

Supplemental Appendix Table 1. Diagnostic and Procedural Codes

Code(s)	Code Description
<p>I. GBS and GBS-associated Codes</p>	
<p>ICD-9 357.0 or ICD-10 code G61.0</p> <p>ICD-9 357.8x Other inflammatory and toxic neuropathy</p> <p>ICD-9 357.9 Unspecified inflammatory and toxic neuropathy</p> <p>ICD-10 G61.0 Guillain-Barré syndrome</p> <p>ICD-10 G65.0 Sequelae of Guillain-Barré syndrome</p> <p>ICD-10 G61.8x Other inflammatory polyneuropathies</p>	<p>GBS/Acute infective polyneuritis</p>
<p>ICD-10 G61.9 Inflammatory polyneuropathy, unspecified</p>	
<p>CPT 95860 Needle electromyography; 1 extremity with or without related paraspinal areas</p> <p>CPT 95861 Needle electromyography; 2 extremities with or without related paraspinal areas</p> <p>CPT 95863 Needle electromyography; 3 extremities with or without related paraspinal areas</p> <p>CPT 95864 Needle electromyography; 4 extremities with or without related paraspinal areas</p> <p>CPT 95867-95870 EMG plus NCV</p> <p>CPT 95885: Needle electromyography, each extremity, with related paraspinal areas, when performed, done with nerve conduction, amplitude and latency/velocity study; limited (list separately in addition to the code for primary procedure).</p> <p>CPT 95886: Needle electromyography, each extremity, with related paraspinal areas, when performed, done with nerve conduction, amplitude and latency/velocity study; complete, five or more muscles studied, innervated by three or more nerves or four or more spinal levels (list separately in addition to the code for primary procedure).</p> <p>CPT 95887: Needle electromyography, non-extremity (cranial nerve supplied or axial) muscle(s) done with nerve conduction, amplitude and latency/velocity study; (list separately in addition to the code for primary procedure).</p> <p>CPT 95870 Needle EMG each extremity done with nerve conduction, should be used if 4 muscles or less are studied in an extremity</p> <p>HCPCS E0746 Electromyography (EMG), biofeedback device</p> <p>HCPCS S3900 Surface electromyography (EMG)</p> <p>ICD-9 proc 93.08 – Electromyography</p> <p>ICD-10 dx R94.131 - Abnormal electromyogram [EMG]</p> <p>ICD-9 dx 794.17 Nonspecific abnormal electromyogram [EMG]</p>	<p>EMG (electromyography)</p>

Code(s)	Code Description
CPT 95900 (Motor NCV w/o F test) (stopped Jan 2013)	NCS (nerve conduction studies)
CPT 95903 - motor, with F-wave study (stopped Jan 2013)	
CPT 95904 - sensory or mixed 95933 - Orbicularis oculi (blink) reflex, by electrodiagnostic testing (stopped Jan 2013)	
CPT 95905 - Motor and/or sensory nerve conduction, using preconfigured electrode array(s), amplitude and latency/velocity study, each limb, includes F-wave study when performed, with interpretation and report	
CPT 95907 Nerve conduction studies; 1-2 studies	
CPT 95908 for the study of 3-4 nerves	
CPT 95909 for the study of 5-6 nerves	
CPT 95910 for the study of 7-8 nerves	
CPT 95911 for the study of 9-10 nerves	
CPT 95912 for the study of 11-12 nerves	
CPT 95923 for Galvanic Skin Response	
CPT 95925 Somato-Sensory Evoked Potentials (SSEPs)	
CPT 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	
CPT 95934 H-reflex, amplitude and latency study; record gastrocnemius/soleus muscle	
CPT 95936 - record muscle other than gastrocnemius/soleus muscle (stopped Jan 2013)	
CPT 95857 - Tensilon test for myasthenia gravis	
CPT 95858 - with electromyographic recording	
CPT 95937 - Neuromuscular junction testing (repetitive stimulation, paired stimuli), each nerve, any one method	
CPT 95930 - Visual evoked potential (VEP) testing central nervous system, checkerboard or flash	
CPT 92585 - Auditory evoked potentials for evoked response audiometry and/or testing of the central nervous system	
CPT 95925 - Bilateral upper limbs. Only one unit can be used regardless of the number of nerves or dermatomes stimulated.	
CPT 95926 - Bilateral lower limbs. Only one unit can be used regardless of the number of nerves or dermatomes stimulated.	
CPT 95927 - in the trunk or head	
CPT 95886 (EMG complete study)	
CPT 62270, Spinal puncture, lumbar, diagnostic	Lumbar Puncture
CPT 62272, Spinal puncture, therapeutic, for drainage of cerebrospinal fluid (by needle or catheter)	
ICD-9 03.31 Spinal tap	
ICD-9 03.32 Biopsy of spinal cord or spinal meninges	
ICD-10 009U30Z Drainage of Spinal Canal with Drainage Device, Percutaneous Approach	
ICD-10 009U3ZX Drainage of Spinal Canal, Percutaneous Approach, Diagnostic	

