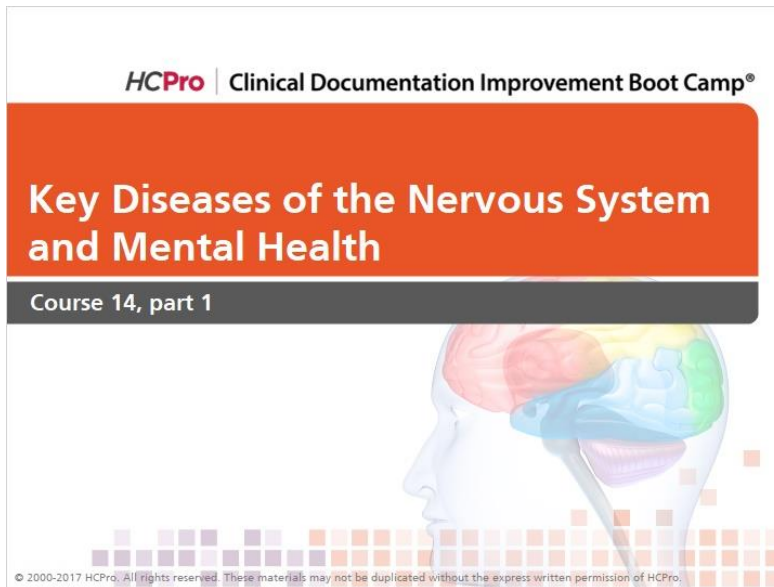


Key Diseases of the Nervous System and Mental Health (part 1)

Study Guide

1.1 Key Diseases Associated with the Digestive, Hepatobiliary and Urinary Systems



1.3 Diseases of the Nervous System G00-G99

Diseases of the Nervous System G00-G99

Excludes2: certain conditions originating in the perinatal period (P04-P96)
certain infectious and parasitic diseases (A00-B99)
complications of pregnancy, childbirth and the puerperium (O00-O9A)
congenital malformations, deformations, and chromosomal abnormalities (Q00-Q99)
endocrine, nutritional and metabolic diseases (E00-E88)
injury, poisoning and certain other consequences of external causes (S00-T88)
neoplasms (C00-D49)
symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R94)

This chapter contains the following blocks:

- G00-G09 [Inflammatory diseases of the central nervous system](#)
- G10-G14 [Systemic atrophies primarily affecting the central nervous system](#)
- G20-G26 [Extrapyramidal and movement disorders](#)
- G30-G32 [Other degenerative diseases of the nervous system](#)
- G35-G37 [Demyelinating diseases of the central nervous system](#)
- G40-G47 [Episodic and paroxysmal disorders](#)
- G50-G59 [Nerve, nerve root and plexus disorders](#)
- G60-G65 [Polyneuropathies and other disorders of the peripheral nervous system](#)
- G70-G73 [Diseases of myoneural junction and muscle](#)
- G80-G83 [Cerebral palsy and other paralytic syndromes](#)
- G89-G99 [Other disorders of the nervous system](#)

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1.4 Inflammatory Diseases of the CNS G00-G09

Inflammatory Diseases of the CNS G00-G09

Meningitis (G00-G03)

- **“Use Additional Code”** notes to identify organism
- Manifestation codes that will have a **“Code First”** note to identify the underlying condition
 - Meningitis in bacterial diseases classified elsewhere (G01)
 - Meningitis in other infectious and parasitic diseases classified elsewhere (G02)

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1.5 Bacterial Meningitis, NEC

Bacterial Meningitis, NEC

G00 Bacterial meningitis, not elsewhere classified

Includes: bacterial arachnoiditis
bacterial leptomenigitis
bacterial meningitis
bacterial pachymeningitis

Excludes1: bacterial:
meningoencephalitis (G04.2)
meningomyelitis (G04.2)

G00.0 Hemophilus meningitis
Meningitis due to Hemophilus influenzae

G00.1 Pneumococcal meningitis

G00.2 Streptococcal meningitis
Use additional code to further identify organism (B95.0-B95.5)

G00.3 Staphylococcal meningitis
Use additional code to further identify organism (B95.61-B95.8)

G00.8 Other bacterial meningitis
Meningitis due to Escherichia coli
Meningitis due to Friedländer's bacillus
Meningitis due to Klebsiella
Use additional code to further identify organism (B96.-)

G00.9 Bacterial meningitis, unspecified
Meningitis due to gram-negative bacteria, unspecified
Purulent meningitis NOS
Pyogenic meningitis NOS
Suppurative meningitis NOS

Important

All provide MCCs as a secondary diagnosis

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1.6 Bacterial Meningitis, NEC (cont.)

Bacterial Meningitis, NEC (cont.)

G01 Meningitis in bacterial diseases classified elsewhere

Code first underlying disease

Excludes1: meningitis (in):
gonococcal (A54.81)
leptospirosis (A27.81)
listriosis (A32.11)
Lyme disease (A69.21)
meningococcal (A39.0)
neurospilis (A52.13)
tuberculosis (A17.0)
meningoencephalitis and meningomyelitis in bacterial diseases classified elsewhere (G05)

G02 Meningitis in other infectious and parasitic diseases classified elsewhere

Code first underlying disease, such as:
African trypanosomiasis (B56.-)
poliovirus infection (A80.-)

Excludes1: candidal meningitis (B37.5)
coccidioidomycosis meningitis (B38.4)
cryptococcal meningitis (B45.1)
herpesviral [herpes simplex] meningitis (B00.3)
infectious mononucleosis complicated by meningitis (B27.- with fourth character 2)
measles complicated by meningitis (B05.1)
meningoencephalitis and meningomyelitis in other infectious and parasitic diseases classified elsewhere (G05)
mumps meningitis (B26.1)
rubella meningitis (B06.02)

Important

G01, G02 both provide MCCs as a secondary diagnosis

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1.7 Meningitis Due to Other Specified Cause

Meningitis Due to Other Specified Cause

G03 Meningitis due to other and unspecified causes

Includes: arachnoiditis NOS
leptomeningitis NOS
meningitis NOS
pachymeningitis NOS

Excludes1: meningoencephalitis (G04.-)
meningomyelitis (G04.-)

G03.0 Nonpyogenic meningitis
Aseptic meningitis
Nonbacterial meningitis

G03.1 Chronic meningitis

G03.2 Benign recurrent meningitis [Mollaret]

G03.8 Meningitis due to other specified causes

G03.9 Meningitis, unspecified
Arachnoiditis (spinal) NOS

Important

All provide an MCC as a secondary diagnosis except those within the highlighted box. G03.1 and G03.2 provide a CC

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1.8 Chronic Meningitis

Chronic Meningitis

Chronic meningitis occurs when slow-growing organisms invade the membranes and fluid surrounding the brain.

Chronic meningitis develops over two weeks or more.

The signs and symptoms of chronic meningitis — headaches, fever, vomiting and mental cloudiness — are similar to those of acute meningitis. The symptoms can remain static, fluctuate, and/or slowly worsen. The symptoms and clinical course of chronic meningitis vary widely from patient to patient.

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1.9 Benign Recurrent Meningitis: Mollaret's Meningitis

Benign Recurrent Meningitis: Mollaret's Meningitis

Symptoms include: severe headaches, fever, nausea and vomiting, sensitivity to light and neck rigidity. Can escalate to seizures and coma if untreated.

Exacerbation usually lasts 3-4 days, with weeks or months between recurrences.

Each relapse may lead to disability, with long term negative effects to the nervous system such as memory loss, lack of concentration, abnormal reflexes, loss of balance, tinnitus, speech issues and more.

