ICD-10’s Impact Upon Physicians Neurology

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- American Health Information Management Association (AHIMA) certified coding specialist since 2001
- Association of Clinical Documentation Improvement Specialists (ACDIS) Advisory Board
- Multiple author on clinical aspects of ICD-10 and DRGs

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Goals

• Have a firm understanding of how CMS and the state of California evaluate physician/hospital quality
• Know the differences between the CDC’s ICD-9-CM and ICD-10-CM/PCS terminology
• Master challenging definitions impacting severity and risk adjustment
• Devise a plan to assure the integrity of their ICD-10-CM/PCS data measuring patient outcomes
ICD-10-CM/PCS is Like the Phone Book
Interesting Characters – Terrible Plot

Dictionary w/o Definitions

Dictionary w/o Definitions
ICD-10 Implementation Date
October 1, 2015

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>Procedures</th>
</tr>
</thead>
</table>
| **ICD-10-CM**  
(Clinical Modification) | **ICD-10-PCS**  
(Procedure Coding System) |
| All entities - providers and facilities for diagnoses in all settings:  
– Hospital inpatients  
– Hospital outpatients  
– Physicians offices  
– Emergency department  
– Home health  
– Long-term care  
– Rehabilitation facilities | Used by inpatient facilities ONLY  
• Includes outpatient facility services rendered within the prior 72 hours of writing the inpatient order  
• Very different than ICD-9-CM or CPT  
|  
|  
|  

CPT  
• Physician and outpatient/observation facility services still utilize CPT  
• CPT does not change!! |
Dictionary w/o Definitions

Note that clinical terms are assigned numbers which, if submitted, labels the patient with that condition.

<table>
<thead>
<tr>
<th>Cerebrovascular diseases (I60-I69)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use additional code to identify presence of:</strong></td>
</tr>
<tr>
<td>alcohol abuse and dependence (F10.-)</td>
</tr>
<tr>
<td>exposure to environmental tobacco smoke (Z77.22)</td>
</tr>
<tr>
<td>history of tobacco use (Z87.891)</td>
</tr>
<tr>
<td>hypertension (I10-I15)</td>
</tr>
<tr>
<td>occupational exposure to environmental tobacco smoke (Z57.31)</td>
</tr>
<tr>
<td>tobacco dependence (F17.-)</td>
</tr>
<tr>
<td>tobacco use (Z72.0)</td>
</tr>
</tbody>
</table>

**Excludes1:** transient cerebral ischemic attacks and related syndromes (G45.-)  
traumatic intracranial hemorrhage (S06.-)

<table>
<thead>
<tr>
<th>I60 Nontraumatic subarachnoid hemorrhage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Includes:</strong> ruptured cerebral aneurysm</td>
</tr>
</tbody>
</table>
| **Excludes1:** sequelae of subarachnoid hemorrhage (I69.0-)  
syphilitic ruptured cerebral aneurysm (A52.05) |

<table>
<thead>
<tr>
<th>I60.0 Nontraumatic subarachnoid hemorrhage from carotid siphon and bifurcation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I60.00 Nontraumatic subarachnoid hemorrhage from unspecified carotid siphon and bifurcation</td>
</tr>
<tr>
<td>I60.01 Nontraumatic subarachnoid hemorrhage from right carotid siphon and bifurcation</td>
</tr>
<tr>
<td>I60.02 Nontraumatic subarachnoid hemorrhage from left carotid siphon and bifurcation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I60.1 Nontraumatic subarachnoid hemorrhage from middle cerebral artery</th>
</tr>
</thead>
<tbody>
<tr>
<td>I60.10 Nontraumatic subarachnoid hemorrhage from unspecified middle cerebral artery</td>
</tr>
<tr>
<td>I60.11 Nontraumatic subarachnoid hemorrhage from right middle cerebral artery</td>
</tr>
<tr>
<td>I60.12 Nontraumatic subarachnoid hemorrhage from left middle cerebral artery</td>
</tr>
</tbody>
</table>
ICD-10-CM/PCS Basics

• ICD-10-CM/PCS (and ICD-9-CM) are NOT clinical languages (like SNOMED)
  – ICD-9-CM and ICD-10-CM/PCS are useful for classifying healthcare data for administrative purposes, including reimbursement claims, health statistics, and other uses where data aggregation is advantageous

• ICD-10-CM/PCS is based ONLY on provider documentation of clinical language, not on a patient’s clinical characteristics that are abstracted by a data analyst (e.g. like STS, NCDR, or ATS databases)
  – The provider must use the magic words that drive ICD-10-CM/PCS code assignment based upon patient circumstances
ICD-10-CM/PCS
Clinical vs. Administrative Disconnect

• Question: If a physician documents heart failure with preserved ejection fraction (HFpEF), or heart failure with preserved systolic function, or alternatively heart failure with reduced ejection fraction (HFrEF), heart failure with low ejection fraction, heart failure with reduced systolic function, or other similar terms, can the coder assume the physician means “diastolic heart failure” or “systolic heart failure,” respectively, and apply the proper ICD-9-CM code based on the documented clinical circumstances?

• Answer: No, the coder cannot assume either diastolic or systolic failure or a combination of both, based on these newer terms. Therefore, query the provider to clarify whether the patient has diastolic or systolic heart failure.
ICD-10-CM/PCS
Clinical vs. Administrative Disconnect

• In ICD-9-CM, “uncontrolled diabetes” inferred that a patient was hyperglycemic
• In ICD-10-CM, it doesn’t

Dear Dr. Kennedy:

This letter is in response to your request for clarification whether documentation of "uncontrolled diabetes" can be equated to "diabetes out of control" or "diabetes poorly controlled" in reference to diabetes with hyperglycemia.

Query the provider for clarification whether "diabetes uncontrolled" is considered diabetes with hyperglycemia so that the appropriate codes may be reported. It would be inappropriate for coders to assume a diagnosis without clarification from the provider. When the documentation is vague or unclear, the provider should be queried.

I trust this information will be of assistance to you.

Source: Coding Clinic for ICD-10-CM Central Office
US Modifications – ICD-10-CM and PCS

The Cooperating Parties

- CDC
  - Responsible for diagnoses
- CMS
  - Responsible for inpatient procedures
- American Hospital Assn.
  - Responsible for interpreting ICD-9 or ICD-10 (Coding Clinic)
- American HIM Assn.
  - Provides input from coding community
What’s Old? 
ICD-9-CM
What’s New
ICD-10-CM
# ICD-9-CM and ICD-10-CM/PCS Diagnoses and Procedures

<table>
<thead>
<tr>
<th>Code Type</th>
<th>ICD-9-CM</th>
<th>ICD-10-CM PCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosis</td>
<td>14,567 codes</td>
<td>69,832 codes</td>
</tr>
<tr>
<td>Inpatient Procedures</td>
<td>3,878 codes</td>
<td>71,920 codes</td>
</tr>
</tbody>
</table>
Overall Changes

- 34,250 (50%) are related to the musculoskeletal system
- 17,045 (25%) are related to fractures
- 10,582 (62%) of fracture codes to distinguish ‘right’ vs. ‘left’
- ~25,000 (36%) of all ICD-10 codes to distinguish ‘right’ vs. ‘left’
Clinical Changes
Expansions and Deletions

• Marked expansion of codes
  – Trauma, overdoses, or complications treatment phases
  – Office encounters
  – Asthma
  – Diabetes mellitus
  – Obstetrics (trimesters)
  – Non-pressure ulcer staging
  – Myocardial infarction timing and vessel involvement
  – Open fractures staging
  – Cerebral hemorrhage location
  – Ischemic stroke vessel involvement
  – Coma (Glasgow Coma Scale)
  – Atrial flutter and fibrillation
  – Drug underdosing

• Deletion of MD language, such as:
  – Urosepsis
    • Must say “sepsis due to UTI”
  – SIRS due to infection
    • Must say “sepsis” or “severe sepsis”
  – Accelerated or malignant hypertension
    • Must describe the organ dysfunction caused by hypertension to measure severity

MD progress notes and DC summaries must use ICD-10-CM’s language (Index or Table) as to defend the assigned code.
### Differences from ICD-9-CM to ICD-10-CM