Code(s)	Code Description
ICD-10 009U3ZZ Drainage of Spinal Canal, Percutaneous Approach	
II. CMV and CMV-Associated Conditions	
ICD-9-CM 078.5 ICD-10 B25 ICD-10 <u>B27.1</u> Cytomegaloviral mononucleosis <u>B27.10</u> without complications <u>B27.11</u> with polyneuropathy <u>B27.12</u> with meningitis <u>B27.19</u> with other complication	CMV Disease Cytomegaloviral Disease
III. Other Antecedent Infectious Illnesses	
ICD-9 008.43 Intestinal infection due to campylobacter ICD-10-CM A04.5 Campylobacter enteritis	Campylobacter
ICD-9 075.xx Infectious mono ICD-10 <u>B27.0</u> Gammaherpesviral mononucleosis	Epstein-Barr virus (EBV)
ICD-9 050.43 Hepatitis E with hepatic coma ICD-9 070.53 Hepatitis E without mention of hepatic coma ICD-10 B17.2 Acute hepatitis E	Hepatitis E
ICD-9 487.xx Influenza ICD-9 488.xx Influenza due to certain identified influenza viruses ICD-10 J09.xx Influenza due to certain identified influenza viruses ICD-10 J10.xx Influenza due to other identified influenza virus ICD-10 J11.xx Influenza due to unidentified influenza virus	Influenza
ICD-9 483.0 Pneumonia due to mycoplasma pneumoniae ICD-10 J15.7 Pneumonia due to Mycoplasma pneumoniae ICD-10 B96.0 Mycoplasma pneumoniae [M. pneumoniae] as the cause of diseases classified elsewhere	Mycoplasma pneumonia
ICD-9 466.0 Acute bronchitis ICD-9 466.1 acute bronchiolitis ICD-9 510.xx Empyema ICD-9 511.1 Pleurisy with effusion ICD-9 513.xx Abscess of lung and mediastinum ICD-9 517.1 Rheumatic pneumonia ICD-9 770.0 Congenital pneumonia ICD-9 011.xx Pulmonary tuberculosis ICD-9 031.0 Pulmonary diseases caused by Mycobacterium ICD-9 464.1, 464.2, 464.4 Acute laryngotracheitis and tracheitis ICD-9 460-466 Acute Respiratory Infections	Respiratory illness

Code(s)	Code Description
ICD-9 470-478	Other Diseases Of Upper Respiratory Tract
ICD-9 480-488	Pneumonia And Influenza
ICD-9 490-496	Chronic Obstructive Pulmonary Disease And Allied Conditions
ICD-9 500-508	Pneumoconioses And Other Lung Diseases Due To External Agents
ICD-9 510-519	Other Diseases Of Respiratory System
ICD-10 J00-J06	Acute upper respiratory infections
J09-J18	Influenza and pneumonia
J20-J22	Other acute lower respiratory infections
J30-J39	Other diseases of upper respiratory tract
J40-J47	Chronic lower respiratory diseases
J60-J70	Lung diseases due to external agents
J80-J84	Other respiratory diseases principally affecting the interstitium
J85-J86	Suppurative and necrotic conditions of the lower respiratory tract
J90-J94	Other diseases of the pleura
J95-J95	Intraoperative and postprocedural complications and disorders of respiratory system, not elsewhere classified
J96-J99	Other diseases of the respiratory system
480.xx	Viral pneumonia
481.xx	Pneumococcal pneumonia [Streptococcus pneumoniae pneumonia]
482.xx	Other bacterial pneumonia
483.xx	Pneumonia due to other specified organism

