pneumococcal meningitis
G00.2	Streptococcal meningitis
G00.3	Staphylococcal meningitis
G00.8	Other bacterial meningitis
G00.9	Bacterial meningitis, unspecified
G01	Meningitis in bacterial diseases classified elsewhere
G02	Meningitis in other infectious and parasitic diseases classified elsewhere
G03.0	Nonpyogenic meningitis
G03.1	Chronic meningitis
G03.2	Benign recurrent meningitis [Mollaret]
G03.8	Meningitis due to other specified causes
G03.9	Meningitis, unspecified
G04.2	Bacterial meningoencephalitis and meningomyelitis, not elsewhere classified
G20	Parkinson's disease
G21.0	Malignant neuroleptic syndrome
G21.3	Postencephalitic parkinsonism
G21.4	Vascular parkinsonism
G21.8	Other secondary parkinsonism
G21.9	Secondary parkinsonism, unspecified
G21.11	Neuroleptic induced parkinsonism
G23.0	Hallervorden-Spatz disease
G23.1	Progressive supranuclear ophthalmoplegia [Steele-Richardson-Olszewski]
G23.2	Striatonigral degeneration
G23.8	Other specified degenerative diseases of basal ganglia
G23.9	Degenerative disease of basal ganglia, unspecified
G30.0	Alzheimer's disease with early onset
G30.1	Alzheimer's disease with late onset
G30.8	Other Alzheimer's disease
G30.9	Alzheimer's disease, unspecified
G46.3	Brain stem stroke syndrome
G46.4	Cerebellar stroke syndrome

G46.5	Pure motor lacunar syndrome
G46.6	Pure sensory lacunar syndrome
G46.7	Other lacunar syndromes
G46.8	Other vascular syndromes of brain in cerebrovascular diseases
G52.7	Disorders of multiple cranial nerves
G60.8	Other hereditary and idiopathic neuropathies
G72.3	Periodic paralysis
G80.0	Spastic quadriplegic cerebral palsy
G80.1	Spastic diplegic cerebral palsy
G80.2	Spastic hemiplegic cerebral palsy
G80.3	Athetoid cerebral palsy
G80.4	Ataxic cerebral palsy
G80.8	Other cerebral palsy
G80.9	Cerebral palsy, unspecified
G83.81	Brown-Sequard syndrome
G83.82	Anterior cord syndrome
G83.83	Posterior cord syndrome
G83.84	Todd's paralysis (postepileptic)
G83.89	Other specified paralytic syndromes
G83.9	Paralytic syndrome, unspecified
G90.09	Other idiopathic peripheral autonomic neuropathy
G90.3	Multi-system degeneration of the autonomic nervous system
G93.1	Anoxic brain damage, not elsewhere classified
H83.01	Labyrinthitis, right ear
H83.02	Labyrinthitis, left ear
H83.03	Labyrinthitis, bilateral
H83.09	Labyrinthitis, unspecified ear
H83.3X1	Noise effects on right inner ear
H83.3X2	Noise effects on left inner ear
H83.3X3	Noise effects on inner ear, bilateral
H83.3X9	Noise effects on inner ear, unspecified ear
H90.3	Sensorineural hearing loss, bilateral
H90.41	Sensorineural hearing loss, unilateral, right ear, with unrestricted hearing on the contralateral side
H90.42	Sensorineural hearing loss, unilateral, left ear, with unrestricted hearing on the contralateral side
H90.5	Unspecified sensorineural hearing loss
H90.6	Mixed conductive and sensorineural hearing loss, bilateral
H90.71	Mixed conductive and sensorineural hearing loss, unilateral, right ear, with unrestricted hearing on the contralateral side
H90.72	Mixed conductive and sensorineural hearing loss, unilateral, left ear, with unrestricted hearing on the contralateral side
H90.8	Mixed conductive and sensorineural hearing loss, unspecified

H90.A11	Conductive hearing loss, unilateral, right ear with restricted hearing on the contralateral side
H90.A12	Conductive hearing loss, unilateral, left ear with restricted hearing on the contralateral side
H90.A21	Sensorineural hearing loss, unilateral, right ear, with restricted hearing on the contralateral side
H90.A22	Sensorineural hearing loss, unilateral, left ear, with restricted hearing on the contralateral side
H90.A31	Mixed conductive and sensorineural hearing loss, unilateral, right ear with restricted hearing on the contralateral side
H90.A32	Mixed conductive and sensorineural hearing loss, unilateral, left ear with restricted hearing on the contralateral side