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1.10 Dystonia & Dyskinesia

Dystonia & Dyskinesia

- Adverse reaction to a medication (usually antipsychotic, antiemetic and anti-depressant medications)
 - Under-documented/coded secondary diagnosis
- Symptoms of dystonia include intermittent spasmodic or sustained involuntary contractions of muscles in the face, neck, trunk, pelvis, & extremities leading to lip smacking and eye blinking
- The arms, legs, and trunk may also be involved
 - Movements of the fingers may appear as though the individual is playing an invisible guitar or piano
- Treatment is often Benadryl (diphenhydramine)

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1.11 Dystonia G24

Dystonia G24

New subcategory with new codes:

Includes: dyskinesia
Excludes2: athetoid cerebral palsy (G80.3)

G24.0 Drug induced dystonia
Use additional code code for adverse effect, if applicable, to identify drug (T38-T50 with fifth or sixth character 5)

G24.01 Drug induced subacute dyskinesia
Drug induced blepharospasm
Drug induced orofacial dyskinesia
Neuroleptic induced tardive dyskinesia
Tardive dyskinesia

G24.02 Drug induced acute dystonia
Acute dystonic reaction to drugs
Neuroleptic induced acute dystonia = CCs

G24.09 Other drug induced dystonia

G24.1 Genetic torsion dystonia
Dystonia deformans progressiva
Dystonia musculorum deformans
Familial torsion dystonia
Idiopathic familial dystonia
Idiopathic (torsion) dystonia NOS
(Schwalbe-) Ziehen-Oppenheim disease

G24.2 Idiopathic nonfamilial dystonia = CCs

Important
Subcategory of codes: Drug induced dystonia

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1.12 Alzheimer's Disease

Alzheimer's Disease

G30 Alzheimer's disease

Includes: Alzheimer's dementia senile and presenile forms

Use additional code to identify:
delirium, if applicable (F05)
dementia with behavioral disturbance (F02.81)
dementia without behavioral disturbance (F02.80)

Excludes1: senile degeneration of brain NEC (G31.1)
senile dementia NOS (F03)
senility NOS (R41.81)

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

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1.13 CDI Focus

CDI Focus

- Documentation of dementia should also describe if the current altered mental status is consistent with baseline
- Foreign environments may contribute to a worsening of the condition
 - Delirium superimposed on dementia codes to F05
 - F05 = Delirium due to known physiological condition = CC
- Infection often contributes to worsening of condition
 - Metabolic encephalopathy (G93.41) = MCC
- Review nurses notes for changes in mental status during the day
 - Sundowning codes to F05 thereby adding a CC




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1.14 Codes Linked to Alcohol

Codes Linked to Alcohol

G31.2 Degeneration of nervous system due to alcohol
Alcoholic cerebellar ataxia
Alcoholic cerebellar degeneration
Alcoholic cerebral degeneration
Alcoholic encephalopathy
Dysfunction of the autonomic nervous system due to alcohol
Code also associated alcoholism (F10.-)

**Important**

Be sure to get the link between the alcoholism and the nervous system condition as an association cannot be assumed

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1.15 Seizures

Seizures

- **T** → **Seizure (s)** (see also Convulsions) R56.9
seizure/c
 - akinetic —see Epilepsy, generalized, specified NEC
 - atonic —see Epilepsy, generalized, specified NEC
 - autonomic (hysterical) F44.5
 - convulsive —see Convulsions
 - cortical (focal) (motor) —see Epilepsy, localization-related
 - disorder (see also Epilepsy) G40.909
 - due to stroke —see Sequelae (of), disease, cerebrovascul
 - epileptic —see Epilepsy
 - febrile (simple) R56.00
 - with status epilepticus G40.901
 - complex (atypical) (complicated) R56.01
 - with status epilepticus G40.901
 - grand mal G40.409
 - intractable G40.419
 - with status epilepticus G40.411
 - without status epilepticus G40.419
 - not intractable G40.409

1.16 Seizures

Seizures (cont.)

- The default code for both “seizure” and “convulsion” is R56.9

R56.9 Unspecified convulsions
Convulsion disorder
Fit NOS
Recurrent convulsions
Seizure(s) (convulsive) NOS

Important

Documentation regarding seizures and/or convulsions needs to be precise to ensure the provider's intent is reflected

- Recurrent seizures are classified within the code set as epilepsy; can be **CCs** or **MCCs**

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1.17 Epilepsy - Recurrent Seizures

Epilepsy - Recurrent Seizures

- The epilepsies are **chronic neurological disorders** in which clusters of nerve cells, or neurons, in the brain sometimes signal abnormally and cause seizures
- Epilepsy is considered a spectrum disorder because of its:
 - Different causes
 - Different seizure types
 - Ability to vary in severity and impact from person to person
 - Range of coexisting conditions

http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm ©HCPPro, 1712.v3

1.18 Epilepsy - Recurrent Seizures (cont.)

Epilepsy - Recurrent Seizures (cont.)

- Diagnosis of epilepsy is assigned when:
 - A patient has two or more unprovoked seizures
 - The seizures are separated by at least 24 hours
- A provoked seizure is one caused by a known precipitating factor such as a high fever, nervous system infection, acute traumatic brain injury, or fluctuations in blood sugar or electrolyte levels

http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm ©HCPPro, 1712.v3

1.19 Epilepsy - Recurrent Seizures (cont.)

Epilepsy - Recurrent Seizures (cont.)

- During a seizure, many neurons fire at the same time at a rate much faster than normal
- Causes involuntary movements, sensations, emotions, and behaviors, and the temporary disturbance of normal neuronal activity may cause a loss of awareness

http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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1.20 Documentation Elements for Seizures

Documentation Elements for Seizures

- Documentation needs to clarify
 - The frequency of seizures
 - Recurrent = epilepsy
 - If it is intractable or not intractable
 - The type of seizure
 - Localized
 - General
 - Absence
 - Juvenile myoclonic
 - The associated complication of status epilepticus

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1.21 Epilepsy and Seizures

Epilepsy and Seizures

- Epilepsy and recurrent seizures are reported using codes from categories G40-G47
- Epilepsy, G40; the Tabular List notes: The following terms are to be considered equivalent to **“intractable”**
 - Pharmacoresistant (pharmacologically resistant)
 - Treatment resistant
 - Refractory (medically)
 - Poorly controlled
- Each code within the epilepsy category has both an intractable and **not intractable** option

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1.22 Recurrent Seizures = Epilepsy

Recurrent Seizures = Epilepsy

G40.9 Epilepsy, unspecified

- G40.90 Epilepsy, unspecified, not intractable**
Epilepsy, unspecified, without intractability
 - G40.901 Epilepsy, unspecified, not intractable, with status epilepticus**
 - G40.909 Epilepsy, unspecified, not intractable, without status epilepticus**
Epilepsy NOS
Epileptic convulsions NOS
Epileptic fits NOS
Epileptic seizures NOS
Recurrent seizures NOS
Seizure disorder NOS
- G40.91 Epilepsy, unspecified, intractable**
Intractable seizure disorder NOS
 - G40.911 Epilepsy, unspecified, intractable, with status epilepticus**
 - G40.919 Epilepsy, unspecified, intractable, without status epilepticus**

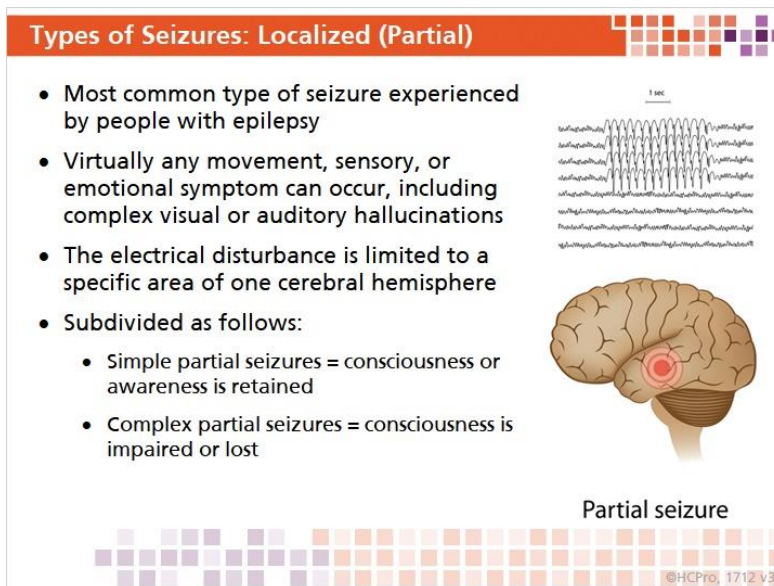
➔ **These are your “default” inclusion terms**

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1.23 Section Break: Types of Seizures



1.24 Types of Seizures: Localized (Partial)



The slide is titled "Types of Seizures: Localized (Partial)" and features a list of characteristics, an EEG tracing, and a brain diagram. The list includes: "Most common type of seizure experienced by people with epilepsy", "Virtually any movement, sensory, or emotional symptom can occur, including complex visual or auditory hallucinations", "The electrical disturbance is limited to a specific area of one cerebral hemisphere", and "Subdivided as follows: Simple partial seizures = consciousness or awareness is retained; Complex partial seizures = consciousness is impaired or lost". The EEG tracing shows a 1-second scale and a localized burst of electrical activity. The brain diagram shows a red circle on the cerebral cortex indicating the seizure focus. The slide is decorated with a grid of colored squares at the bottom.