<table>
<thead>
<tr>
<th></th>
<th>ICD-9-CM Diagnosis Codes</th>
<th>ICD-10-CM Diagnosis Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Laterality</strong></td>
<td>No Laterality</td>
<td>Laterality – Right or Left account for 35-40% of codes</td>
</tr>
<tr>
<td><strong>Code Construction</strong></td>
<td>3-5 digits</td>
<td>7 digits</td>
</tr>
<tr>
<td></td>
<td>First digit is alpha (E or V) or numeric</td>
<td>Digit 1 is alpha; Digit 2 is numeric</td>
</tr>
<tr>
<td></td>
<td>Digits 2-5 are numeric</td>
<td>Digits 3–7 are alpha or numeric</td>
</tr>
<tr>
<td></td>
<td>Decimal is placed after the third character</td>
<td>Decimal is placed after the third character</td>
</tr>
<tr>
<td><strong>Placeholders</strong></td>
<td>No placeholder characters</td>
<td>“X” placeholders</td>
</tr>
<tr>
<td><strong># of Codes</strong></td>
<td>14,000 codes</td>
<td>69,000 codes</td>
</tr>
<tr>
<td><strong>Severity</strong></td>
<td>Limited Severity Parameters</td>
<td>Extensive Severity Parameters</td>
</tr>
<tr>
<td><strong>Combination</strong></td>
<td>Limited Combination Codes</td>
<td>Extensive Combination Codes</td>
</tr>
<tr>
<td><strong>Excludes Notes</strong></td>
<td>1 type of Excludes Notes</td>
<td>2 types of Excludes Notes</td>
</tr>
</tbody>
</table>
New Changes
Excludes Notes

**Excludes1** - A type 1 Excludes note is a pure excludes.
- It means 'NOT CODED HERE!'
- An Excludes1 note indicates that the code excluded should never be used at the same time as the code above the Excludes1 note.
- An Excludes1 is used when two conditions cannot occur together, such as a congenital form versus an acquired form of the same condition.

**Excludes2** - A type 2 excludes note represents 'Not included here'.
- An excludes2 note indicates that the condition excluded is not part of the condition it is excluded from but a patient may have both conditions at the same time.
- When an Excludes2 note appears under a code it is acceptable to use both the code and the excluded code together.
Excludes1 and Excludes2 Examples

G04 Encephalitis, myelitis and encephalomyelitis

Includes: acute ascending myelitis
meningoencephalitis
meningomyelitis

Excludes1: encephalopathy NOS (G93.40)

Excludes2:
- acute transverse myelitis (G37.3-)
- alcoholic encephalopathy (G31.2)
- benign myalgic encephalomyelitis (G93.3)
- multiple sclerosis (G35)
- subacute necrotizing myelitis (G37.4)
- toxic encephalitis (G92)
- toxic encephalopathy (G92)

G04.0 Acute disseminated encephalitis and encephalomyelitis (ADEM)

Excludes1: acute necrotizing hemorrhagic encephalopathy (G04.3-)
    other noninfectious acute disseminated encephalomyelitis (noninfectious ADEM) (G04.81)

G04.00 Acute disseminated encephalitis and encephalomyelitis, unspecified

G04.01 Postinfectious acute disseminated encephalitis and encephalomyelitis (postinfectious ADEM)

Excludes1:
- post chickenpox encephalitis (B01.1)
- post measles encephalitis (B05.0)
- post measles myelitis (B05.1)

G04.02 Postimmunization acute disseminated encephalitis, myelitis and encephalomyelitis

Encephalitis, post immunization
Encephalomyelitis, post immunization

Use additional code to identify the vaccine (T50.A-, T50.B-, T50.Z-)

Requirement for Documentation on Each Record

- Each encounter’s codes must be based on the physician’s documentation (not the problem list) for that encounter
  - Coders are prohibited from using previous documentation to support the specificity of a code from the current encounter
Coding Cannot Rely on Previous Notes Must Document Completely Each Time

• The ICD-10-CM Official Guidelines state that “Patients previously diagnosed with any HIV illness (B20) should never be assigned to R75 or Z21, Asymptomatic human immunodeficiency virus [HIV] infection status”

• HOWEVER, If the physician only documents “positive HIV” on a codeable encounter, the coder must use the Z21 code rather than B20
  – This is because the Cooperating Parties want each record to stand on its own for coding purposes, even if the resultant code doesn’t make sense
Put the MEAT in your Documentation
At Least Once A Year

• **Monitor**—signs, symptoms, disease progression, disease regression
  – “Diabetes, well controlled w/diet”; “Alcohol dependence in remission, got 20 year chip”; “Toe amputation status, no evidence of complications”

• **Evaluate**—test results, medication effectiveness, response to treatment
  – “Hypertension, well controlled w/Rx”

• **Assess/Address**—ordering tests, discussion, review records, counseling
  – “HIV Disease w/lymphadenopathy, check CD4 count”

• **Treat**—medications, therapies, other modalities
  – “Thrush, treat with oral nystatin”
Conditions Interdependencies (M.U.S.I.C.)

- **Manifestation**
  - Aphasia, right sided weakness, amarosis fugax

- **Underlying cause or pathology**
  - Ischemic cerebral infarction

- **Severity or specificity**
  - Weakness involves right dominant side
  - Stroke involves left middle cerebral infarction

- **Instigating or precipitating cause**
  - Cerebral embolus in the setting of persistent atrial fibrillation
  - Underdosing of the patient’s warfarin due to financial difficulty in obtaining medication

- **Complications or consequences**
  - Vasogenic edema requiring expectant intensive care monitoring
  - Hemorrhage within stroke due to heparin
  - Midline shift due to edema resulting in subfalcine herniation

When given a diagnosis, place it one of these categories and then look for the other four, linking them with terms such as “due to,” “resulting in,” and the like.
General Coding Rules for Physicians
(Even Inpatient Physicians)

• **ICD-10-CM code for the diagnosis, condition, problem, or other reason for encounter/visit**
  – List first the ICD-10-CM code for the diagnosis, condition, problem, or other reason for encounter/visit shown in the medical record to be chiefly responsible for the services provided.
    • In some cases the first-listed diagnosis may be a symptom when a diagnosis has not been established (confirmed) by the physician
  – List additional codes that describe any coexisting conditions.

• **H. Uncertain diagnosis**
  – Do not code diagnoses documented as “probable”, “suspected,” “questionable,” “rule out,” or “working diagnosis” or other similar terms indicating uncertainty. Rather, code the condition(s) to the highest degree of certainty for that encounter/visit, such as symptoms, signs, abnormal test results, or other reason for the visit.
  – **Please note: This differs from the coding practices used by short-term, acute care, long-term care and psychiatric hospitals.**
Coding Rules for **Hospitals Only**

**Uncertain Diagnoses**

- If the diagnosis documented at the time of discharge is qualified as “probable”, “suspected”, “likely”, “questionable”, “possible”, or “still to be ruled out”, or other similar terms indicating uncertainty, code the condition as if it existed or was established.
  - The bases for these guidelines are the diagnostic workup, arrangements for further workup or observation, and initial therapeutic approach that correspond most closely with the established diagnosis.

- **Note**: This guideline is applicable only to inpatient admissions to short-term, acute, long-term care and psychiatric hospitals.
Personal and Family History

History (of)

• There are two types of history Z codes, personal and family.
  – Personal history codes explain a patient’s past medical condition that no longer exists and is not receiving any treatment, but that has the potential for recurrence, and therefore may require continued monitoring.
  – Family history codes are for use when a patient has a family member(s) who has had a particular disease that causes the patient to be at higher risk of also contracting the disease.

• A history of an illness, even if no longer present, is important information that may alter the type of treatment ordered.
  – Consequently, important to document and code whenever present
ICD-10-CM - Current malignancy vs. personal history of malignancy

• When a primary malignancy has been excised but further treatment, such as an additional surgery for the malignancy, radiation therapy or chemotherapy is directed to that site, the primary malignancy code should be used until treatment is completed
  – For liquid cancers, indicate whether the malignancy is active, in remission, or in relapse
  – For solid cancers, any patient receiving adjuvant treatment should be documented as being active, not a “history of malignancy”

• When a primary malignancy has been previously excised or eradicated from its site, there is no further treatment (of the malignancy) directed to that site, and there is no evidence of any existing primary malignancy, a code from category Z85, Personal history of malignant neoplasm, should be used to indicate the former site of the malignancy.