H91.01	Ototoxic hearing loss, right ear
H91.02	Ototoxic hearing loss, left ear
H91.03	Ototoxic hearing loss, bilateral
H91.09	Ototoxic hearing loss, unspecified ear
H91.20	Sudden idiopathic hearing loss, unspecified ear
H91.21	Sudden idiopathic hearing loss, right ear
H91.22	Sudden idiopathic hearing loss, left ear
H91.23	Sudden idiopathic hearing loss, bilateral
H91.8X1	Other specified hearing loss, right ear
H91.8X2	Other specified hearing loss, left ear
H91.8X3	Other specified hearing loss, bilateral
H91.8X9	Other specified hearing loss, unspecified ear
H93.011	Transient ischemic deafness, right ear
H93.012	Transient ischemic deafness, left ear
H93.013	Transient ischemic deafness, bilateral
H93.019	Transient ischemic deafness, unspecified ear
H93.11	Tinnitus, right ear
H93.12	Tinnitus, left ear
H93.13	Tinnitus, bilateral
H93.19	Tinnitus, unspecified ear
H93.211	Auditory recruitment, right ear
H93.212	Auditory recruitment, left ear
H93.213	Auditory recruitment, bilateral
H93.219	Auditory recruitment, unspecified ear
H93.221	Diplacusis, right ear
H93.222	Diplacusis, left ear
H93.223	Diplacusis, bilateral
H93.229	Diplacusis, unspecified ear
H93.231	Hyperacusis, right ear
H93.232	Hyperacusis, left ear
H93.233	Hyperacusis, bilateral
H93.239	Hyperacusis, unspecified ear
H93.241	Temporary auditory threshold shift, right ear

H93.242	Temporary auditory threshold shift, left ear
H93.243	Temporary auditory threshold shift, bilateral
H93.249	Temporary auditory threshold shift, unspecified ear
H93.25	Central auditory processing disorder
H93.291	Other abnormal auditory perceptions, right ear
H93.292	Other abnormal auditory perceptions, left ear
H93.293	Other abnormal auditory perceptions, bilateral
H93.299	Other abnormal auditory perceptions, unspecified ear
H93.A1	Pulsatile tinnitus, right ear
H93.A2	Pulsatile tinnitus, left ear
H93.A3	Pulsatile tinnitus, bilateral
H93.A9	Pulsatile tinnitus, unspecified ear
I67.2	Cerebral atherosclerosis
I67.81	Acute cerebrovascular insufficiency
I67.82	Cerebral ischemia
I67.850	Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy
I67.89	Other cerebrovascular disease
I68.0	Cerebral amyloid angiopathy
I68.8	Other cerebrovascular disorders in diseases classified elsewhere
I69.00	Unspecified sequelae of nontraumatic subarachnoid hemorrhage
I69.010	Attention and concentration deficit following nontraumatic subarachnoid hemorrhage
I69.011	Memory deficit following nontraumatic subarachnoid hemorrhage
I69.012	Visuospatial deficit and spatial neglect following nontraumatic subarachnoid hemorrhage
I69.013	Psychomotor deficit following nontraumatic subarachnoid hemorrhage
I69.014	Frontal lobe and executive function deficit following nontraumatic subarachnoid hemorrhage
I69.015	Cognitive social or emotional deficit following nontraumatic subarachnoid hemorrhage
I69.018	Other symptoms and signs involving cognitive functions following nontraumatic subarachnoid hemorrhage
I69.019	Unspecified symptoms and signs involving cognitive functions following nontraumatic subarachnoid hemorrhage
I69.020	Aphasia following nontraumatic subarachnoid hemorrhage
I69.021	Dysphasia following nontraumatic subarachnoid hemorrhage
I69.022	Dysarthria following nontraumatic subarachnoid hemorrhage
I69.023	Fluency disorder following nontraumatic subarachnoid hemorrhage
I69.028	Other speech and language deficits following nontraumatic subarachnoid hemorrhage
I69.090	Apraxia following nontraumatic subarachnoid hemorrhage
I69.091	Dysphagia following nontraumatic subarachnoid hemorrhage
I69.092	Facial weakness following nontraumatic subarachnoid hemorrhage
I69.093	Ataxia following nontraumatic subarachnoid hemorrhage
I69.098	Other sequelae following nontraumatic subarachnoid hemorrhage
I69.10	Unspecified sequelae of nontraumatic intracerebral hemorrhage

I69.110	Attention and concentration deficit following nontraumatic intracerebral hemorrhage