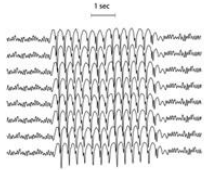
- Most common type of seizure experienced by people with epilepsy
- Virtually any movement, sensory, or emotional symptom can occur, including complex visual or auditory hallucinations
- The electrical disturbance is limited to a specific area of one cerebral hemisphere
- Subdivided as follows:
 - Simple partial seizures = consciousness or awareness is retained
 - Complex partial seizures = consciousness is impaired or lost

Partial seizure

1.25 Types of Seizures: Generalized

Types of Seizures: Generalized

- Generalized seizures affect both cerebral hemispheres (sides of the brain) from the beginning of the seizure
 - Produce loss of consciousness, either briefly or for a longer period of time, and are sub-categorized into several major types
- A partial seizure can generalize (or spread to other parts of the brain) and turn into a generalized seizure



Generalized seizure

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1.26 Types of Seizures: Generalized

Types of Seizures: Generalized (cont.)

- The many kinds of generalized seizures include the following, but not all of these specific types are captured within the code set:

- Absence Seizures
- Tonic Seizures
- Clonic Seizures
- Myoclonic Seizures
- Atonic Seizures
- Tonic-Clonic Seizures

http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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Tonic (Slide Layer)

Types of Seizures: Generalized (cont.)

- The many kinds of generalized seizures include the following, but not all of these specific types are captured within the code set:

Absence Seizures

Tonic Seizures


Clonic Seizures

Myoclonic Seizures

Atonic Seizures

Tonic-Clonic Seizures

Tonic seizures cause stiffening of muscles of the body, generally those in the back, legs, and arms



http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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Clonic (Slide Layer)

Types of Seizures: Generalized (cont.)

- The many kinds of generalized seizures include the following, but not all of these specific types are captured within the code set:

Absence Seizures

Tonic Seizures


Clonic Seizures

Myoclonic Seizures

Atonic Seizures

Tonic-Clonic Seizures

Clonic seizures cause repeated jerking movements of muscles on both sides of the body



http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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Myoclonic (Slide Layer)

Types of Seizures: Generalized (cont.)

- The many kinds of generalized seizures include the following, but not all of these specific types are captured within the code set:

Absence Seizures

Tonic Seizures


Clonic Seizures

Myoclonic Seizures

Atonic Seizures

Tonic-Clonic Seizures

Myoclonic seizures cause jerks or twitches of the upper body, arms, or legs



http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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Atonic (Slide Layer)

Types of Seizures: Generalized (cont.)

- The many kinds of generalized seizures include the following, but not all of these specific types are captured within the code set:

Absence Seizures

Tonic Seizures


Clonic Seizures

Myoclonic Seizures

Atonic Seizures

Tonic-Clonic Seizures

Atonic seizures cause a loss of normal muscle tone, which often leads the affected person to fall down or drop the head involuntarily



http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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Tonic-Clonic (Slide Layer)

Types of Seizures: Generalized (cont.)

- The many kinds of generalized seizures include the following, but not all of these specific types are captured within the code set:

Absence Seizures

Tonic Seizures


Clonic Seizures

Myoclonic Seizures

Atonic Seizures

Tonic-Clonic Seizures

Tonic-clonic seizures cause a combination of symptoms, including stiffening of the body and repeated jerks of the arms and/or legs as well as loss of consciousness



http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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Absence (Slide Layer)

Types of Seizures: Generalized (cont.)

- The many kinds of generalized seizures include the following, but not all of these specific types are captured within the code set:

Absence Seizures

Tonic Seizures


Clonic Seizures

Myoclonic Seizures

Atonic Seizures

Tonic-Clonic Seizures

Absence seizures may cause the person to appear to be staring into space with or without slight twitching of the muscles



http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm

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1.27 Status Epilepticus

Status Epilepticus

- MCC as secondary diagnosis
- Potentially life-threatening condition in which a person:
 - Either has an abnormally prolonged seizure
 - Or does not fully regain consciousness between recurring seizures
- Any seizure **lasting longer than 5 minutes** should be treated as though it was status epilepticus
 - There is some evidence that 5 minutes is sufficient to damage neurons and that seizures are unlikely to end on their own, making it necessary to seek medical care immediately

http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm ©HCPPro, 1712.v3

1.28 Status Epilepticus

Status Epilepticus (cont.)

- Status epilepticus can be:
 - Convulsive
 - Outward signs of a seizure are observed
 - Non-convulsive
 - No outward signs and is diagnosed by an abnormal EEG
 - It may appear as a sustained episode of confusion, agitation, loss of consciousness, or coma

http://www.ninds.nih.gov/disorders/epilepsy/detail_epilepsy.htm ©HCPPro, 1712.v3

1.29 Seizure and Encephalopathy Reporting

Seizure and Encephalopathy Reporting

? Question

- Should encephalopathy be reported as an additional diagnosis with seizure when it is due to a postictal state? Would the encephalopathy be considered inherent to the seizure, or can it be reported separately?

Answer

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1.30 Seizure and Encephalopathy Reporting (cont.)

Seizure and Encephalopathy Reporting (cont.)

? Answer

- When documentation indicates that encephalopathy is due to the postictal state of seizure it is considered inherent to the seizure and should not be coded separately.
- *Coding Clinic* 4th quarter 2013 described the postictal state of a seizure as being a transient deficit that occurs between the end of an epileptic seizure and the patients return to baseline. This period of decreased functioning in the postictal period usually lasts less than 48 hours. Therefore, the encephalopathy is integral to the condition.

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1.31 MS-DRG 100 and 101

MS-DRG 100 and 101

- Seizure disorders/diagnoses reported using codes from G40 (Epilepsy and recurrent seizures) and R56 (Convulsions NEC) both assign to MS-DRGs 100/101 as the Pdx

DRG 100	Seizures with MCC			
	GMLOS 4.2	AMLOS 5.7	RW	1.6487
Principal Diagnosis				
G40*	EPILEPSY AND RECURRENT SEIZURES			
R56*	CONVULSIONS NOT ELSEWHERE CLASSIFIED			
DRG 101	Seizures without MCC			
	GMLOS 2.6	AMLOS 3.3	RW	0.8313
Select principal diagnosis listed under DRG 100				

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1.35 Pain

Pain

- Key documentation elements include:
 - The **acuity** of the pain
 - According to coding guidelines, there is no time frame defining when pain becomes chronic pain
 - The **etiology** of the pain
 - The code set has pain codes that are specific to the type of pain as well as category G89, pain, not elsewhere classified (NEC)
 - The anatomical **location** of the pain

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1.36 Pain (cont.)

Pain (cont.)

- The role of CDI is to ensure the documentation clearly identifies the focus of treatment.
 - Is the focus the pain itself?
 - Is the focus identifying the cause of the pain? Once identified, is there any treatment of the etiology?
- Coding guidelines state, "When an admission or encounter is for a procedure aimed at treating the **underlying condition** (e.g., spinal fusion, kyphoplasty), a code for the underlying condition (e.g., vertebral fracture, spinal stenosis) should be assigned as the **principal diagnosis**. No code from category G89 should be assigned."