Source: ICD-10 Official Guidelines for Coding and Reporting
Send Your Own Questions to Coding Clinic Advisor

Anyone can send in questions and do it online
   – They are now accepting ICD-10-CM/PCS questions

http://www.codingclinicadvisor.com
It’s FREE, so physicians should ask questions!
ICD-10
Physician Revenue Cycle Impact

• Ancillary claim payment
  – “Medical necessity” is currently based on an ICD-9-CM
    • ICD-10 codes after October 1, 2014
  – Payers typically release diagnosis codes supporting “medical necessity” through provider bulletins

• ICD-10 Payer Transition
  – Starts with the CMS General Equivalence Mappings
  – Additional modifications added according to their policies
  – Results often published on the web or in their bulletins
    • Hard to find
CMS National Coverage Determinations
Home PT Monitoring

- Note that codes for secondary hypercoagulable states are not included.

http://tinyurl.com/CMSICD10LCDs
Q2. What happens if I use the wrong ICD-10 code, will my claim be denied?

A1. While diagnosis coding to the correct level of specificity is the goal for all claims, for 12 months after ICD-10 implementation, Medicare review contractors will not deny physician or other practitioner claims billed under the Part B physician fee schedule through either automated medical review or complex medical record review based solely on the specificity of the ICD-10 diagnosis code as long as the physician/practitioner used a valid code from the right family. **However, a valid ICD-10 code will be required on all claims starting on October 1, 2015.** It is possible a claim could be chosen for review for reasons other than the specificity of the ICD-10 code and the claim would continue to be reviewed for these reasons. This policy will be adopted by the Medicare Administrative Contractors, the Recovery Audit Contractors, the Zone Program Integrity Contractors, and the Supplemental Medical Review Contractor.

“Family of Codes”

• “Family of codes” is the same as the ICD-10 three-character category.
  – Codes within a category are clinically related and provide differences in capturing specific information on the type of condition.
  – For instance, category H25 (Age-related cataract) contains a number of specific codes that capture information on the type of cataract as well as information on the eye involved.
    • Examples include: H25.031 (Anterior subcapsular polar age-related cataract, right eye), which has six characters; H25.22 (Age-related cataract, morgagnian type, left eye), which has five characters; and H25.9 (Unspecified age-related cataract), which has four characters.

• One must report a valid code and not a category number. In many instances, the code will require more than 3 characters in order to be valid.
Medi-Cal ICD-10
Medical Necessity - Crosswalk

• **Medi-Cal implementation of ICD-10**
  – Medi-Cal will be using a crosswalk solution in the legacy California Medicaid Management Information System (CA-MMIS).
    • Medi-Cal has mapped all ICD-10 codes to corresponding ICD-9 codes by starting with the General Equivalence Mappings (GEMs) provided by the Centers for Medicare & Medicaid Services (CMS) and modifying the mappings to align with existing Medi-Cal policy.
    • Claims will be run against the crosswalk to determine the ICD-9 value to process through the system.

• **Will an ICD-10 to ICD-9 crosswalk be published?**
  – Medi-Cal will not publish the crosswalk.
  – However, the provider manuals will be updated with the ICD-10 codes as appropriate.
Mapping Tool
http://tinyurl.com/I9toI10crosswalk

Note how ICD-10-CM combined benign, malignant, and unspecified HTN into one code, I10 - HTN
Potential Problems with GEMS:

- A single ICD-9-CM code may now be represented by multiple ICD-10-CM codes
  - One to many
- Multiple ICD-9-CM codes may map to only one ICD-10 code
  - Many to one
- An ICD-10 code cannot be arbitrarily chosen from the GEM
  - A code may not represent the complexity of the illness (e.g. unspecified code) – this could result in underpayments
  - A code may overstate the complexity of the illness – this could result in audits and retrospective recovery of payments

**ALWAYS VERIFY CODES IN THE ICD-10-CM BOOK PRIOR TO CLAIM SUBMISSION.**

**DO NOT RELY ON ANY GEM TOOL ALONE**
StJHS’s ICD-10 Strategy - CDI

Physician

CDI Team

ICD-10 Coder
ICD-10 Prep
How do we do it?

• The best way to get ready for ICD-10 is to do ICD-9-CM correctly and then negotiate the differences
  – A team effort of which DOCHS is willing and ready to assist
What’s Old?
ICD-9-CM

Diagram:
- Numeric or Alpha (E or V)
- Numeric
- Category
- Etiology, anatomic site, manifestation
What’s New
ICD-10-CM

S 3 2
Category

0 1 0
Etiology, anatomic site, severity

A
Additional characters (7th character) for obstetrics, injuries, and external causes of injury
Clinical Changes
Expansions and Deletions

- Marked expansion of codes
  - Trauma, overdoses, or complications treatment phases
  - Office encounters
  - Asthma
  - Diabetes mellitus
  - Obstetrics (trimesters)
  - Non-pressure ulcer staging
  - Myocardial infarction timing and vessel involvement
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ICD-10-CM
Intraoperative vs. Postoperative

<table>
<thead>
<tr>
<th>ICD-10 Code</th>
<th>Description</th>
<th>MS DRG CC/MCC</th>
<th>HAC</th>
<th>APR DRG SOI</th>
<th>APR DRG ROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>G9731</td>
<td>Intraoperative hemorrhage and hematoma of a nervous system organ or structure complicating a nervous system procedure</td>
<td>CC</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>G9732</td>
<td>Intraoperative hemorrhage and hematoma of a nervous system organ or structure complicating other procedure</td>
<td>CC</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>G9741</td>
<td>Accidental puncture or laceration of dura during a procedure</td>
<td>CC</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>G9748</td>
<td>Accidental puncture and laceration of other nervous system organ or structure during a nervous system procedure</td>
<td>CC</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>G9751</td>
<td>Postprocedural hemorrhage and hematoma of a nervous system organ or structure following a nervous system procedure</td>
<td>CC</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>G9752</td>
<td>Postprocedural hemorrhage and hematoma of a nervous system organ or structure following other procedure</td>
<td>CC</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>G9781</td>
<td>Other intraoperative complications of nervous system</td>
<td>CC</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>G9782</td>
<td>Other postprocedural complications and disorders of nervous system</td>
<td>CC</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

- Requires specificity of intraoperative events and whether it is due to the surgery or another cause (e.g. medications)
### Intraoperative hemorrhage

<table>
<thead>
<tr>
<th>Surgical complication system/body Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>circulatory system, digestive system, ears, endocrine system, eyes, genitourinary system, mastoid process, musculoskeletal system, nervous system, ocular adnexa, respiratory system, skin, spleen, subcutaneous tissue</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Procedure type</th>
</tr>
</thead>
<tbody>
<tr>
<td>cardiac catheterization, cardiac bypass, other circulatory system, circulatory, unspecified, non-circulatory system, dermatologic, non-dermatologic, digestive system</td>
</tr>
<tr>
<td>non-digestive system, ear, non-ear, endocrine system, non-endocrine system, genitourinary system, non-genitourinary system, mastoid process, non-mastoid process, musculoskeletal system, non-musculoskeletal system, nervous system, non-nervous system, ophthalmic system, non-ophthalmic system, respiratory system, non-respiratory system, splenic system, non-splenic system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laterality</th>
</tr>
</thead>
<tbody>
<tr>
<td>left, right, bilateral, unspecified laterality</td>
</tr>
</tbody>
</table>

### Postoperative hemorrhage

<table>
<thead>
<tr>
<th>Surgical complication system/body Area</th>
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<tbody>
<tr>
<td>circulatory system, digestive system, ears, endocrine system, eyes, genitourinary system, mastoid process, musculoskeletal system, nervous system, ocular adnexa, respiratory system, skin, spleen, subcutaneous tissue</td>
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</tr>
<tr>
<td>non-digestive system, ear, non-ear, endocrine system, non-endocrine system, genitourinary system, non-genitourinary system, mastoid process, non-mastoid process, musculoskeletal system, non-musculoskeletal system, nervous system, non-nervous system, ophthalmic system, non-ophthalmic system, respiratory system, non-respiratory system, splenic system, non-splenic system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laterality</th>
</tr>
</thead>
<tbody>
<tr>
<td>left, right, bilateral, unspecified laterality</td>
</tr>
</tbody>
</table>
ICD-10 Enhances Specificity
Intracerebral Hemorrhage