I69.111	Memory deficit following nontraumatic intracerebral hemorrhage
I69.112	Visuospatial deficit and spatial neglect following nontraumatic intracerebral hemorrhage
I69.113	Psychomotor deficit following nontraumatic intracerebral hemorrhage
I69.114	Frontal lobe and executive function deficit following nontraumatic intracerebral hemorrhage
I69.115	Cognitive social or emotional deficit following nontraumatic intracerebral hemorrhage
I69.118	Other symptoms and signs involving cognitive functions following nontraumatic intracerebral hemorrhage
I69.119	Unspecified symptoms and signs involving cognitive functions following nontraumatic intracerebral hemorrhage
I69.120	Aphasia following nontraumatic intracerebral hemorrhage
I69.121	Dysphasia following nontraumatic intracerebral hemorrhage
I69.122	Dysarthria following nontraumatic intracerebral hemorrhage
I69.123	Fluency disorder following nontraumatic intracerebral hemorrhage
I69.128	Other speech and language deficits following nontraumatic intracerebral hemorrhage
I69.190	Apraxia following nontraumatic intracerebral hemorrhage
I69.191	Dysphagia following nontraumatic intracerebral hemorrhage
I69.192	Facial weakness following nontraumatic intracerebral hemorrhage
I69.193	Ataxia following nontraumatic intracerebral hemorrhage
I69.198	Other sequelae of nontraumatic intracerebral hemorrhage
I69.20	Unspecified sequelae of other nontraumatic intracranial hemorrhage
I69.210	Attention and concentration deficit following other nontraumatic intracranial hemorrhage
I69.211	Memory deficit following other nontraumatic intracranial hemorrhage
I69.212	Visuospatial deficit and spatial neglect following other nontraumatic intracranial hemorrhage
I69.213	Psychomotor deficit following other nontraumatic intracranial hemorrhage
I69.214	Frontal lobe and executive function deficit following other nontraumatic intracranial hemorrhage
I69.215	Cognitive social or emotional deficit following other nontraumatic intracranial hemorrhage
I69.218	Other symptoms and signs involving cognitive functions following other nontraumatic intracranial hemorrhage
I69.219	Unspecified symptoms and signs involving cognitive functions following other nontraumatic intracranial hemorrhage
I69.220	Aphasia following other nontraumatic intracranial hemorrhage
I69.221	Dysphasia following other nontraumatic intracranial hemorrhage
I69.222	Dysarthria following other nontraumatic intracranial hemorrhage
I69.223	Fluency disorder following other nontraumatic intracranial hemorrhage
I69.228	Other speech and language deficits following other nontraumatic intracranial hemorrhage
I69.290	Apraxia following other nontraumatic intracranial hemorrhage
I69.291	Dysphagia following other nontraumatic intracranial hemorrhage
I69.292	Facial weakness following other nontraumatic intracranial hemorrhage
I69.293	Ataxia following other nontraumatic intracranial hemorrhage
I69.298	Other sequelae of other nontraumatic intracranial hemorrhage
I69.30	Unspecified sequelae of cerebral infarction
I69.310	Attention and concentration deficit following cerebral infarction

I69.311	Memory deficit following cerebral infarction
I69.312	Visuospatial deficit and spatial neglect following cerebral infarction
I69.313	Psychomotor deficit following cerebral infarction
I69.314	Frontal lobe and executive function deficit following cerebral infarction
I69.315	Cognitive social or emotional deficit following cerebral infarction
I69.318	Other symptoms and signs involving cognitive functions following cerebral infarction
I69.319	Unspecified symptoms and signs involving cognitive functions following cerebral infarction
I69.320	Aphasia following cerebral infarction
I69.321	Dysphasia following cerebral infarction
I69.322	Dysarthria following cerebral infarction
I69.323	Fluency disorder following cerebral infarction
I69.328	Other speech and language deficits following cerebral infarction