ICD-10-CM Official Guidelines for Coding and Reporting, FY 2016, p. 35 of 115 ©HCPPro, 1712 v3

1.37 Pain NEC

Pain NEC

- The coding guidelines also state, "A code from category G89 should not be assigned if the underlying (definitive) diagnosis is known, **unless** the reason for the encounter is **pain control/management** and not management of the underlying condition."

ICD-10-CM Official Guidelines for Coding and Reporting, FY 2016, p. 35 of 115 ©HCPPro, 1712 v3

1.38 Site-Specific Pain Code Guidelines

Site-Specific Pain Code Guidelines

- If the encounter **is for pain control or pain management**, assign the code from category G89, pain, not elsewhere classified (NEC)
 - Followed by the code identifying the specific site of pain
 - Encounter for pain management for acute neck pain from trauma =
 - G89.11, acute pain due to trauma
 - M54.2, cervicgia, to identify the site of pain

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1.39 Pain Due to Medical Devices

Pain Due to Medical Devices

- Pain due to medical devices are classified as a complication
- Chapter 19, Injury, Poisoning, and Certain Other Consequences of External Causes
 - Specific codes for pain due to medical devices are found in the T code section
 - Use additional code(s) from category G89 to identify acute or chronic pain due to presence of the device, implant, or graft (G89.18 or G89.28)


ICD-10-CM Official Guidelines for Coding and Reporting, FY 2016, p. 73 of 115 ©HCPPro, 1712 v3

1.40 Brain Disorders

Brain Disorders

While traumatic and non-traumatic brain disorders are both assigned to MS-DRGs in MDC 1 (Diseases/Disorders of the Nervous System), these disorders are categorized to *different code chapters in ICD-10-CM* based on:

- The type of disorder
- Whether it is “traumatic” or “non-traumatic”




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1.41 Brain Disorders

Brain Disorders (cont.)

- Non-traumatic cerebrovascular diseases including cerebral infarction (stroke) are reported using codes from categories I60-I69 in Chapter 9
 - Diseases of the Circulatory System I00-I99
- Transient ischemic accidents (TIAs) are reported using codes from category G45 in Chapter 6
 - Diseases of the Nervous System G00-G99
 - Were in circulatory chapter in ICD-9-CM
- Traumatic brain injuries are reported using codes from Chapter 19
 - Injury, Poisoning, and Certain Other Consequences of External Causes T00-T99



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1.42 Traumatic Brain Injuries (TBI)

Traumatic Brain Injuries (TBI)

- Coding guidelines require the code for the most serious injury, as determined by the provider and the focus of treatment, to be sequenced first
- Neurological conditions are often the most serious type of injury when multiple injuries are present
 - Often monitored rather than treated, so coders may not realize their significance without accurate provider documentation

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1.43 Traumatic Brain Injuries (cont.)

Traumatic Brain Injuries (cont.)

- A TBI happens when a bump, blow, jolt, or other injury to the head causes damage to the brain
- The severity of a TBI may range from mild to severe
 - **Mild:** A brief change in mental status or consciousness
 - **Severe:** An extended period of unconsciousness or amnesia after the injury

<http://www.cdc.gov/traumaticbraininjury/basics.html>
<http://www.nlm.nih.gov/medlineplus/traumaticbraininjury.html>

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1.44 Traumatic Brain Injuries (cont.)

Traumatic Brain Injuries (cont.)

- According to the Centers for Disease Control and Prevention (CDC)
 - TBI is a major cause of death and disability in the United States (U.S.), contributing to about 30% of all injury deaths
 - From 2006 to 2010, falls were the leading cause of TBI, accounting for 40% of all TBIs in the U.S. resulting in an ED visit, hospitalization, or death
 - Falls disproportionately affect the youngest and oldest age groups

<http://www.cdc.gov/traumaticbraininjury/basics.html>

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1.45 Traumatic Brain Injuries (cont.)

Traumatic Brain Injuries (cont.)

- Whenever possible, the documentation should support the **specific type of brain injury** rather than a generic term like “closed head injury” or “traumatic brain injury”
- The ICD-10-CM Alphabetic Index has an entry for traumatic brain injury as follows:
 - TBI (traumatic brain injury) -see category S06

S06 Intracranial injury
Includes: traumatic brain injury
Code also any associated:
open wound of head (S01.-)
skull fracture (S02.-)
Excludes1: head injury NOS (S09.90)

The appropriate 7th character is to be added to each code from category S06
A - initial encounter
D - subsequent encounter
S - sequela

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1.46 Traumatic Brain Injuries (cont.)

Traumatic Brain Injuries (cont.)

- According to the National Institute of Neurological Disorders and Stroke, head injuries can be **open** or **closed**
 - A **closed** injury occurs when the head suddenly and violently hits an object but the object does not break through the skull
 - Closed injuries are not always less severe than open injuries
 - With an **open** or **penetrating** injury, an object pierces the skull and enters brain tissue

http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm
<http://www.nlm.nih.gov/medlineplus/headinjuries.html>

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1.47 Traumatic Brain Injuries (cont.)

Traumatic Brain Injuries (cont.)

- Most injuries require the reporting of a **7th character** that identifies the episode of care:
 - Initial
 - Subsequent
 - Sequela
- The symptoms associated with a traumatic brain injury may be delayed

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1.48 Types of TBI: Concussion

Types of TBI: Concussion

- A **concussion** is the most minor type of brain injury
 - Jarring, which usually doesn't involve a loss of consciousness
 - Short loss of normal brain function in response to a head injury
 - Common type of sports injury
 - Symptoms may start days or weeks after the injury
 - It is diagnosed through a neurologic exam

<http://familydoctor.org/familydoctor/en/diseases-conditions/head-injuries.printerview.all.html>
<http://www.nlm.nih.gov/medlineplus/concussion.html> ©HCPPro, 1712.v3

1.49 Types of TBI: Concussion

Types of TBI: Concussion (cont.)

- According to a recent National Institute of Health (NIH) article, "The skull is designed to prevent most traumas to the brain, but it doesn't really prevent the brain from moving around inside the skull."
- "A concussion can arise from the brain moving either rapidly back and forth or banging against the side of the skull."
- This sudden movement can stretch and damage brain tissue and trigger a chain of harmful changes within the brain that interfere with normal brain activities."

<http://newsinhealth.nih.gov/issue/May2013/Feature1> ©HCPPro, 1712.v3

1.50 Types of TBI: Concussion

Types of TBI: Concussion (cont.)

- The article continues, "More serious brain injuries that involve skull fracture, bleeding in the brain or swelling of the brain can be detected with X-rays or other imaging methods. But **concussions can be more difficult to identify** ... A concussion isn't visible from the outside, and you can't see it with standard imaging tools like MRI and CAT scans ... Instead we look for the signs and symptoms of abnormal brain function to make a diagnosis."

<http://newsinhealth.nih.gov/issue/May2013/Feature1>

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1.51 Types of TBI: Concussion

Types of TBI: Concussion (cont.)