ICD-9-CM

- 431 Intracerebral hemorrhage
  - Hemorrhage (of):
    - basilar
    - bulbar
    - cerebellar
    - cerebral
    - cerebromeningeal
    - cortical
    - internal capsule
    - intrapontine
    - pontine
    - subcortical
    - ventricular
  - Rupture of blood vessel in brain

ICD-10-CM

- I61 Nontraumatic intracerebral hemorrhage
  - I61.0 - Nontraumatic intracerebral hemorrhage in hemisphere, subcortical
    - Deep intracerebral hemorrhage (nontraumatic)
  - I61.1 Nontraumatic intracerebral hemorrhage in hemisphere, cortical
    - Cerebral lobe hemorrhage (nontraumatic)
    - Superficial intracerebral hemorrhage (nontraumatic)
  - I61.2 Nontraumatic intracerebral hemorrhage in hemisphere, unspecified
  - I61.3 Nontraumatic intracerebral hemorrhage in brain stem
  - I61.4 Nontraumatic intracerebral hemorrhage in cerebellum
  - I61.5 Nontraumatic intracerebral hemorrhage, intraventricular
  - I61.6 Nontraumatic intracerebral hemorrhage, multiple localized
  - I61.8 Other nontraumatic intracerebral hemorrhage
  - I61.9 Nontraumatic intracerebral hemorrhage, unspecified

Expansion from one code to 9 codes
Stroke
Differentiation from TIA

- Focal Arterial Ischemia
  - Yes: Silent CNS Infarction (CNS Infarction)
    - Yes: TIA
    - No: Ischemic Stroke (CNS Infarction)
  - No: Ischemic Stroke (CNS Infarction)

- Pathological/Imaging Evidence of infarction
  - Yes: TIA
  - No: (or not done)
### Table 3. Frequency of DWI Abnormality in Patients With Transient Neurological Episodes of Different Durations: Pooled Data From 10 MRI Studies Enrolling 818 Patients

<table>
<thead>
<tr>
<th>Duration of Symptoms, h</th>
<th>DWI Hyperintensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–1</td>
<td>33.6</td>
</tr>
<tr>
<td>1–2</td>
<td>29.5</td>
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<tr>
<td>2–3</td>
<td>39.5</td>
</tr>
<tr>
<td>3–6</td>
<td>30.0</td>
</tr>
<tr>
<td>6–12</td>
<td>51.1</td>
</tr>
<tr>
<td>12–18</td>
<td>50.0</td>
</tr>
<tr>
<td>18–24</td>
<td>49.5</td>
</tr>
</tbody>
</table>
tPA Administration with “TIA”

• TIA or impending stroke with tPA groups to MS-DRG 69 – transient ischemia – RW 0.7311 ONLY!
  – This diagnosis does not group to MS-DRG 061–063
• “Aborted stroke” on discharge code to stroke, grouping as follows:

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>MS-DRG title</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>061</td>
<td>ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W MCC</td>
<td>2.9568</td>
</tr>
<tr>
<td>062</td>
<td>ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W CC</td>
<td>1.9479</td>
</tr>
<tr>
<td>063</td>
<td>ACUTE ISCHEMIC STROKE W USE OF THROMBOLYTIC AGENT W/O CC/MCC</td>
<td>1.5251</td>
</tr>
</tbody>
</table>

Accident
- birth — see Birth, injury
- cardiac — see Infarct, myocardium
- cerebral I63.9
- cerebrovascular (embolic) (ischemic) (thrombotic) I63.9
- aborted I63.9
- hemorrhagic — see Hemorrhage, intracranial, intracerebral
- old (without sequelae) Z86.73
- - with sequelae (of) — see Sequelae, infarction, cerebral
- coronary — see Infarct, myocardium
- craniovascular I63.9
- vascular, brain I63.9
I63.0  Cerebral infarction due to thrombosis of precerebral arteries
  I63.00  Cerebral infarction due to thrombosis of unspecified precerebral artery
  I63.01  Cerebral infarction due to thrombosis of vertebral artery
    I63.011  Cerebral infarction due to thrombosis of right vertebral artery
    I63.012  Cerebral infarction due to thrombosis of left vertebral artery
    I63.019  Cerebral infarction due to thrombosis of unspecified vertebral artery
  I63.02  Cerebral infarction due to thrombosis of basilar artery
  I63.03  Cerebral infarction due to thrombosis of carotid artery
    I63.031  Cerebral infarction due to thrombosis of right carotid artery
    I63.032  Cerebral infarction due to thrombosis of left carotid artery
    I63.039  Cerebral infarction due to thrombosis of unspecified carotid artery
  I63.09  Cerebral infarction due to thrombosis of other precerebral artery

I63.1  Cerebral infarction due to embolism of precerebral arteries
  I63.10  Cerebral infarction due to embolism of unspecified precerebral artery
  I63.11  Cerebral infarction due to embolism of vertebral artery
    I63.111  Cerebral infarction due to embolism of right vertebral artery
    I63.112  Cerebral infarction due to embolism of left vertebral artery
    I63.119  Cerebral infarction due to embolism of unspecified vertebral artery
  I63.12  Cerebral infarction due to embolism of basilar artery
  I63.13  Cerebral infarction due to embolism of carotid artery
    I63.131  Cerebral infarction due to embolism of right carotid artery
    I63.132  Cerebral infarction due to embolism of left carotid artery
    I63.139  Cerebral infarction due to embolism of unspecified carotid artery
  I63.19  Cerebral infarction due to embolism of other precerebral artery
I63.3  Cerebral infarction due to thrombosis of cerebral arteries

I63.30  Cerebral infarction due to thrombosis of unspecified cerebral artery

I63.31  Cerebral infarction due to thrombosis of middle cerebral artery
  I63.311  Cerebral infarction due to thrombosis of right middle cerebral artery
  I63.312  Cerebral infarction due to thrombosis of left middle cerebral artery
  I63.319  Cerebral infarction due to thrombosis of unspecified middle cerebral artery

I63.32  Cerebral infarction due to thrombosis of anterior cerebral artery
  I63.321  Cerebral infarction due to thrombosis of right anterior cerebral artery
  I63.322  Cerebral infarction due to thrombosis of left anterior cerebral artery
  I63.329  Cerebral infarction due to thrombosis of unspecified anterior cerebral artery

I63.33  Cerebral infarction due to thrombosis of posterior cerebral artery
  I63.331  Cerebral infarction due to thrombosis of right posterior cerebral artery
  I63.332  Cerebral infarction due to thrombosis of left posterior cerebral artery
  I63.339  Cerebral infarction due to thrombosis of unspecified posterior cerebral artery

I63.34  Cerebral infarction due to thrombosis of cerebellar artery
  I63.341  Cerebral infarction due to thrombosis of right cerebellar artery
  I63.342  Cerebral infarction due to thrombosis of left cerebellar artery
  I63.349  Cerebral infarction due to thrombosis of unspecified cerebellar artery

I63.39  Cerebral infarction due to thrombosis of other cerebral artery
Meditech Build

- Meditech will have many of this type of specificity in the “Qualifiers” section of the problem list
While Hemiparesis = Hemiplegia, Monoparesis ≠ Monoplegia

<table>
<thead>
<tr>
<th>I69.34</th>
<th>Monoplegia of lower limb following cerebral infarction</th>
</tr>
</thead>
<tbody>
<tr>
<td>I69.341</td>
<td>Monoplegia of lower limb following cerebral infarction affecting right dominant side</td>
</tr>
<tr>
<td>I69.342</td>
<td>Monoplegia of lower limb following cerebral infarction affecting left dominant side</td>
</tr>
<tr>
<td>I69.343</td>
<td>Monoplegia of lower limb following cerebral infarction affecting right non-dominant side</td>
</tr>
<tr>
<td>I69.344</td>
<td>Monoplegia of lower limb following cerebral infarction affecting left non-dominant side</td>
</tr>
<tr>
<td>I69.349</td>
<td>Monoplegia of lower limb following cerebral infarction affecting unspecified side</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I69.35</th>
<th>Hemiplegia and hemiparesis following cerebral infarction</th>
</tr>
</thead>
<tbody>
<tr>
<td>I69.351</td>
<td>Hemiplegia and hemiparesis following cerebral infarction affecting right dominant side</td>
</tr>
<tr>
<td>I69.352</td>
<td>Hemiplegia and hemiparesis following cerebral infarction affecting left dominant side</td>
</tr>
<tr>
<td>I69.353</td>
<td>Hemiplegia and hemiparesis following cerebral infarction affecting right non-dominant side</td>
</tr>
<tr>
<td>I69.354</td>
<td>Hemiplegia and hemiparesis following cerebral infarction affecting left non-dominant side</td>
</tr>
<tr>
<td>I69.359</td>
<td>Hemiplegia and hemiparesis following cerebral infarction affecting unspecified side</td>
</tr>
</tbody>
</table>