I69.390	Apraxia following cerebral infarction
I69.391	Dysphagia following cerebral infarction
I69.392	Facial weakness following cerebral infarction
I69.393	Ataxia following cerebral infarction
I69.398	Other sequelae of cerebral infarction
I69.80	Unspecified sequelae of other cerebrovascular disease
I69.810	Attention and concentration deficit following other cerebrovascular disease
I69.811	Memory deficit following other cerebrovascular disease
I69.812	Visuospatial deficit and spatial neglect following other cerebrovascular disease
I69.813	Psychomotor deficit following other cerebrovascular disease
I69.814	Frontal lobe and executive function deficit following other cerebrovascular disease
I69.815	Cognitive social or emotional deficit following other cerebrovascular disease
I69.818	Other symptoms and signs involving cognitive functions following other cerebrovascular disease
I69.819	Unspecified symptoms and signs involving cognitive functions following other cerebrovascular disease
I69.820	Aphasia following other cerebrovascular disease
I69.821	Dysphasia following other cerebrovascular disease
I69.822	Dysarthria following other cerebrovascular disease
I69.823	Fluency disorder following other cerebrovascular disease
I69.828	Other speech and language deficits following other cerebrovascular disease
I69.890	Apraxia following other cerebrovascular disease
I69.891	Dysphagia following other cerebrovascular disease
I69.892	Facial weakness following other cerebrovascular disease
I69.893	Ataxia following other cerebrovascular disease
I69.898	Other sequelae of other cerebrovascular disease
I69.90	Unspecified sequelae of unspecified cerebrovascular disease
I69.910	Attention and concentration deficit following unspecified cerebrovascular disease
I69.911	Memory deficit following unspecified cerebrovascular disease

I69.912	Visuospatial deficit and spatial neglect following unspecified cerebrovascular disease
I69.913	Psychomotor deficit following unspecified cerebrovascular disease
I69.914	Frontal lobe and executive function deficit following unspecified cerebrovascular disease
I69.915	Cognitive social or emotional deficit following unspecified cerebrovascular disease
I69.918	Other symptoms and signs involving cognitive functions following unspecified cerebrovascular disease
I69.919	Unspecified symptoms and signs involving cognitive functions following unspecified cerebrovascular disease
I69.920	Aphasia following unspecified cerebrovascular disease
I69.921	Dysphasia following unspecified cerebrovascular disease
I69.922	Dysarthria following unspecified cerebrovascular disease
I69.923	Fluency disorder following unspecified cerebrovascular disease
I69.928	Other speech and language deficits following unspecified cerebrovascular disease
I69.990	Apraxia following unspecified cerebrovascular disease
I69.991	Dysphagia following unspecified cerebrovascular disease
I69.992	Facial weakness following unspecified cerebrovascular disease
I69.993	Ataxia following unspecified cerebrovascular disease
I69.998	Other sequelae following unspecified cerebrovascular disease
I97.810	Intraoperative cerebrovascular infarction during cardiac surgery
I97.811	Intraoperative cerebrovascular infarction during other surgery
I97.820	Postprocedural cerebrovascular infarction following cardiac surgery
I97.821	Postprocedural cerebrovascular infarction following other surgery
P11.1	Other specified brain damage due to birth injury
P11.2	Unspecified brain damage due to birth injury
Q90.0	Trisomy 21, nonmosaicism (meiotic nondisjunction)
Q90.1	Trisomy 21, mosaicism (mitotic nondisjunction)
Q90.2	Trisomy 21, translocation
Q90.9	Down syndrome, unspecified
R29.5	Transient paralysis
R41.89	Other symptoms and signs involving cognitive functions and awareness
R42	Dizziness and giddiness
R47.01	Aphasia
R47.02	Dysphasia
R47.1	Dysarthria and anarthria
