Taking the Mystery Out of Encephalopathy

Dawn Valdez, RN, LNC, CDIP, CCDS
Manager of CDI Education, CDI Clinical Educator
Ardent Health Services
Multi-States
Learning Objectives

• At the completion of this educational activity, the learner will be able to:

  – Understand the 4 most common types of encephalopathy

  – Accurately identify clinical indicators for toxic, metabolic, hepatic, and septic encephalopathy in the medical record

  – Demonstrate an understanding of how to review various clinical scenarios for the diagnosis of encephalopathy
Agenda

A. NIH definition of encephalopathy

B. Pathophysiology of encephalopathy – underlying condition
   toxic, metabolic, hepatic, septic
B1. Clinical indicators for encephalopathy – underlying condition
   toxic, metabolic, hepatic, septic

C. Coding/documentation challenges
D. Query examples for encephalopathy
E. Conclusion/brief review

F. Question and answer
Introduction to Encephalopathy
NIH Definition of Encephalopathy

• NIH defines encephalopathy as:
  – Any diffuse disease of the brain that alters brain function or structure

• There are over 200,000 documented cases of encephalopathy reported annually

• Ages most affected are 40 and older

• In general, encephalopathy is considered an “acute” condition generally lasting days to several weeks

• [https://www.ninds.nih.gov/Disorders/All-Disorders/Encephalopathy-Information-Page](https://www.ninds.nih.gov/Disorders/All-Disorders/Encephalopathy-Information-Page)
Common Traits of Encephalopathy

• Encephalopathy is always caused by something else and identifying the source of altered mentation is the first thing a CDI should establish whether encephalopathy is documented or is absent

• Encephalopathy is considered to be non-structural in nature and typically will not show any abnormality on imaging

• Manifestations of encephalopathy will largely be attributed to the underlying cause

• Correction of the underlying cause also corrects the mental status changes
  – This is a hallmark sign of encephalopathy
Common Traits of Encephalopathy

• Most episodes of encephalopathy are acute in nature lasting until the underlying source is corrected (typically an improvement is seen from days to weeks after the treatment for the underlying cause has been initiated)

• *Chronic encephalopathy does exist and is largely associated with trauma or repeated insults such as with drug abuse*

• The four most commonly treated forms of encephalopathy are:
  – *Toxic, metabolic, hepatic and septic,* which is what we will be focusing on for this lecture
Toxic Encephalopathy
Toxic Encephalopathy

- According to the NIH, toxic encephalopathy is caused by exposure to toxins, which demonstrate neurotoxic effects in patients which cause an alteration in mental status

- Common signs of neurotoxicity often occur as memory and concentration problems; confusion; multiple sclerosis or MS-type symptoms; impaired control of the limbs, bladder, bowels, headaches, migraines, sleep disorders, including sleep apnea and generalized weakness

- Severity of the symptoms depends on the type of toxin along with the duration and extent of exposure

- The clinical manifestations of toxic encephalopathy are related to the affected brain regions and cell types, therefore could demonstrate a wide range of symptoms
Adverse Events, Poisonings and Toxic Encephalopathy

- **Adverse events and poisonings** from medications/drugs can also lead to toxic encephalopathy

- If the **drug was taken correctly** and the patient experienced an **adverse event**, then it’s **coded as the manifestation first (toxic encephalopathy G92)** followed by adverse event (T36-50)

- If the **drug was not taken correctly**, it falls under **poisoning** for which the **poisoning would be coded first (T51-65)** followed by the manifestation (toxic encephalopathy G92)

ICD 10-CM/PCS Coding Handbook, 2018, AHA Coding Clinic
## Sequencing: Adverse Events & Poisonings

### Adverse Event Sequencing

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G92</td>
<td>Toxic encephalopathy</td>
</tr>
<tr>
<td>T420X5A</td>
<td>Adverse effect of hydantoin derivatives, initial encounter</td>
</tr>
</tbody>
</table>

### Poisoning Sequencing

<table>
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<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>T420X1A</td>
<td>Poisoning by hydantoin derivatives, accidental (unintentional), initial encounter</td>
</tr>
<tr>
<td>G92</td>
<td>Toxic encephalopathy</td>
</tr>
</tbody>
</table>
Clinical Indicators for Toxic Encephalopathy