I69.x98 (depending on the underlying event)

M62.81 – Muscle weakness

Use additional code to identify the sequelae
# Stroke Consequences

## “Sided” Weakness

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I69051</td>
<td>Hemiplegia and hemiparesis following <em>nontraumatic subarachnoid hemorrhage</em> affecting right dominant side</td>
</tr>
<tr>
<td>I69052</td>
<td>Hemiplegia and hemiparesis following <em>nontraumatic subarachnoid hemorrhage</em> affecting left dominant side</td>
</tr>
<tr>
<td>I69151</td>
<td>Hemiplegia and hemiparesis following <em>nontraumatic intracerebral hemorrhage</em> affecting right dominant side</td>
</tr>
<tr>
<td>I69152</td>
<td>Hemiplegia and hemiparesis following <em>nontraumatic intracerebral hemorrhage</em> affecting left dominant side</td>
</tr>
<tr>
<td>I69251</td>
<td>Hemiplegia and hemiparesis following <em>other nontraumatic intracranial hemorrhage</em> affecting right dominant side</td>
</tr>
<tr>
<td>I69252</td>
<td>Hemiplegia and hemiparesis following <em>other nontraumatic intracranial hemorrhage</em> affecting left dominant side</td>
</tr>
<tr>
<td>I69351</td>
<td>Hemiplegia and hemiparesis following <em>cerebral infarction</em> affecting right dominant side</td>
</tr>
<tr>
<td>I69352</td>
<td>Hemiplegia and hemiparesis following <em>cerebral infarction</em> affecting left dominant side</td>
</tr>
<tr>
<td>I69851</td>
<td>Hemiplegia and hemiparesis following <em>other cerebrovascular disease</em> affecting right dominant side</td>
</tr>
<tr>
<td>I69852</td>
<td>Hemiplegia and hemiparesis following <em>other cerebrovascular disease</em> affecting left dominant side</td>
</tr>
<tr>
<td>I69951</td>
<td>Hemiplegia and hemiparesis following <em>unspecified cerebrovascular disease</em> affecting right dominant side</td>
</tr>
<tr>
<td>I69952</td>
<td>Hemiplegia and hemiparesis following <em>unspecified cerebrovascular disease</em> affecting left dominant side</td>
</tr>
</tbody>
</table>

**Note:** In ICD-9-CM and ICD-10, hemiparesis and hemiplegia share the same code.

**Note:** The right side is presumed to be dominant unless documented otherwise.

**Note:** Weakness of a side can be interpreted to be hemiparesis if attributed to a stroke.
Stroke Consequences
“Bilateral” “Sided” Weakness

• In ICD-10-CM, “quadriparesis” = “quadriplegia”
• Explicit documentation of neurologic quadriparesis due to (multiple) stroke(s) adds weight to hospital and physician risk adjustment
Other Neurological Muscle Weaknesses

G82 Paraplegia (paraparesis) and quadriplegia (quadriparesis)

Note: This category is to be used only when the listed conditions are reported without further specification, or are stated to be old or longstanding but of unspecified cause. The category is also for use in multiple coding to identify these conditions resulting from any cause.

Excludes1: congenital cerebral palsy (G80.-)
  functional quadriplegia (R53.2)
  hysterical paralysis (F44.4)

G82.2 Paraplegia
  Paralysis of both lower limbs NOS
  Paraparesis (lower) NOS
  Paraplegia (lower) NOS
  G82.20 Paraplegia, unspecified
  G82.21 Paraplegia, complete
  G82.22 Paraplegia, incomplete

G82.5 Quadriplegia
  G82.50 Quadriplegia, unspecified
  G82.51 Quadriplegia, C1-C4 complete
  G82.52 Quadriplegia, C1-C4 incomplete
  G82.53 Quadriplegia, C5-C7 complete
  G82.54 Quadriplegia, C5-C7 incomplete

If the coding system asks you to specify if a muscle weakness is due to
  • A stroke or not
  • Cerebral palsy
  • Spinal cord injury
  • Other specified neurological diseases

Pay attention!
Functional Quadriplegia (Quadraparesis) (versus Neurological Quadraplegia)

- *The ICD-10-CM Official Guidelines* is the only definition of this term on the planet - Not listed on PubMed.Gov
- Functional quadriplegia (code R53.2) is the lack of ability to use one’s limbs or to ambulate due to extreme debility.
  - It is not associated with neurologic deficit or injury, and code R53.2 should not be used for cases of neurologic quadriplegia.
  - It should only be assigned if functional quadriplegia is specifically documented in the medical record

```
R53.2 Functional quadriplegia
Complete immobility due to severe physical disability or frailty
Excludes1: frailty NOS (R54)
    hysterical paralysis (F44.4)
    immobility syndrome (M62.3)
    neurologic quadriplegia (G82.5-)
    quadriplegia (G82.50)
```
Subdural Hematomas

• Acute vs. subacute vs. chronic
• Traumatic (assumed) vs. nontraumatic

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I6200</td>
<td>Nontraumatic subdural hemorrhage, unspecified</td>
</tr>
<tr>
<td>I6201</td>
<td>Nontraumatic acute subdural hemorrhage</td>
</tr>
<tr>
<td>I6202</td>
<td>Nontraumatic subacute subdural hemorrhage</td>
</tr>
<tr>
<td>I6203</td>
<td>Nontraumatic chronic subdural hemorrhage</td>
</tr>
</tbody>
</table>

• Physicians must define and specify these in their documentation
  – Coders cannot code from inpatient X-ray reports
Stroke or Intracranial Hematoma
Consequences

10% of anterior circulation strokes will have large mass effects (malignant infarctions)

- **Cerebral edema**
  - NIHSS scores > 15 in right brain & > 20 in left brain within 6 hrs. of Sx
  - Predicted by hypodensity of the affected territory, loss of gray/white junction, or a hyperdense MCA sign on CT less than 6 hours from stroke onset
  - Demonstrated by mass effect with compression of the lateral ventricle and midline shift and reduction of level of consciousness after 24 hours

- **Cerebral herniation**

Source: Wikipedia - [http://tinyurl.com/4ydzdl](http://tinyurl.com/4ydzdl) - Used with permission
Cerebral Edema Due to Stroke

**Question:** A patient is admitted and diagnosed with intracerebral hemorrhage (ICH). The provider also documented “vasogenic edema.” Is it appropriate to code the vasogenic edema?

**Answer:** Assign code 431, Intracerebral hemorrhage, as the principal diagnosis. Assign code 348.5, Cerebral edema, as an additional diagnosis. It is appropriate to code the cerebral edema separately since it is not inherent in cerebral hemorrhage.

Cerebral edema is a MCC
Physician must document additional monitoring inherent to its presence

**Treatment**
- Intensive care
- Likely intubation
- Hyperventilation
- Mannitol or hypertonic Saline
- Glycerol
- Diuretics
- High-dose steroids (e.g., Decadron)
- Possibly surgery
• **Question:** The patient suffered an acute subdural hematoma with shift and mass effect. We have been instructed by a consultant that shift and mass effect are clinically synonymous with brain compression and should be coded as such.
  – Would it be appropriate to assign code 348.4, Compression of brain, based on the provider’s documentation of "mass effect or midline shift"?

• **Answer:** The coder should not make the assumption that midline shift or mass effect is synonymous with brain compression.
  – The coder should query the provider and if the provider clarifies and documents that the "mass effect" or "midline shift" is brain compression, the coder may then assign a code for the brain compression.
Cerebral Edema, Cerebral Herniation

- Decadron treats the edema, not the malignancy
- Note any cerebral herniation or compression
  - Not “mid-line shift”
Case Study
Subfalcine Herniation

Radiology Report

1. No significant interval change in volume of a mixed density right-sided subdural hematoma with associated mass effect on the underlying brain parenchyma. Persistent right to left midline shift measuring 7 to 8 mm with a mild component of subfalcine herniation.