R49.1	Aphonia
R62.0	Delayed milestone in childhood
R94.120	Abnormal auditory function study
R94.121	Abnormal vestibular function study
R94.128	Abnormal results of other function studies of ear and other special senses
S09.20XA	Traumatic rupture of unspecified ear drum, initial encounter
S09.21XA	Traumatic rupture of right ear drum, initial encounter

S09.22XA	Traumatic rupture of left ear drum, initial encounter
S09.311A	Abnormal results of other function studies of ear and other special senses
S09.312A	Primary blast injury of left ear, initial encounter
S09.313A	Primary blast injury of ear, bilateral, initial encounter
S09.319A	Primary blast injury of unspecified ear, initial encounter
S12.000A	Unspecified displaced fracture of first cervical vertebra, initial encounter for closed fracture
S12.000B	Unspecified displaced fracture of first cervical vertebra, initial encounter for open fracture
S12.001A	Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for closed fracture
S12.001B	Unspecified nondisplaced fracture of first cervical vertebra, initial encounter for open fracture
S12.100A	Unspecified displaced fracture of second cervical vertebra, initial encounter for closed fracture
S12.100B	Unspecified displaced fracture of second cervical vertebra, initial encounter for open fracture
S12.101A	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for closed fracture
S12.101B	Unspecified nondisplaced fracture of second cervical vertebra, initial encounter for open fracture
S12.200A	Unspecified displaced fracture of third cervical vertebra, initial encounter for closed fracture
S12.200B	Unspecified displaced fracture of third cervical vertebra, initial encounter for open fracture
S12.201A	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for closed fracture
S12.201B	Unspecified nondisplaced fracture of third cervical vertebra, initial encounter for open fracture
S12.300A	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for closed fracture
S12.300B	Unspecified displaced fracture of fourth cervical vertebra, initial encounter for open fracture
S12.301A	Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for closed fracture
S12.301B	Unspecified nondisplaced fracture of fourth cervical vertebra, initial encounter for open fracture
S12.400A	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for closed fracture
S12.400B	Unspecified displaced fracture of fifth cervical vertebra, initial encounter for open fracture
S12.401A	Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for closed fracture
S12.401B	Unspecified nondisplaced fracture of fifth cervical vertebra, initial encounter for open fracture
S12.500A	Unspecified displaced fracture of sixth cervical vertebra, initial encounter for closed fracture
S12.500B	Unspecified displaced fracture of sixth cervical vertebra, initial encounter for open fracture
S12.501A	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for closed fracture
S12.501B	Unspecified nondisplaced fracture of sixth cervical vertebra, initial encounter for open fracture
S12.600A	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for closed fracture
S12.600B	Unspecified displaced fracture of seventh cervical vertebra, initial encounter for open fracture
S12.601A	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for closed fracture
S12.601B	Unspecified nondisplaced fracture of seventh cervical vertebra, initial encounter for open fracture
S14.101A	Unspecified injury at C1 level of cervical spinal cord, initial encounter
S14.102A	Unspecified injury at C2 level of cervical spinal cord, initial encounter
S14.103A	Unspecified injury at C3 level of cervical spinal cord, initial encounter
S14.104A	Unspecified injury at C4 level of cervical spinal cord, initial encounter
S14.105A	Unspecified injury at C5 level of cervical spinal cord, initial encounter
S14.106A	Unspecified injury at C6 level of cervical spinal cord, initial encounter