- There are more specific codes when a concussion coexists with other intracranial injuries



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1.52 Sample Concussion Codes: Most Are Classified by CMS as CCs

Sample Concussion Codes: Most Are Classified by CMS as CCs

S06.0 Concussion
Commotio cerebri

Excludes1: concussion with other intracranial injuries classified in category S06- code to specified intracranial injury

S06.0X Concussion

- S06.0X0 Concussion **without loss of consciousness**
- S06.0X1 Concussion **with loss of consciousness** of 30 minutes or less
- S06.0X2 Concussion with loss of consciousness of 31 minutes to 59 minutes
- S06.0X3 Concussion with loss of consciousness of 1 hour to 5 hours 59 minutes
- S06.0X4 Concussion with loss of consciousness of 6 hours to 24 hours
- S06.0X5 Concussion with loss of consciousness greater than 24 hours with return to pre-existing conscious level
- MCC** S06.0X6 Concussion with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving
- S06.0X7 Concussion with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness
- S06.0X8 Concussion with loss of consciousness of any duration with death due to other cause prior to regaining consciousness
- S06.0X9 Concussion with loss of consciousness of unspecified duration
Concussion NOS

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1.53 Concussion as a Pdx

Concussion as a Pdx

DRG 088 Concussion with MCC			
GMLOS 3.5	AMLOS 4.5	RW 1.4045	
Principal Diagnosis			
S06.0X0A	CONCUSSION W/O LOC INITIAL ENCOUNTER		
S06.0X1A	CONCUSSION W/LOC 30 MIN/LESS INITIAL ENCOUNTER		
S06.0X9A	CONCUSSION W/LOC UNSP DURATION INITIAL ENCOUNTER		
DRG 089 Concussion with CC			
GMLOS 2.7	AMLOS 3.3	RW 1.0068	
Select principal diagnosis listed under DRG 088			
DRG 090 Concussion without CC/MCC			
GMLOS 2.0	AMLOS 2.3	RW 0.7907	
Select principal diagnosis listed under DRG 088			

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1.54 Concussion

Concussion

- The impact of the diagnosis of concussion (or other types of brain injuries) **during the initial episode of care** as a secondary diagnosis can be a CC or MCC. The determination is affected by:
 - If there is a loss of consciousness
 - The duration of the loss of consciousness
 - The effect of the concussion
 - Did the patient return to pre-existing conscious levels?
 - Did the patient expire prior to regaining consciousness?
- All the above are key elements that need to be clarified in the health record

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1.55 Postconcussion Syndrome

Postconcussion Syndrome

- Make sure the documentation is clear as to if the person is in the **acute phase of the concussion** or experiencing **postconcussion syndrome**, which is captured by a different code
 - F07.81 Postconcussional syndrome**
Postcontusional syndrome (encephalopathy)
Post-traumatic brain syndrome, nonpsychotic
Use additional code to identify associated post-traumatic headache, if applicable (G44.3-)
Excludes1: current concussion (brain) (S06.0-)
postencephalitic syndrome (F07.89)
- Defined by the code set as a nonpsychotic disorder due to brain trauma
 - This clarification is especially important when the person presents within 24 to 48 hours of when the concussion occurred

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1.56 Types of Brain Injuries: Contusion

Types of Brain Injuries: Contusion

- A **brain contusion** is a bruise of the brain, a distinct area of swollen brain tissue that mixes with blood released from broken blood vessels
 - **Contrecoup:** The injury results from the brain shaking back and forth within the confines of the skull
 - **Diffuse axonal injury or shearing:** Damage to individual nerve cells (*neurons*), leading to a loss of connections among neurons and a breakdown of communication among neurons in the brain
- ICD-10-CM can capture the laterality of the affected part of the cerebrum

<http://familydoctor.org/familydoctor/en/diseases-conditions/head-injuries/printerview.all.html>
http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm

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1.57 ICD-10-CM Code Example for Contusion: Classified by CMS as MCCs

**ICD-10-CM Code Example for Contusion:
Classified by CMS as MCCs**

S06.31	Contusion and laceration of right cerebrum
S06.310	Contusion and laceration of right cerebrum without loss of consciousness
S06.311	Contusion and laceration of right cerebrum with loss of consciousness of 30 minutes or less
S06.312	Contusion and laceration of right cerebrum with loss of consciousness of 31 minutes to 59 minutes
S06.313	Contusion and laceration of right cerebrum with loss of consciousness of 1 hour to 5 hours 59 minutes
S06.314	Contusion and laceration of right cerebrum with loss of consciousness of 6 hours to 24 hours
S06.315	Contusion and laceration of right cerebrum with loss of consciousness greater than 24 hours with return to pre-existing conscious level
S06.316	Contusion and laceration of right cerebrum with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving
S06.317	Contusion and laceration of right cerebrum with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness
S06.318	Contusion and laceration of right cerebrum with loss of consciousness of any duration with death due to other cause prior to regaining consciousness
S06.319	Contusion and laceration of right cerebrum with loss of consciousness of unspecified duration
	Contusion and laceration of right cerebrum NOS

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1.60 ICD-10-CM Code Example: Diffuse Traumatic Brain Injury

ICD-10-CM Code Example: Diffuse Traumatic Brain Injury

S06.2 Diffuse traumatic brain injury
Diffuse axonal brain injury

Excludes1: traumatic diffuse cerebral edema (S06.1X-)

S06.2X Diffuse traumatic brain injury

- S06.2X0 Diffuse traumatic brain injury without loss of consciousness
- S06.2X1 Diffuse traumatic brain injury with loss of consciousness of 30 minutes or less
- S06.2X2 Diffuse traumatic brain injury with loss of consciousness of 31 minutes to 59 minutes
- S06.2X3 Diffuse traumatic brain injury with loss of consciousness of 1 hour to 5 hours 59 minutes
- S06.2X4 Diffuse traumatic brain injury with loss of consciousness of 6 hours to 24 hours
- S06.2X5 Diffuse traumatic brain injury with loss of consciousness greater than 24 hours with return to pre-existing conscious levels
- S06.2X6 Diffuse traumatic brain injury with loss of consciousness greater than 24 hours without return to pre-existing conscious level with patient surviving
- S06.2X7 Diffuse traumatic brain injury with loss of consciousness of any duration with death due to brain injury prior to regaining consciousness
- S06.2X8 Diffuse traumatic brain injury with loss of consciousness of any duration with death due to other cause prior to regaining consciousness
- S06.2X9 Diffuse traumatic brain injury with loss of consciousness of unspecified duration
Diffuse traumatic brain injury NOS

MCC {

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1.61 Diffuse and Focal Traumatic Injuries

Diffuse and Focal Traumatic Injuries

- Although ICD-10-CM has more specific codes to better describe the type of brain injury, both diffuse and focal traumatic injuries will map to the same MS-DRGs
- Important documentation issues include:
 - The **acuity** of the condition (i.e., new onset)
 - Clarifying the **type** of traumatic brain injury
 - Determining if loss of **consciousness** occurred
 - The **duration** of unconsciousness when applicable

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1.62 Diffuse and Focal Traumatic Injuries

Diffuse and Focal Traumatic Injuries (cont.)

- Possible MS-DRGs include:
 - DRG 082 Traumatic Stupor and Coma, Coma **Greater Than** One Hour with MCC
 - GMLOS 3.4 AMLOS 5.7 RW 2.0079
 - DRG 083 Traumatic Stupor and Coma, Coma **Greater Than** One Hour with CC
 - GMLOS 3.3 AMLOS 4.3 RW 1.2817
 - DRG 084 Traumatic Stupor and Coma, Coma **Greater Than** One Hour without CC/MCC
 - GMLOS 2.2 AMLOS 2.8 RW .9262

DRG 085 Traumatic Stupor and Coma, Coma Less Than One Hour

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1.63 Types of Brain Injuries: Hematoma

Types of Brain Injuries: Hematoma

- **Hematoma:** Bleeding in the brain from damage to a major blood vessel or heavy bleeding into or around the brain that collects and clots, creating a deformity/bulge
 - Can increase intracranial pressure, leading to additional brain damage as brain tissue is pressed against the skull, culminating in coma and death
 - Treatment often includes evacuation

<http://familydoctor.org/familydoctor/en/diseases-conditions/head-injuries.printerview.all.html>
http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm

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1.64 Types of Brain Injuries: Hematoma

Types of Brain Injuries: Hematoma (cont.)