Operative Report

PREOPERATIVE DIAGNOSES
Large mixed blood product age, right subdural hematoma, and left hemiplegia

POSTOPERATIVE DIAGNOSES
Large mixed blood product age, right subdural hematoma, and left hemiplegia

PROCEDURES
1. Right-sided craniotomy for evacuation of subdural hematoma
2. Complex reconstruction of cranial bone flap with Lorenz plating system, greater than 5 cm

• Not documented by the neurosurgeon, thus not coded

• Is there a subfalcine herniation?
Midline Shift of Brain in Meditech 5.67

[with intracranial hypertension] **due to** [subdural hematoma] [epidural hematoma] [brain neoplasm] [cerebral hemorrhage] [traumatic brain injury] [ischemic stroke] [subarachnoid hemorrhage] [other etiology - ] **resulting in** [brain herniation] [respiratory failure] [Cheyne-Stokes respiration] [coma]
Other Stroke Consequences

I69.09 Other sequelae of nontraumatic subarachnoid hemorrhage
  I69.090 Apraxia following nontraumatic subarachnoid hemorrhage
  I69.091 Dysphagia following nontraumatic subarachnoid hemorrhage
    Use additional code to identify the type of dysphagia, if known (R13.1-)
  I69.092 Facial weakness following nontraumatic subarachnoid hemorrhage
    Facial droop following nontraumatic subarachnoid hemorrhage
  I69.093 Ataxia following nontraumatic subarachnoid hemorrhage
  I69.098 Other sequelae following nontraumatic subarachnoid hemorrhage
    Alterations of sensation following nontraumatic subarachnoid hemorrhage
    Disturbance of vision following nontraumatic subarachnoid hemorrhage
    Use additional code to identify the sequelae

I69.1 Sequelae of nontraumatic intracerebral hemorrhage
  I69.10 Unspecified sequelae of nontraumatic intracerebral hemorrhage
  I69.11 Cognitive deficits following nontraumatic intracerebral hemorrhage
  I69.12 Speech and language deficits 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
      Stuttering following nontraumatic subarachnoid hemorrhage
    I69.128 Other speech and language deficits following nontraumatic intracerebral hemorrhage
MDC 1 – Nervous System
Seizure Definitions

• **Seizures** are defined as finite episodes of disturbed cerebral function caused by abnormal, excessive, and synchronous electrical discharges in groups of cortical neurons
  • Various clinical phenomena may be apparent via observation, or the seizure may be subclinical and thus remain clinically inapparent

• **Convulsion** may be used clinically to refer to the motor manifestations of abnormal electrical activity and is synonymous with generalized motor seizures
  • **Nonconvulsive** seizure refers to seizure activity that does not involve motor symptomatology

• **Epilepsy** refers to the clinical condition of a patient with recurrent, unprovoked seizures
  • While it is not appropriately applied to seizures provoked by acute metabolic conditions or acute central nervous system (CNS) insults, ICD-9-CM classifies “seizure disorder” as epilepsy

G40 – Epilepsy and Recurrent Seizures

G40  Epilepsy and recurrent seizures

Note: the following terms are to be considered equivalent to intractable: pharmacoresistant (pharmacologically resistant), treatment resistant, refractory (medically) and poorly controlled

Excludes1: conversion disorder with seizures (F44.5)
  convulsions NOS (R56.9)
  hippocampal sclerosis (G93.81)
  mesial temporal sclerosis (G93.81)
  post traumatic seizures (R56.1)
  seizure (convulsive) NOS (R56.9)
  seizure of newborn (P90)
  temporal sclerosis (G93.81)
  Todd's paralysis (G83.8)

• Note that a seizure is not epilepsy unless the physician documents
  – Seizure disorder
  – Recurrent seizures
  – Epilepsy

• Mesial temporal sclerosis and post-traumatic seizures may not be submitted together on the same claim
Epilepsy Structure
Partial-Complex Seizures

G40.2 Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures
Attacks with alteration of consciousness, often with automatisms
Complex partial seizures developing into secondarily generalized seizures

G40.20 Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, not intractable
Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures without intractability

G40.201 Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, not intractable, with status epilepticus

G40.209 Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, not intractable, without status epilepticus
Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures NOS

G40.21 Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable

G40.211 Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable, with status epilepticus

G40.219 Localization-related (focal) (partial) symptomatic epilepsy and epileptic syndromes with complex partial seizures, intractable, without status epilepticus
MDC 1 – Nervous System
Seizure Disorders – CC/MCC

• Not a CC
  – (Grand mal) seizure(s), seizure disorder NOS, or poorly controlled seizures

• CC
  – Any simple or complex partial seizure
  – Any infantile spasm
  – Epilepsia partialis continua
  – Any intractable or poorly controlled seizure disorder
    • Not intractable “seizures”

• MCC
  – Status epilepticus (grand mal, petit mal), intractable epilepsy partialis continua
MDC 1 – Nervous System
Seizure Definitions

• Status epilepticus has been generally defined as enduring seizure activity that is not likely to stop spontaneously
  • Traditional SE definition is 30 minutes of continuous seizure activity or two or more seizures without full recovery of consciousness between the seizures
    • The need to urgently treat GCSE has prompted recent efforts to reduce the time requirement for seizure activity to only five minutes
  • Nonconvulsive SE encompasses enduring seizures that do not include generalized motor convulsions, such as absence SE or complex partial SE

• Epilepsia partialis continua
  • Simple partial SE with motor symptoms
    • Not associated with higher mortality or other morbidity

Other Epilepsies

G40.4 Other generalized epilepsy and epileptic syndromes
   Epilepsy with grand mal seizures on awakening
   Epilepsy with myoclonic absences
   Epilepsy with myoclonic-astatic seizures
   Grand mal seizure NOS
   Nonspecific atonic epileptic seizures
   Nonspecific clonic epileptic seizures
   Nonspecific myoclonic epileptic seizures
   Nonspecific tonic epileptic seizures
   Nonspecific tonic-clonic epileptic seizures
   Symptomatic early myoclonic encephalopathy

G40.40 Other generalized epilepsy and epileptic syndromes, not intractable
   Other generalized epilepsy and epileptic syndromes without intractability
   Other generalized epilepsy and epileptic syndromes NOS

   G40.401 Other generalized epilepsy and epileptic syndromes, not intractable, with status epilepticus

   G40.409 Other generalized epilepsy and epileptic syndromes, not intractable, without status epilepticus

G40.41 Other generalized epilepsy and epileptic syndromes, intractable

   G40.411 Other generalized epilepsy and epileptic syndromes, intractable, with status epilepticus

   G40.419 Other generalized epilepsy and epileptic syndromes, intractable, without status epilepticus
Epilepsy due to External Causes

G40.5  Epileptic seizures related to external causes
   Epileptic seizures related to alcohol
   Epileptic seizures related to drugs
   Epileptic seizures related to hormonal changes
   Epileptic seizures related to sleep deprivation
   Epileptic seizures related to stress
Use additional code for adverse effect, if applicable, to identify drug (T36-T50 with fifth or sixth character 5)
Code also, if applicable, associated epilepsy and recurrent seizures (G40.-)

G40.50  Epileptic seizures related to external causes, not intractable
   G40.501  Epileptic seizures related to external causes, not intractable, with status epilepticus
   G40.509  Epileptic seizures related to external causes, not intractable, without status epilepticus
   Epileptic seizures related to external causes, NOS
Episodes of Care
Trauma and Medication-Related Events

• **Initial** encounter: receiving active treatment for an injury or illness.
  – Fx care: Emergency physician, orthopedist, radiologist, etc.
  – Drug poisoning/underdosing/adverse effect: Initial care

• **Subsequent** encounter: care during a period of healing or recovery.
  – Fx care: Cast change, suture removal, etc.
  – F/U of drug effect

• **Sequela**: After the healing process is complete.
  – Fx care: Arthritis remotely after trauma, etc.
  – Long term effects of drug effects
MDC 1 – Nervous System
Loss of Consciousness

- Length of time of any loss of consciousness with any trauma must be documented
  - “Unresponsive” does not have a code
  - “Loss of consciousness” ≠ coma in ICD-9-CM
  - Closed head injury ≠ concussion or traumatic brain injury