S14.107A	Unspecified injury at C7 level of cervical spinal cord, initial encounter
S14.111A	Complete lesion at C1 level of cervical spinal cord, initial encounter
S14.112A	Complete lesion at C2 level of cervical spinal cord, initial encounter
S14.113A	Complete lesion at C3 level of cervical spinal cord, initial encounter
S14.114A	Complete lesion at C4 level of cervical spinal cord, initial encounter
S14.115A	Complete lesion at C5 level of cervical spinal cord, initial encounter
S14.116A	Complete lesion at C6 level of cervical spinal cord, initial encounter
S14.117A	Complete lesion at C7 level of cervical spinal cord, initial encounter
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
S14.123A	Central cord syndrome at C3 level of cervical spinal cord, initial encounter
S14.124A	Central cord syndrome at C4 level of cervical spinal cord, initial encounter
S14.125A	Central cord syndrome at C5 level of cervical spinal cord, initial encounter
S14.126A	Central cord syndrome at C6 level of cervical spinal cord, initial encounter
S14.127A	Central cord syndrome at C7 level of cervical spinal cord, initial encounter
S14.131A	Anterior cord syndrome at C1 level of cervical spinal cord, initial encounter
S14.132A	Anterior cord syndrome at C2 level of cervical spinal cord, initial encounter
S14.133A	Anterior cord syndrome at C3 level of cervical spinal cord, initial encounter
S14.134A	Anterior cord syndrome at C4 level of cervical spinal cord, initial encounter
S14.135A	Anterior cord syndrome at C5 level of cervical spinal cord, initial encounter
S14.136A	Anterior cord syndrome at C6 level of cervical spinal cord, initial encounter
S14.137A	Anterior cord syndrome at C7 level of cervical spinal cord, initial encounter
S14.151A	Other incomplete lesion at C1 level of cervical spinal cord, initial encounter
S14.152A	Other incomplete lesion at C2 level of cervical spinal cord, initial encounter
S14.153A	Other incomplete lesion at C3 level of cervical spinal cord, initial encounter
S14.154A	Other incomplete lesion at C4 level of cervical spinal cord, initial encounter
S14.155A	Other incomplete lesion at C5 level of cervical spinal cord, initial encounter
S14.156A	Other incomplete lesion at C6 level of cervical spinal cord, initial encounter
S14.157A	Other incomplete lesion at C7 level of cervical spinal cord, initial encounter
T20.011S	Burn of unspecified degree of right ear [any part, except ear drum], sequela
T20.012S	Burn of unspecified degree of left ear [any part, except ear drum], sequela
T20.111S	Burn of first degree of right ear [any part, except ear drum], sequela
T20.112S	Burn of first degree of left ear [any part, except ear drum], sequela
T20.119S	Burn of first degree of unspecified ear [any part, except ear drum], sequela
T20.211S	Burn of second degree of right ear [any part, except ear drum], sequela
T20.212S	Burn of second degree of left ear [any part, except ear drum], sequela
T20.219S	Burn of second degree of unspecified ear [any part, except ear drum], sequela
T20.311S	Burn of third degree of right ear [any part, except ear drum], sequela
T20.312S	Burn of third degree of left ear [any part, except ear drum], sequela

T20.319S	Burn of third degree of unspecified ear [any part, except ear drum], sequela
T20.411S	Corrosion of unspecified degree of right ear [any part, except ear drum], sequela
T20.412S	Corrosion of unspecified degree of left ear [any part, except ear drum], sequela
T20.419S	Corrosion of unspecified degree of unspecified ear [any part, except ear drum], sequela
T20.511S	Corrosion of first degree of right ear [any part, except ear drum], sequela
T20.512S	Corrosion of first degree of left ear [any part, except ear drum], sequela
T20.519S	Corrosion of first degree of unspecified ear [any part, except ear drum], sequela
T20.611S	Corrosion of second degree of right ear [any part, except ear drum], sequela
