CHAPTER 4
SECTION 20.1

NERVOUS SYSTEM

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I. CPT[1] PROCEDURE CODE RANGE

61000 - 64999, 95970 - 95975, 99211 - 99215

II. DESCRIPTION

A. The nervous system consists of the central and peripheral nervous systems. The central is comprised of the brain and spinal cord and the peripheral includes all the other neural elements. The nervous system is the organ system which along with the endocrine system, correlates the adjustments and reactions of an organism to internal and environmental conditions.

B. Therapeutic embolization is a type of procedure that is commonly performed by interventional radiologist to occlude blood vessels. A microcatheter or balloon is threaded into a vein, or artery for the purposes of embolization, blocking a pathologic vascular channel.

C. Stereotactic implantation of depth electrodes is an invasive procedure in which needle-like electrodes are implanted through burr holes in the skull into the depths of specific brain areas to localize a seizure focus in patients who are candidates for surgery or to implant a brain stimulator in the thalamus to control tremors.

D. Psychosurgery is brain surgery directed at destroying normal and healthy brain tissue in order to relieve mental and psychic symptoms that other treatment modalities such as drug therapy and psychotherapy have been ineffectual in treating, for the purpose of changing or controlling behavior.

E. The Guglielmi Detachable Coil (GDC) is an extremely fine wire made from platinum, one of the softest metals, at the end of a longer stainless steel wire. In a controlled manner, the surgeon uses a micro-catheter to thread each coil through blood vessels to the aneurysm site. Application of a very-low-voltage electric current detaches and releases the coil into the aneurysm. Once in place, the GDC coils fill the aneurysm, isolating it from circulation to reduce the likelihood or rupture and hemorrhagic stroke. By applying a low voltage direct

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current to a stainless steel wire at the base of the coil, the platinum coil is detached. This applied current not only detaches the coil but also promotes electrothrombosis within the aneurysm.

III. POLICY

A. Services and supplies required in the diagnosis and treatment of illness or injury involving the nervous system are covered.

B. Therapeutic embolization may be covered for the following indications. The list of indications is not all inclusive. Other indications are covered when documented by reliable evidence as safe, effective and comparable or superior to standard care (proven).

1. Cerebral Arteriovenous Malformations.

2. Pulmonary Arteriovenous Malformations (PAVM).

3. Vein of Galen Aneurysm.

4. Inoperable or High-Risk Intracranial Aneurysms.

5. Dural Arteriovenous Fistulas.

6. Meningioma.

C. Implantation of depth electrodes is covered.

1. Implantation of a FDA approved vagus nerve stimulator as adjunctive therapy in reducing the frequency of seizures in adults and adolescents over 12 years of age, which are refractory to anti-epileptic medication is covered. Battery replacement is also covered.

2. Coverage may also be provided for beneficiaries under the age of 12 when a physician has attested to the appropriateness in a particular case.

D. Spinal cord and deep brain stimulation are covered in the treatment of chronic intractable pain. Coverage includes:

1. The accessories necessary for the effective functioning of the covered device.

2. Repair, adjustment, replacement and removal of the covered device and associated surgical costs.

E. The GDC may be cost-shared for embolizing unruptured intracranial aneurysms that, because of their morphology, their location, or the patient's general medical condition, are considered by the treating neurosurgical team to be:

1. Very high risk for management by traditional operative techniques; or

2. Inoperable; or

3. For embolizing other vascular malformation such as arteriovenous malformations and arteriovenous fistulae of the neurovasculature, to include arterial and venous embolizations in the peripheral vasculature.

IV. EXCLUSIONS

A. Transcatheter hepatic arterial embolization for the treatment of cancers that have metastasized to the liver, unresectable hepatocellular carcinoma and resectable hepatocellular carcinoma is unproven.

B. N-butyl-2-cyanoacrylate (Histacryl Bleu®), iodinated poppy seed oils (e.g., Ethiodol®), and absorbable gelatin sponges are not FDA approved.

C. Transcutaneous, percutaneous, functional dorsal column electrical stimulation in the treatment of multiple sclerosis or other motor function disorders is unproven.

D. Deep brain neurostimulation in the treatment of insomnia, depression, anxiety, and substance abuse is unproven.

E. Dorsal column and deep brain electrical stimulation for the treatment of motor function disorders are unproven.

F. Psychosurgery is not in accordance with accepted professional medical standards and is not covered.

G. Endovascular GDC treatment of wide-necked aneurysms and rupture is unproven.

H. Cerebellar stimulators/pacemakers for the treatment of neurological disorders are unproven.

I. Dorsal root entry zone (DREZ) thermocoagulation or microcoagulation neurosurgical procedure is unproven.

J. Epidural steroid injections for thoracic pain are unproven.

K. Extraoperative electrocortiography for stimulation and recording in order to determine electrical thresholds of neurons as an indicator of seizure focus is unproven.

L. Neuromuscular electrical stimulation (CPT[2] procedure codes 64565 and 64580) for the treatment of denervated muscles is unproven.

M. Stereotactic cingulotomy is unproven.

V. EFFECTIVE DATES

A. January 1, 1989, for PAVM.

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B. April 1, 1994, for meningioma.

C. The date of FDA approval of the embolization device for all other embolization procedures.

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