<table>
<thead>
<tr>
<th>MS-DRG</th>
<th>MS-DRG title</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
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<td>082</td>
<td>TRAUMATIC STUPOR &amp; COMA, COMA &gt;1 HR W MCC</td>
<td>2.0130</td>
</tr>
<tr>
<td>083</td>
<td>TRAUMATIC STUPOR &amp; COMA, COMA &gt;1 HR W CC</td>
<td>1.3264</td>
</tr>
<tr>
<td>084</td>
<td>TRAUMATIC STUPOR &amp; COMA, COMA &gt;1 HR W/O CC/MCC</td>
<td>0.8959</td>
</tr>
<tr>
<td>085</td>
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<tr>
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<td>0.6927</td>
</tr>
</tbody>
</table>
MDC 1 – Nervous System
Altered Mental Status

- **Manifestation**
  - Dementia, delirium, psychosis, stupor, coma
  - Unresponsive does not have a code

- **Underlying cause**
  - Various encephalopathies – other structural diseases of the brain
  - Stroke, TIA, Alzheimer’s disease, Lewy-body dementia, encephalitis

- **Severity or specificity**
  - Correlates with the severity of the manifestation
  - Acute or chronic (acute delirium is a CC; delirium NOS is not)

- **Instigating cause**
  - Drug toxicity (declare if it is an overdose or if not properly taken)
  - Cerebral embolus due to atrial fibrillation

- **Consequences or complications**
  - Acute respiratory failure
  - SIADH leading to hyponatremia resulting in a metabolic encephalopathy
Variations of Altered Mental Status

- Altered mental status is a commonly used nonspecific term often requiring queries for specificity, duration, and/or underlying or precipitating causes.
- ICD-10-CM does not always consider the symptom to be integral to the underlying cause.
  - Requires close attention to the ICD-10-CM Index to Diseases and Table.
ICD-10 Rules for Dementia/Delirium
“Code First” Requirements

- F01 - Vascular dementia
  - Code first the underlying physiological condition or sequelae of cerebrovascular disease
- F02 - Dementia in other diseases classified elsewhere
  - Code first the underlying physiological condition, such as:
- F03 - Unspecified dementia
- F04 - Amnestic disorder due to known physiological condition
  - Code first the underlying physiological condition
- F05 - Delirium due to known physiological condition
  - Code first the underlying physiological condition
- F06 - Other mental disorders due to known physiological condition
  - Code first the underlying physiological condition
- F07 - Personality and behavioral disorders due to known physiological condition
  - Code first the underlying physiological condition
- F09 - Unspecified mental disorder due to known physiological condition
  - Code first the underlying physiological condition

ICD-10 requires coders and CDSs to determine the underlying cause of delirium and dementia
MDC 1 - Altered Mental Status
Degenerative Nervous System DO

- Alzheimer’s Disease
- Hydrocephalus
- Primary and secondary Parkinson’s Disease

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>G300</td>
<td>Alzheimer’s disease with early onset</td>
</tr>
<tr>
<td>G301</td>
<td>Alzheimer’s disease with late onset</td>
</tr>
<tr>
<td>G308</td>
<td>Other Alzheimer’s disease</td>
</tr>
<tr>
<td>G309</td>
<td>Alzheimer’s disease, unspecified</td>
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<tr>
<td>G910</td>
<td>Communicating hydrocephalus</td>
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<tr>
<td>G911</td>
<td>Obstructive hydrocephalus</td>
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<tr>
<td>G913</td>
<td>Post-traumatic hydrocephalus, unspecified</td>
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<tr>
<td>G918</td>
<td>Other hydrocephalus</td>
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<tr>
<td>G919</td>
<td>Hydrocephalus, unspecified</td>
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<tr>
<td>G912</td>
<td>(Idiopathic) normal pressure hydrocephalus</td>
</tr>
<tr>
<td>G20</td>
<td>Parkinson’s disease</td>
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<td>G214</td>
<td>Vascular parkinsonism</td>
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<td>G2111</td>
<td>Neuroleptic induced parkinsonism</td>
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<tr>
<td>G2119</td>
<td>Other drug induced secondary parkinsonism</td>
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<td>G212</td>
<td>Secondary parkinsonism due to other external agents</td>
</tr>
<tr>
<td>G213</td>
<td>Postencephalitic parkinsonism</td>
</tr>
<tr>
<td>G218</td>
<td>Other secondary parkinsonism</td>
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</table>
Aggressive Behavior

F01  Vascular dementia
Vascular dementia as a result of infarction of the brain due to vascular disease, including hypertensive cerebrovascular disease.

Includes: arteriosclerotic dementia

Code first the underlying physiological condition or sequelae of cerebrovascular disease.

F01.5  Vascular dementia

F01.50  Vascular dementia without behavioral disturbance

F01.51  Vascular dementia with behavioral disturbance
Vascular dementia with aggressive behavior
Vascular dementia with combative behavior
Vascular dementia with violent behavior

Use additional code, if applicable, to identify wandering in vascular dementia (Z91.83)
Coma results from dysfunction of either the brainstem reticular activating system above the mid pons or of both cerebral hemispheres.

**Clinical (not coding) Stages**

- **Deepest stages:** no reaction of any kind is obtainable: corneal, pupillary, pharyngeal, tendon, and plantar reflexes are absent, and tone in the limb muscles is diminished.
- **With lesser degrees:** pupillary reactions, reflex ocular movements, and corneal and other brainstem reflexes are preserved in varying degree, and muscle tone in the limbs may be increased. Respiration may be slow or rapid, periodic, or deranged in other ways.
- **Lighter stages:** most of the above reflexes can be elicited, and the plantar reflexes may be either flexor or extensor (Babinski sign).

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<thead>
<tr>
<th>Score</th>
<th>Eye Opening</th>
<th>Verbal Response</th>
<th>Motor Response</th>
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<td>None</td>
<td>None</td>
<td>None</td>
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<tr>
<td>2</td>
<td>To pain</td>
<td>Vocal but not verbal</td>
<td>Extension</td>
</tr>
<tr>
<td>3</td>
<td>To voice</td>
<td>Verbal but not conversational</td>
<td>Flexion</td>
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<tr>
<td>4</td>
<td>Spontaneous</td>
<td>Conversational but disoriented</td>
<td>Withdraws from pain</td>
</tr>
<tr>
<td>5</td>
<td>—</td>
<td>Oriented</td>
<td>Localizes pain</td>
</tr>
<tr>
<td>6</td>
<td>—</td>
<td>—</td>
<td>Obeys commands</td>
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ICD-10 allows for GSC coding based on EMT and nursing documentation.

Source: Adams and Victor’s Principles of Neurology, 9th edition
<table>
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<th>ICD-10 Code</th>
<th>Description</th>
<th>2014 HCC#</th>
<th>2014 CM RW</th>
<th>2014 IN RW</th>
<th>APR-DRG SOI</th>
<th>APR-DRG ROM</th>
<th>APR-DRG PPC</th>
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<td>R402320</td>
<td>Coma scale, best motor response, extension</td>
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MDC 1 – Encephalopathy

- No uniform definition of encephalopathy
  - Dorland’s – any degenerative disorder of the brain.
  - Coding Clinic (not official for a definition) – toxic or metabolic encephalopathy denoting delirium that always has an underlying cause, such as brain tumors, brain metastasis, cerebral infarction or hemorrhage, cerebral ischemia, uremia, poisoning, systemic infection, or other illnesses.
  - NIH – any diffuse disease of the brain that alters brain function or structure. Encephalopathy may be caused by infectious agent (bacteria, virus, or prion), metabolic or mitochondrial dysfunction, brain tumor or increased pressure in the skull, prolonged exposure to toxic elements (including solvents, drugs, radiation, paints, industrial chemicals, and certain metals), chronic progressive trauma, poor nutrition, or lack of oxygen or blood flow to the brain. The hallmark of encephalopathy is an altered mental state.