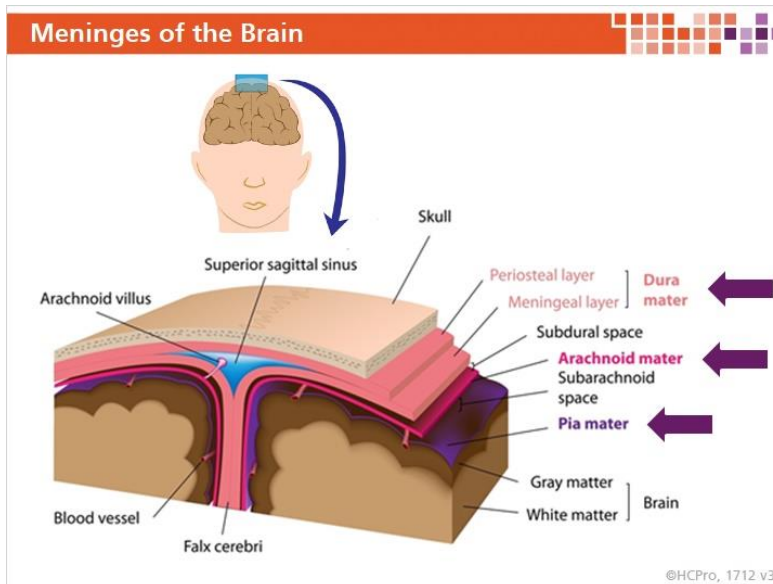
- A **hematoma** is classified as a **hemorrhage** in ICD-10-CM

Hematoma (traumatic) (skin surface intact) —see also Contusion

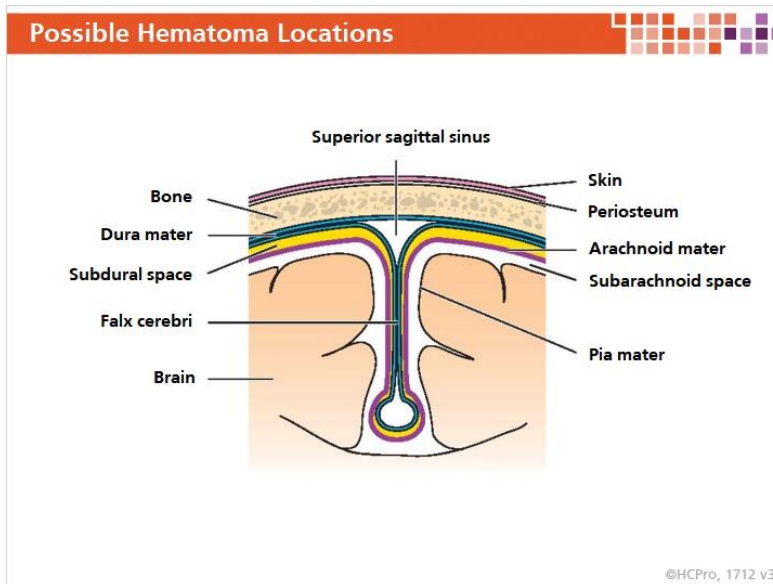
- with
- - injury of internal organs —see Injury, by site
- - open wound —see Wound, open
- - amputation stump (surgical) (late) T87.89
- - aorta, dissecting I71.00
- - abdominal I71.02
- - thoracic I71.01
- - thoracoabdominal I71.03
- - aortic intramural —see Dissection, aorta
- - arterial (complicating trauma) —see Injury, blood vessel, by site
- - auricle —see Contusion, ear
- - nontraumatic —see Disorder, pinna, hematoma
- - birth injury NEC P15.8
- - brain (traumatic)
- - with
- - - cerebral laceration or contusion (diffuse) —see Injury, intracranial, diffuse
- - - focal —see Injury, intracranial, focal
- - - cerebellar, traumatic S06.37-
- - - newborn NEC P52.4
- - - birth injury P10.1
- - - intracerebral, traumatic —see Injury, intracranial, intracerebral hemorrhage
- - - nontraumatic —see Hemorrhage, intracranial
- - - subarachnoid, arachnoid, traumatic —see Injury, intracranial, subarachnoid hemorrhage
- - - subdural, traumatic —see Injury, intracranial, subdural hemorrhage
- - breast (nontraumatic) N64.89
- - broad ligament (nontraumatic) N83.7
- - traumatic S37.892
- - cerebellar, traumatic S06.37-
- - cerebral —see Hematoma, brain
- - cerebrum S06.36-
- - - left S06.35-
- - - right S06.34-

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1.65 Meninges of the Brain



1.66 Possible Hematoma Locations



1.67 Types of Hematomas: Epidural

Types of Hematomas: Epidural

1. An **epidural hematoma** involves bleeding into the area between the skull and the dura (outer covering of the brain)

- It is also referred to as extradural
- Often the result of a skull fracture

The diagram is identical to the one in 1.66, showing a cross-section of the skull and meninges. A purple arrow points to the space between the Bone and the Dura mater, which is the epidural space.

http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm
<http://www.nlm.nih.gov/medlineplus/ency/article/001412.htm>

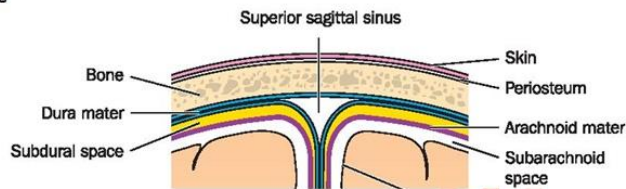
©HCPPro, 1712.v3

1.68 Types of Hematomas: Subdural

Types of Hematomas: Subdural

2. A **subdural hematoma** is bleeding confined to the area between the dura, which covers the brain, and the surface of the brain (e.g., arachnoid membrane)

- It is usually the result of a serious head injury
- Traumatic or "acute" subdural hematomas are among the deadliest of all head injuries because the bleeding fills the brain area very rapidly, compressing brain tissue



http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm

<http://www.nlm.nih.gov/medlineplus/ency/article/001412.htm>

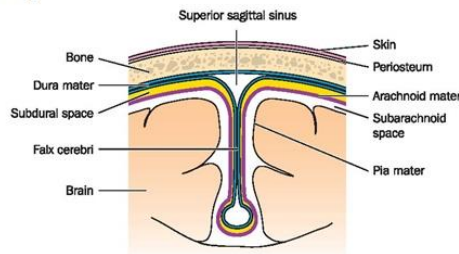
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1.69 Types of Hematomas: Intracerebral and Subarachnoid

Types of Hematomas: Intracerebral and Subarachnoid

3. Bleeding within the brain itself is called **intracerebral hematoma**

- Intracerebral equals the **cerebrum** in ICD-10-CM and can capture laterality
- ICD-10-CM also has a code when the hematoma occurs in the subarachnoid area



http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm

<http://familydoctor.org/familydoctor/en/diseases-conditions/head-injuries.printerview.all.html>

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1.70 Types of Brain Injuries: Skull Fracture

Types of Brain Injuries: Skull Fracture

- A **skull fracture** is when the skull cracks
 - There are two types of skull fractures, but in both types the broken skull bones can cut into the brain and cause bleeding or other injury
 - A **depressed** skull fracture occurs when pieces of the broken skull press into the tissue of the brain
 - A **penetrating** skull fracture occurs when something pierces the skull, such as a bullet, leaving a distinct and localized injury to brain tissue
 - ICD-10-CM doesn't differentiate between these types of skull fractures; codes vary by the location of the fracture on the skull

http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm

<http://familydoctor.org/familydoctor/en/diseases-conditions/head-injuries/printerview.all.html>

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1.71 Example of Skull Fracture Codes

Example of Skull Fracture Codes

S02.0 Fracture of vault of skull
Fracture of frontal bone
Fracture of parietal bone

S02.1 Fracture of base of skull
Excludes1: orbit NOS (S02.8)
Excludes2: orbital floor (S02.3-)

S02.10 Unspecified fracture of base of skull

S02.11 Fracture of occiput

S02.110 Type I occipital condyle fracture

S02.111 Type II occipital condyle fracture

S02.112 Type III occipital condyle fracture

S02.113 Unspecified occipital condyle fracture

S02.118 Other fracture of occiput

S02.119 Unspecified fracture of occiput

S02.19 Other fracture of base of skull
Fracture of anterior fossa of base of skull
Fracture of ethmoid sinus
Fracture of frontal sinus
Fracture of middle fossa of base of skull
Fracture of orbital roof
Fracture of posterior fossa of base of skull

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1.72 Reporting Fractures

Reporting Fractures

- In regard to reporting a fracture (including skull fractures) as a secondary diagnosis:
 - A closed fracture is usually classified by CMS as a CC
 - An open fracture is usually classified by CMS as an MCC

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1.73 Demonstrating the Severity of the TBI

Demonstrating the Severity of the TBI

- CDI efforts should not only focus on accurately identifying the specific type of brain injury, but also encourage documentation of accompanying injuries
- Some of the accompanying injuries, like cerebral edema or compression of the brain, may be considered integral with some injuries, but it is still helpful to educate the provider to document **all associated conditions**
- The coder, with the guidance of coding guidelines and *Coding Clinic*, will determine which documented conditions are and are not reportable

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1.74 Complications of Brain Injuries: Coma

Complications of Brain Injuries: Coma

- Classified as a MCC as a secondary diagnosis
 - Deep state of unconsciousness
 - The person is alive but unable to move or respond to his or her environment; they have lost their thinking abilities and awareness of their surroundings, but retain non-cognitive function and normal sleep patterns

<http://www.nlm.nih.gov/medlineplus/coma.html> ©HCPPro, 1712 v3

1.75 Complications of Brain Injuries: Coma

Complications of Brain Injuries: Coma (cont.)