- **Source/Cause:** Look for documentation of an underlying source from outside of the body - *(look for drugs as cause)*
- **Duration/Extent:** Look for the duration and extent of the exposure and match symptoms accordingly
- **Excitability and Convulsions:** Look for spastic movements, seizures, rigidity, restlessness, tremors, stiffness, uncontrolled muscle contractions
- **Disturbance of Specific Senses:** Look for a sudden loss of smell, hearing, dullness to painful stimuli
- **Disturbance of Coordination:** Look for an alteration in the fluidity of movements, gait imbalance, walking sideways instead of moving forward
- **Decreased Concentration/Perception and/or Consciousness:** Look for an alteration of mental status from the patient’s baseline, confusion, delirium, decreased depth perception
Clinical Indicators for Toxic Encephalopathy

• **Labs:** If the underlying cause is identified as a drug, look for toxicology screens that show abnormal values as well as drug levels if it was a prescribed drug given correctly
  – Remember any drug given incorrectly is classified as a poisoning and sequencing will be with the poisoning code first with the drug following as a secondary code

• **Medications:** Look for the dc of any drug suspected as a cause for the encephalopathy. Also look for any binding agents such as lactulose or kayexalate given to bind the drug and remove it from the body

• **Baseline Mental Status:** One of the most important things to have documented clearly in the record is the patient’s mental status baseline and the return to such with the correction of the underlying cause
Metabolic Encephalopathy
Metabolic Encephalopathy

• There will always be a metabolic source from *inside the body* that is responsible for the encephalopathy
  – Examples: dehydration, acidosis, infection, hyponatremia, hyper/hypoglycemia
• The alteration in mental status is typically *reversible* once the *underlying cause is identified and treated*

  *This is a hallmark sign of encephalopathy*

• Metabolic Encephalopathy (G93.41) typically has a *short manifestation* once treatment is underway and is usually an acute condition (chronic encephalopathy involves structural changes)
Clinical Indicators of Metabolic Encephalopathy

• The clinical indicators will depend on the underlying cause as well as the obvious mental status changes being documented in the record.

• A generalized *depression* of cerebral function is often seen in varying degrees depending on various factors such as length of duration of underlying cause and the presence of multiple co-morbidities.

• Common causes of metabolic encephalopathy are:
  – **Infection** (septic encephalopathy will be discussed separately)
  – **Vitamin deficiencies** (largely show up in movement abnormalities w AMS)
  – **Electrolyte disturbances** (hyponatremia)
  – **Acute kidney failure/injury**
  – **Uncontrolled glucose** – hypoglycemia and hyperglycemia
  – **Oxygenation issues** such as with hypoxia, hypercapnia and/or acidosis
Hepatic Encephalopathy
Hepatic Encephalopathy

- Hepatic encephalopathy is a form of metabolic encephalopathy, but the occurrence of this form of encephalopathy warrants its own title
- Underlying liver disease or a new onset of liver disease is the underlying cause of this type of encephalopathy
  - Most commonly seen is alcoholic or non-alcoholic cirrhosis
- The hallmark sign of hepatic encephalopathy is an elevated ammonia level *this has to be present on queries if the CDI is asking for hepatic encephalopathy as the type
- The most common form of treatment in addition to treatment for the actual liver disease is lactulose
  - Look for an increase in dose if lactulose is prescribed as a home medication for the underlying liver disease
Clinical Indicators for Hepatic Encephalopathy

- **Mental status changes** can appear as disorientation, hallucinations, shortened attention span, confusion, lethargy and coma
  - Mental status tends to deteriorate to a comatose state if left untreated
- **In chronic liver failure**, hepatic encephalopathy is often triggered by another cause that needs to be identified
- **Behavioral changes** such as combativeness or aggression beyond the pts normal behavioral baseline
- **Muscle rigidity or Asterixis** (liver flap) will often be seen
Clinical Indicators for Hepatic Encephalopathy

• Look for triggers that would cause a flare up of the underlying liver disease
  – Gastrointestinal bleed
  – Acidosis
  – Infection/inflammation
  – Excess protein in diet
  – Impaired lactate metabolism in the liver could lead to an increase in lactic acid levels (typically in end stage liver disease)

• Pertinent treatment to look for in the record:
  – Lactulose
  – Rifaximin
  – Flumazanil (sedative/benzo reversal)

• Common drugs that cause liver toxicity
  – Aspirin
  – Acetaminophin
  – NSAIDS
  – Linezolid
  – Benzodiazepines
  – Amiodarone
  – Clopidogril
  – Respiradone
  – Amoxicillan, Augmentin
Septic Encephalopathy
Sepsis Associated Encephalopathy (SAE)