Pneumonia

Code(s)	Code Description	
484.xx	Pneumonia in infectious diseases classified elsewhere	
485.xx	Bronchopneumonia, organism unspecified	
486.xx	Pneumonia, organism unspecified	
J13.xx	Pneumonia due to Streptococcus pneumoniae	
J14.xx	Pneumonia due to Hemophilus influenzae	
J15.xx	Bacterial pneumonia, not elsewhere classified	
J16.xx	Pneumonia due to other infectious organisms, not elsewhere classified	
J17.xx	Pneumonia in diseases classified elsewhere	
J18.xx	Pneumonia, unspecified organism	
008.xx	Intestinal infections due to other organisms? AGE (ICD-9-CM codes 001.0–001.9, 002.0–002.9, 003.0–003.1, 003.2x, 003.8–003.9, 004.0–004.9, 005.0–005.4, 005.8x, 005.9, 006.0–006.2, 006.9, 007.0–007.9, 008.0x, 008.1–008.3, 008.4x, 008.5, 008.6x, 008.8, 009.0–009.3, 558.9, and 787.91) ICD-10 A00.xx-A09.xx: Intestinal infectious diseases	GI Illness AGE
IV.	Outcomes	
CPT 31500	Intubation, endotracheal, emergency procedure	Intubation
CPT 36822	ECMO	
CPT 94002-4	Mechanical ventilation, hospital inpatient/observation	
CPT 94656-7	Ventilation assist and management	
CPT 94660	Continuous positive airway pressure initiation and management	
CPT 94662	Continuous negative pressure initiation and management	
ICD-9 proc 39.65	ECMO/ICD-10-PCS 5A15223 Extracorporeal Membrane Oxygenation, Continuous	
ICD-9 proc 93.90	Noninvasive mechanical ventilation/ICD-10-PCS 5A09357, 5A09457, 5A09557 Assistance with Respiratory Ventilation, Less than 24, 24-96, > 96 Consecutive Hours, Continuous Positive Airway Pressure	
ICD-9 proc 93.91	Intermittent positive pressure breathing/ ICD-10-PCS 5A09358, 5A09458, 5A09558 Assistance with Respiratory Ventilation, Less than 24, 24-96, > 96 Consecutive Hours, Intermittent Positive Airway Pressure	
ICD-9 proc 96.01	Insertion of nasopharyngeal airway/ ICD-10-PCS 09HN7BZ Insertion of Airway into Nasopharynx, Via Natural or Artificial Opening; ICD-10-PCS 09HN8BZ Insertion of Airway into	

Code(s)	Code Description
<p>Nasopharynx, Via Natural or Artificial Opening Endoscopic ICD-9 proc 96.02 Insertion of oropharyngeal airway/ ICD-10-PCS 0CHY7BZ Insertion of Airway into Mouth and Throat, Via Natural or Artificial Opening; ICD-10-PCS 0CHY8BZ Insertion of Airway into Mouth and Throat, Via Natural or Artificial Opening Endoscopic ICD-9 proc 96.04 Insertion of endotracheal tube/ ICD-10-PCS 0BH17EZ Insertion of Endotracheal Airway into Trachea, Via Natural or Artificial Opening; ICD-10-PCS 0BH18EZ Insertion of Endotracheal Airway into Trachea, Via Natural or Artificial Opening Endoscopic ICD-9 proc 96.05 Insertion of respiratory tract/ ICD-10 0B717DZ, 0B718DZ, 0BH07DZ, 0BH07YZ, 0BH172Z, 0BH17YZ, 0BH182Z, 0BH18YZ, 0BHK7YZ, 0BHK8YZ, 0BHL7YZ, 0BHL8YZ, 0WHQ7YZ ICD-9 proc 96.70 Continuous mechanical ventilation of unspecified duration; 5A1935Z; 5A1945Z; 5A1955Z ICD-9 proc 96.71 Continuous mechanical ventilation for ,96 consecutive hours; 5A1935Z; 5A1945Z; (same as above) ICD-9 proc 96.72 Continuous mechanical ventilation for ≥96 consecutive hours; 5A1955Z (same as above)</p>	
<p>ICD-9 337.9 Unspecified disorder of autonomic nervous system ICD-10 G90.9 Disorder of the autonomic nervous system, unspecified</p>	<p>Dysautonomia</p>

Abbreviations: ICD-9-CM=International Classification of Diseases-9th revision, Clinical Modification; DRG=Diagnoses Related Group; HCPCS= Healthcare Common Procedure Coding System; CPT= Current Procedural Terminology (CPT) codes; ICD-9 v3 Procedural Codes; NDC=National Drug Code