- A coma rarely lasts more than 2 to 4 weeks
 - May last for years or even decades
 - Most common cause of death is infection, such as pneumonia
- The outcome for coma depends on the cause, severity, and site of the damage
 - People may come out of a coma with physical, intellectual, and psychological problems

<http://www.nlm.nih.gov/medlineplus/coma.html> ©HCPPro, 1712 v3

1.76 Complications of Brain Injuries: Coma

Complications of Brain Injuries: Coma (cont.)


- Documentation of the term “coma” is associated with ICD-10-CM code R40.20

R40.2 Coma
Code first any associated:
fracture of skull (S02.-)
intracranial injury (S06.-)

Note: One code from subcategories R40.21-R40.23 is required to complete the coma scale

R40.20 Unspecified coma
Coma NOS
Unconsciousness NOS

- Code first: Any associated injury codes

 **Example**
Skull fracture or intracranial injury would be coded first followed by the coma code

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1.77 Complications of Brain Injuries: Coma (cont.)

Complications of Brain Injuries: Coma (cont.)

- Acute state
- When a coma becomes more “permanent,” it is often referred to as a **persistent vegetative state (R40.3 = CC)**, which is not the same as brain death
 - Although the person has lost their higher brain functions, other key functions such as breathing and circulation remain relatively intact so the person may appear somewhat normal, but does not speak and is unable to respond to commands

<http://www.nlm.nih.gov/medlineplus/coma.html>

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1.78 Glasgow Coma Scale (GCS)

Glasgow Coma Scale (GCS)

- The Glasgow Coma Scale (GCS) is the most common scoring system used to **describe the level of consciousness** (i.e., status of the central nervous system [CNS]) in a person following brain/head injury
 - It is used to help gauge the severity of an acute brain injury
 - It is simple, reliable, and correlates well with outcome following severe brain injury
 - It is an objective way of recording the initial and subsequent level of consciousness

<http://www.brainjine.org/content/2010/10/what-is-the-glasgow-coma-scale.html> ©HCPPro, 1712 v3

1.79 Glasgow Coma Scale (cont.)

Glasgow Coma Scale (cont.)

- Significant impairment not diagnosed as a **coma** can now be captured
 - Use of these subscales helps capture the nuances associated with neurological impairment
 - Education and/or revision of assessment forms may be required as providers often focus on the total score rather than the score for each subset
 - Currently the values associated with the total score are reportable, but not classified as a CC or MCC

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1.80 Glasgow Coma Scale (cont.)

Glasgow Coma Scale (cont.)

- The guidelines require code **R40.24**, Glasgow coma scale, total score, be reported when **only** the total score is documented in the medical record and not the individual score(s)

R40.24 Glasgow coma scale, total score
Use codes R40.21- through R40.23- only when the individual score(s) are documented

R40.241 Glasgow coma scale score 13-15

R40.242 Glasgow coma scale score 9-12

R40.243 Glasgow coma scale score 3-8

R40.244 Other coma, without documented Glasgow coma scale score, or with partial score reported

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1.81 Glasgow Coma Scale (cont.)

Glasgow Coma Scale (cont.)

- The coma scale codes (R40.2-) can be used in conjunction with:
 - Traumatic brain injury codes
 - Acute cerebrovascular disease
 - Or sequelae of cerebrovascular disease codes
 - Other non-trauma conditions

Important

Because the ICD-10-CM code set allows for the reporting of a score for each specific coma subscale, significant impairment not diagnosed as a coma can now be captured. Use of these subscales help capture the nuances associated with neurological impairment

<https://www.cms.gov/Medicare/Coding/ICD10/Downloads/2016-ICD-10-CM-Guidelines.pdf>

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1.82 Glasgow Coma Scale (cont.)

Glasgow Coma Scale (cont.)

- One code from each subcategory (of three) is needed to complete the coma scale
 - The 7th character associated with each code indicates when the scale was recorded
 - The 7th character should match for all three codes
 - All subscales should be assessed at the same time as providers are usually focused on obtaining the total score

The appropriate 7th character is to be added to each code from subcategory |

- 0 - unspecified time
- 1 - in the field [EMT or ambulance]
- 2 - at arrival to emergency department
- 3 - at hospital admission
- 4 - 24 hours or more after hospital admission

Note: A code from each subcategory is required to complete the coma scale

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1.83 Glasgow Coma Scale (cont.)

Glasgow Coma Scale (cont.)

- At a minimum, organizations are to **report the initial score** documented on presentation at your facility
 - This may be a score from the emergency medicine technician (EMT) or in the emergency department
 - If desired, a facility may choose to capture multiple coma scale scores
 - *This is beneficial when the patient's condition deteriorates during the admission*
- Usually documented by the nursing staff within the hospital setting, so clarification was needed to allow reporting of this code when documented by nonphysicians

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1.84 Coding Clinic ICD-10-CM, 1st Qtr 2014

Coding Clinic ICD-10-CM, 1st Qtr 2014

? Question

- Coders are concerned there is no official advice that allows the use of nonphysician documentation for Glasgow coma scores ...

Answer

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1.85 Coding Clinic ICD-10-CM, 1st Qtr 2014 (cont.)

Coding Clinic ICD-10-CM, 1st Qtr 2014 (cont.)

? Answer

- Because coders were concerned about whose documentation can be used for the Glasgow coma scale, *Coding Clinic* clarified **that it is appropriate** to use non-providers and prehospital reports to determine the Glasgow coma scale.

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1.86 Coma Subscales

Coma Subscales

- Encourage the ED, trauma, and neurology staff to include each section of the coma scale on their assessment forms to capture this specificity

R40.21 Coma scale, eyes open

- R40.211 Coma scale, eyes open, never = MCC
- R40.212 Coma scale, eyes open, to pain = MCC
- R40.213 Coma scale, eyes open, to sound
- R40.214 Coma scale, eyes open, spontaneous

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1.87 Coma Subscales

Coma Subscales (cont.)

R40.22 Coma scale, best verbal response

- MCC R40.221 Coma scale, best verbal response, none
- MCC R40.222 Coma scale, best verbal response, incomprehensible words
- R40.223 Coma scale, best verbal response, inappropriate words
- R40.224 Coma scale, best verbal response, confused conversation
- R40.225 Coma scale, best verbal response, oriented

R40.23 Coma scale, best motor response

- MCC R40.231 Coma scale, best motor response, none
- MCC R40.232 Coma scale, best motor response, extension
- R40.233 Coma scale, best motor response, abnormal
- R40.234 Coma scale, best motor response, flexion withdrawal
- R40.235 Coma scale, best motor response, localizes pain
- R40.236 Coma scale, best motor response, obeys commands

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1.90 Documenting Coma

Documenting Coma

- Focus documentation on ensuring that:
 - All components of the GSC scale are completed
 - The seventh digit accurately reflects when the scale was recorded

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1.91 CDI Focus for Coma Scale/Brain Injury

CDI Focus for Coma Score/Brain Injury

- Think about:
 - Does the patient's documented diagnosis(es) correlate with their coma score?
 - If the patient is in a coma, are we capturing any/all associated secondary diagnoses:
 - Cerebral edema?
 - Compression of brain?
 - What is the respiratory status?
 - Intubation for airway protection?