Coding Clinic, 4th Quarter 1993; 4th Quarter 2003
www.ninds.nih.gov/disorders/encephalopathy/encephalopathy.htm
Encephalopathy
Physician Literature

http://www.tinyurl.com/TMEncephalopathy

Toxic and Metabolic Encephalopathies

Alan H. Lockwood

CHAPTER OUTLINE

Clinical Manifestations 1321
Toxic Encephalopathies 1322
  Hepatic Encephalopathy 1322
  Acute Liver Failure 1329
  Uremic Encephalopathy 1329

Metabolic Disturbances 1331
  Disorders of Glucose Metabolism 1331
  Disorders of Water and Electrolyte Metabolism 1335

Drug Overdose and Toxic Exposures 1338

Miscellaneous Disorders 1338
Toxic/Metabolic Encephalopathies
Definitions

• Toxic and metabolic encephalopathies are a group of neurological disorders characterized by an altered mental status
  - A delirium, defined as a disturbance of consciousness characterized by a reduced ability to focus, sustain, or shift attention that
  - Cannot be accounted for by preexisting or evolving dementia and that is caused by the direct physiological consequences of a general medical condition.
  - Fluctuation of the signs and symptoms of the delirium over relatively short time periods is typical.

MS-DRG MCC
APR-DRG
  – SOI – 3 of 4
  – ROM – 3 of 4
HCC
  – No relative weight
MDC 1 – Encephalopathy
Multiple Options in ICD-10-CM

Encephalopathy (acute) G93.40
- acute necrotizing hemorrhagic G04.30
- postimmunization G04.32
- postinfectious G04.31
- specified NEC G04.39
- alcoholic G31.2
- anoxic — see Damage, brain, anoxic
- arteriosclerotic I67.2
- centrolobar progressive (Schilder) G37.0
- congenital Q07.9
- degenerative, in specified disease NEC G32.89
- demyelinating callosal G37.1
- due to
  - drugs - (see also Table of Drugs and Chemicals) G92
    - hepatic — see Failure, hepatic
    - hyperbilirubinemic, newborn P57.9
    - due to isoimmunization (conditions in P55) P57.0
  - hypertensive I67.4
  - hypoglycemic E16.2
  - hypoxic — see Damage, brain, anoxic
  - hypoxic ischemic P91.60
    - mild P91.61
    - moderate P91.62
    - severe P91.63
- in (due to) (with)
  - birth injury P11.1
  - hyperinsulinism E16.1 [G94]
  - influenza — see Influenza, with, encephalopathy
  - lack of vitamin (see also Deficiency, vitamin) E56.9 [G32.89]
  - neoplastic disease (see also Neoplasm) D49.9 [G13.1]
  - serum (see also Reaction, serum) T80.69
    - syphilis A52.17
  - trauma (postconcussional) F07.81
    - current injury — see Injury, intracranial
    - vaccination G04.02
    - lead — see Poisoning, lead
    - metabolic G93.41
    - drug induced G92
    - toxic G92
    - myoclonic, early, symptomatic — see Epilepsy, generalized, specified NEC
- necrotizing, subacute (Leigh) G31.82
- pellagrous E52 [G32.89]
- portosystemic — see Failure, hepatic
- postcontusional F07.81
- current injury — see Injury, intracranial, diffuse
- posthypoglycemic (coma) E16.1 [G94]
- postradiation G93.89
- saturnine — see Poisoning, lead
- septic G93.41
- specified NEC G93.49
- spongioform, subacute (viral) A81.09
- toxic G92
- metabolic G92
- traumatic (postconcussional) F07.81
- current injury — see Injury, intracranial
- vitamin B deficiency NEC E53.9 [G32.89]
- vitamin B1 E51.2
- Wernicke's E51.2

Encephalopathy by itself must be queried for specificity
Red = MCC
MDC1 – Metabolic Encephalopathy

• A 72 yo WF on HCTZ presents for altered mental status. The serum Na was 109 meq/L. Other studies were normal. Slow correction was accomplished and she was DC’d home.

• Final diagnosis
  – Altered mental status due to severe hyponatremia due to HCTZ

• As documented
  – 641 – misc DO of nutrition, metabolism w/o MCC – RW 0.6988

• Documented as acute metabolic encephalopathy due to hyponatremia due to HCTZ
  – Hyponatremia as PDx
    • Same DRG as above with MCC – RW 1.1125
  – Encephalopathy as PDx
    • 71 – nonspecific cv disorders with CC – RW 1.0578
Delirium vs. Encephalopathy

• Delirium
  – acute change or fluctuation in mental status and inattention, accompanied by either disorganized thinking or an altered level of consciousness

• Encephalopathy
  – Global brain dysfunction

• Dr. Kennedy’s opinion
  – If the global brain dysfunction can be explained by an underlying condition or its exacerbation, then the term “encephalopathy” is integral to that condition.
  – Exacerbation of a neurodegenerative condition is NOT an encephalopathy
Hypertensive Encephalopathy

- Hypertensive encephalopathy is the term applied to a relatively rapidly evolving syndrome of severe hypertension in association with headache, nausea and vomiting, visual disturbances, confusion, and—in advanced cases—stupor and coma
  - Multiple seizures are frequent and may be more marked on one side of the body
  - Diffuse cerebral disturbance may be accompanied by focal or lateralizing neurologic signs, either transitory or lasting, which should suggest cerebral hemorrhage or infarction, i.e., the more common cerebrovascular complications of severe chronic hypertension
  - A clustering of multiple microinfarcts and petechial hemorrhages in one region may occasionally result in a mild hemiparesis, aphasic disorder, or rapid failure of vision
- Special characteristics of signal changes in the occipital white matter may occur
  - The terms reversible posterior leukoencephalopathy (RPLE) and posterior or reversible leukoencephalopathy syndrome (PRES)

Hepatic Encephalopathy

- A wide array of transient and reversible neurologic and psychiatric manifestations usually found in patients with chronic liver disease and portal hypertension, but also seen in patients with acute liver failure
  - Occurs in 50%–70% of patients with cirrhosis
- Treatment options
  - Diet – low protein
  - Medications – lactulose, neomycin, rifaximin, probiotics
- Serves as a reason for admission
  - Only a MCC if with coma

<table>
<thead>
<tr>
<th>GRADE</th>
<th>INTELLECTUAL FUNCTION</th>
<th>NEUROMUSCULAR FUNCTION</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Minimal, subclinical</td>
<td>Normal examination findings. Subtle changes in work or driving.</td>
<td>Minor abnormalities of visual perception or on psychometric or number tests</td>
</tr>
<tr>
<td>1</td>
<td>Personality changes, attention deficits, irritability, depressed state</td>
<td>Tremor and incoordination</td>
</tr>
<tr>
<td>2</td>
<td>Changes in sleep-wake cycle, lethargy, mood and behavioral changes, cognitive dysfunction</td>
<td>Asterixis, ataxic gait, speech abnormalities (slow and slurred)</td>
</tr>
<tr>
<td>3</td>
<td>Altered level of consciousness (somnolence), confusion, disorientation, and amnesia</td>
<td>Muscular rigidity, nystagmus, clonus, Babinski sign, hyporeflexia</td>
</tr>
<tr>
<td>4</td>
<td>Stupor and coma</td>
<td>Oculocephalic reflex, unresponsiveness to noxious stimuli</td>
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### Headache – Migraine

**What Hasn’t Changed**

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<th>ICD9 Title</th>
<th>ICD10</th>
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<td>Persistent migraine aura without cerebral infarction, without mention of</td>
<td>G43509 Persistent migraine</td>
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<tr>
<td></td>
<td>intractable migraine without mention of status migrainosus</td>
<td>aura without cerebral</td>
</tr>
<tr>
<td></td>
<td></td>
<td>infarction, not</td>
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<td>intractable, with</td>
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<td>34651</td>
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<td>G43519 Persistent migraine</td>
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<td>migraine, so stated, without mention of status migrainosus</td>
<td>aura without cerebral</td>
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<td>G43511 Persistent migraine</td>
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<td>aura without cerebral</td>
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<td>with status</td>
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<td>G43619 Persistent migraine</td>
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<td>aura with cerebral</td>
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<td>intractable, with</td>
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<td>34663</td>
<td>Persistent migraine aura with cerebral infarction, with intractable migraine</td>
<td>G43611 Persistent migraine</td>
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<td>G43709 Chronic migraine</td>
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# Headache – Migraine

## What Hasn’t Changed

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## Other Intractable Headaches

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Summary
Clinical Documentation Integrity

• Critical that your patient’s diagnoses are classified correctly
  – Coders are not allowed to clinically interpret
  – If you don’t write it down, they cannot code it
  – If they cannot code it, you cannot get credit for that part of your patient’s severity of illness
    • Lower Relative Weights
    • Lower Reimbursements
    • Look worse that you should in comparison with peers
Questions?