T20.612S	Corrosion of second degree of left ear [any part, except ear drum], sequela
T20.619S	Corrosion of second degree of unspecified ear [any part, except ear drum], sequela
T20.711S	Corrosion of third degree of right ear [any part, except ear drum], sequela
T20.712S	Corrosion of third degree of left ear [any part, except ear drum], sequela
T20.719S	Corrosion of third degree of unspecified ear [any part, except ear drum], sequela
T28.411S	Burn of right ear drum, sequela
T28.412S	Burn of left ear drum, sequela
T28.419S	Burn of unspecified ear drum, sequela
T28.911S	Corrosions of right ear drum, sequela
T28.912S	Corrosions of left ear drum, sequela
T28.919S	Corrosions of unspecified ear drum, sequela
T36.5X1A	Poisoning by aminoglycosides, accidental (unintentional), initial encounter
T36.5X1D	Poisoning by aminoglycosides, accidental (unintentional), subsequent encounter
T36.5X1S	Poisoning by aminoglycosides, accidental (unintentional), sequela
T36.5X2A	Poisoning by aminoglycosides, intentional self-harm, initial encounter
T36.5X2D	Poisoning by aminoglycosides, intentional self-harm, subsequent encounter
T36.5X2S	Poisoning by aminoglycosides, intentional self-harm, sequela
T36.5X3A	Poisoning by aminoglycosides, assault, initial encounter
T36.5X3D	Poisoning by aminoglycosides, assault, subsequent encounter
T36.5X3S	Poisoning by aminoglycosides, assault, sequela
T36.5X4A	Poisoning by aminoglycosides, undetermined, initial encounter
T36.5X4D	Poisoning by aminoglycosides, undetermined, subsequent encounter
T36.5X4S	Poisoning by aminoglycosides, undetermined, sequela
T36.5X5A	Adverse effect of aminoglycosides, initial encounter
T36.5X5D	Adverse effect of aminoglycosides, subsequent encounter
T36.5X5S	Adverse effect of aminoglycosides, sequela
T36.6X1A	Poisoning by rifampicins, accidental (unintentional), initial encounter
T36.6X2A	Poisoning by rifampicins, intentional self-harm, initial encounter
T36.6X3A	Poisoning by rifampicins, assault, initial encounter
T36.6X4A	Poisoning by rifampicins, undetermined, initial encounter
T36.6X5A	Adverse effect of rifampicins, initial encounter

T36.8X1A	Poisoning by other systemic antibiotics, accidental (unintentional), initial encounter
T36.8X2A	Poisoning by other systemic antibiotics, intentional self-harm, initial encounter
T36.8X3A	Poisoning by other systemic antibiotics, assault, initial encounter
T36.8X4A	Poisoning by other systemic antibiotics, undetermined, initial encounter
T36.8X5A	Adverse effect of other systemic antibiotics, initial encounter
T45.1X1A	Poisoning by antineoplastic and immunosuppressive drugs, accidental (unintentional), initial encounter
T45.1X2A	Poisoning by antineoplastic and immunosuppressive drugs, intentional self-harm, initial encounter
T45.1X3A	Poisoning by antineoplastic and immunosuppressive drugs, assault, initial encounter
T45.1X4A	Poisoning by antineoplastic and immunosuppressive drugs, undetermined, initial encounter
T45.1X5A	Adverse effect of antineoplastic and immunosuppressive drugs, initial encounter
T79.8XXA	Other early complications of trauma, initial encounter
Z01.110	Encounter for hearing examination following failed hearing screening
Z01.118	Encounter for examination of ears and hearing with other abnormal findings
Z13.40	Encounter for screening for unspecified developmental delays
Z13.41	Encounter for autism screening
Z13.42	Encounter for screening for global developmental delays (milestones)
Z13.49	Encounter for screening for other developmental delays
Z13.5	Encounter for screening for eye and ear disorders
Z57.0	Occupational exposure to noise
Z76.5	Malingerer [conscious simulation]
Z77.122	Contact with and (suspected) exposure to noise
Z87.820	Personal history of traumatic brain injury
Z92.21	Personal history of antineoplastic chemotherapy

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