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1.92 Cerebral Anoxia: Cerebral Hypoxia

Cerebral Anoxia: Cerebral Hypoxia

- The clinical term for anoxia is cerebral hypoxia
 - Decrease of oxygen supply to the brain even though there is adequate blood flow
 - Brain cells are extremely sensitive to oxygen deprivation and can begin to die within five minutes after oxygen supply has been cut off
 - Possible causes include drowning, strangling, choking, suffocation, cardiac arrest, head trauma, carbon monoxide poisoning, and complications of general anesthesia

<http://www.ninds.nih.gov/disorders/anoxia/anoxia.htm> ©HCPPro, 1712 v3

1.93 Cerebral Anoxia: Cerebral Hypoxia

Cerebral Anoxia: Cerebral Hypoxia (cont.)

- Symptoms include:
 - Inattentiveness
 - Poor judgment
 - Memory loss
 - Decreased motor coordination
- When hypoxia lasts for longer periods of time, it can cause:
 - Coma
 - Seizures
 - Brain death

<http://www.ninds.nih.gov/disorders/anoxia/anoxia.htm> ©HCPPro, 1712 v3

1.94 Cerebral Anoxia

Cerebral Anoxia

- Documentation affects code assignment

Anoxia (pathological) R09.02 ←

→ - altitude T70.29
- cerebral G93.1
-- complicating

R09.0 Asphyxia and hypoxemia

Excludes1: asphyxia due to carbon monoxide (T58.-)
asphyxia due to foreign body in respiratory tract (T17.-)
birth (intrauterine) asphyxia (P84)
hypercapnia (R06.4)
hyperventilation (R06.4)
traumatic asphyxia (T71.-)

R09.01 Asphyxia
→ R09.02 Hypoxemia

- Clarification of the anoxia as “cerebral” maps to code G93.1, anoxic brain damage, not elsewhere classified (NEC), which is classified as a CC

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1.95 Midline Shift: A Clinical Term

Midline Shift: A Clinical Term

- One of the most important indicators of increased intracranial pressure due to mass effect is **midline shift**
- Any intra-axial or extra-axial lesion (tumor, hemorrhage, abscess, etc.) has the potential to exert mass effect on the brain parenchyma and **cause lateral shift of the midline structures**
- It is measured in millimeters, as the perpendicular distance between a midline structure (usually the septum pellucidum) and a line designated the midline
- The amount of midline shift is one of the strongest indicators of neurosurgical prognosis

<http://radiopaedia.org/articles/midline-shift>

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1.96 Cerebral Herniation: A Clinical Term

Cerebral Herniation: A Clinical Term

- Cerebral herniation, also referred to as acquired intracranial herniation, refers to shift of cerebral tissue from its normal location into an adjacent space as a result of mass effect
- Any intracranial mass can have this effect:
 - Intracranial hemorrhage
 - Cerebral swelling
 - Tumors

<http://radiopaedia.org/articles/midline-shift> ©HCPPro, 1712 v3

1.99 Compression of the Brain

Compression of the Brain

- Compression of the brain is the coding term often associated with a “mass effect,” “midline shift,” or “cerebral herniation”
- Elevated pressure in the brain, causing the brain tissue to “shift” from its normal location (not the same as increased intracranial pressure, which maps to code G93.2) due to:
 - Blood clot
 - Tumor
 - Fracture
 - Abscess
 - Other condition

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1.100 Alphabetic Index: Compression of Brain

Alphabetic Index: Compression of Brain

Compression

- with injury - code by Nature of injury
- artery I77.1
- - celiac, syndrome I77.4
- brachial plexus G54.0
- brain (stem) G93.5
- - due to
- - - contusion (diffuse) —see Injury, intracranial, diffuse
- - - focal —see Injury, intracranial, focal
- - - injury NEC —see Injury, intracranial, diffuse
- - traumatic —see Injury, intracranial, diffuse

G93.5 Compression of brain

- Arnold-Chiari type 1 compression of brain
- Compression of brain (stem)
- Herniation of brain (stem)

Excludes1: diffuse traumatic compression of brain (S06.2-)
focal traumatic compression of brain (S06.3-)

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1.101 Compression of the Brain

Compression of the Brain

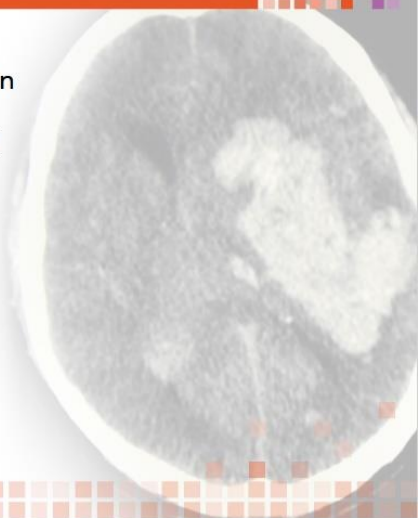
- Providers often describe brain compression with terms such as “midline shift” or “mass effect”
- Unfortunately we cannot assign the appropriate code for compression based on these terms
- A query for clarification would be required

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1.102 Cerebral Edema

Cerebral Edema

- Sometimes there is confusion regarding when cerebral edema can be reported as an additional diagnosis since it is an MCC as a secondary diagnosis



1.103 Accurate Code Assignment

Accurate Code Assignment

- Both cerebral edema and hydrocephalus have codes that identify the cause of the condition as traumatic (i.e., a more specific code)

G93.6 Cerebral edema
Excludes1: cerebral edema due to birth injury (P11.0)
traumatic cerebral edema (S06.1-)

- Cerebral edema is classified as an MCC; however, most of the **traumatic cerebral edema codes are classified as CCs**
 - S06.1X{6,7,8}A are MCCs

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1.104 Hydrocephalus

Hydrocephalus

- Hydrocephalus, which means “water on the brain,” is a buildup of fluid inside the skull that leads to brain swelling
- Unlike cerebral edema, hydrocephalus is due to a problem with the flow of cerebrospinal fluid (CSF) that surrounds the brain
 - CSF normally moves through the brain and the spinal cord, and is absorbed into the bloodstream
 - CSF surrounds the brain and spinal cord, and helps cushion the brain

<http://www.nlm.nih.gov/medlineplus/ency/article/001571.htm> ©HCPro, 1712.v3

1.105 Example Hydrocephalus Codes

Example Hydrocephalus Codes

- These codes are CCs as a secondary diagnosis except for G91.4, hydrocephalus in diseases classified elsewhere

G91 Hydrocephalus
Includes: acquired hydrocephalus
Excludes1: Arnold-Chiari syndrome with hydrocephalus (Q07.-)
congenital hydrocephalus (Q03.-)
spina bifida with hydrocephalus (Q05.-)

G91.0 Communicating hydrocephalus
Secondary normal pressure hydrocephalus

G91.1 Obstructive hydrocephalus

G91.2 (Idiopathic) normal pressure hydrocephalus
Normal pressure hydrocephalus NOS

G91.3 Post-traumatic hydrocephalus, unspecified

G91.4 Hydrocephalus in diseases classified elsewhere
Code first underlying condition, such as:
congenital syphilis (A50.4-)
neoplasm (C00-D49)
Excludes1: hydrocephalus due to congenital toxoplasmosis (P37.1)

G91.8 Other hydrocephalus

G91.9 Hydrocephalus, unspecified

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1.106 Hidden MCCs

Hidden MCCs

- Support for many neurological conditions are hidden in the nurse's notes as most significant neurological conditions increase nursing care because many are **monitored** rather than treated
- Those without a clinical background may not capture the nuance associated with levels of care within a hospital
- Patients placed in ICU or step-down units receive more frequent vital sign checks and neurological checks compared to those who are placed on a regular medical/surgical floor

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1.107 How to Capture “Hidden” MCCs

How to Capture “Hidden” MCCs

- Suggest the addition of an order set such as:
 - Cerebral edema protocol
 - Compression of the brain protocol
- Inclusion of these orders support the significance of the neurological condition that requires increased nursing care
- Most ICUs have care “protocols” that are automatic with placement in the unit, so it may not be apparent to an auditor

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