- According to a study done by NIH: “Sepsis associated encephalopathy is a multifactorial syndrome, characterized by cerebral dysfunction derived from the systemic response to the infection without clinical or laboratory evidence of direct brain infection”

- Mental status changes that often occur in a sepsis sequela are often discounted as delirium and must be further clarified as septic encephalopathy (when the clinical indicators suggest this diagnosis)

- Per NIH, “altered mental status is present in up to 23% of patients with sepsis”

- [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4590973/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4590973/)
Clinical Indicators for Septic Encephalopathy

• The clinical indicators for septic encephalopathy will be the same clinical indicators for sepsis in addition to an altered mental status that improves with the treatment of the underlying infection.

• The key to this diagnosis is understanding the systemic response to sepsis includes encephalopathy, qualifies as end organ dysfunction that qualifies the diagnosis of severe sepsis.

• Point to remember: A positive blood culture is not necessary to diagnose sepsis. The presence and/or treatment of infection along with the alteration in mental status and return to baseline s/p treatment, is enough to substantiate the diagnosis of encephalopathy d/t sepsis (encephalopathy can be an end organ dysfunction).
  – Monitor cases for “de-escalation” of antibiotics when sepsis is diagnosed and altered mental status is present, especially in the absence of a positive blood culture.
Sepsis Associated Encephalopathy (SAE)

- The patient must have the condition of sepsis documented or have the clinical indicators of sepsis present

- Not all patient’s present the same and AMS may be one the first clinical signs of an infection, (esp in an elderly patient) and should be investigated as “Encephalopathy” when present

- Septic encephalopathy will translate to metabolic encephalopathy in an encoder but can still be used as a query choice on a query

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3180153/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3180153/)
Septic Encephalopathy

- Infection - toxins spilling into bloodstream
- Damaged endothelium, capillary leak
- Elevated lactic acid breakdown alters neuron activity
- Pt develops altered mental status
- Vasodilation, septic shock
- Septic encephalopathy
AHA Coding Clinics for Encephalopathy

Toxic Encephalopathy, Metabolic Encephalopathy, Hepatic Encephalopathy, Septic Encephalopathy
Coding Clinic Guidance Helps Clarify Encephalopathy Diagnosis

• Remember to check for Coding Clinics that will further direct the CDI on how to appropriately address certain types of encephalopathy

• Example:
  
  – Hepatic encephalopathy has multiple Coding Clinics that state that hepatic encephalopathy is inherent in hepatitis with cirrhosis

  • If the clinical scenario fits the picture outlined in a Coding Clinic, the CDI would then use the Coding Clinic to guide their choices in relation to coding and whether or not to query for the diagnosis

  • Once a Coding Clinic is updated, the old version is typically removed from encoders, leaving the most updated version in place

  – *check with software vendor how they handle updates to the CC

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Toxic encephalopathy due to adverse effect of Ciprofloxacin

- ICD-10-CM/PCS Coding Clinic, First Quarter ICD-10 2017 Page: 39 Effective with discharges: March 13, 2017

This Coding Clinic states:

- “Since this is an adverse reaction to medication, assign code G92, Toxic encephalopathy, as the principal diagnosis.”

- “Assign code T36.8X5A, Adverse effect of other systemic antibiotics, initial encounter, as an additional diagnosis.”

- “The code first note is intended to provide sequencing guidance when coding toxic effects.”

**POINT TO REMEMBER:** If the drug was NOT taken correctly, it would be assigned a Poisoning code and the sequencing of poisoning would be the PDx if the drug toxicity was the reason for the hospital visit.
This *Coding Clinic* states:

**Metabolic Encephalopathy**

- "Prior to October 1, 2003, several types of encephalopathy were all coded to 348.3, Encephalopathy, unspecified. New codes have been created to uniquely identify metabolic encephalopathy (348.31). Prior to this change, metabolic encephalopathy was indexed to delirium and coded to category 293, Transient organic psychotic conditions."

- "**Metabolic encephalopathy is always due to an underlying cause.** There are many causes of metabolic encephalopathy, such as brain tumors, brain metastasis, cerebral infarction or hemorrhage, cerebral ischemia, uremia, poisoning, systemic infection, etc."

- **The development of metabolic encephalopathy may be the first manifestation of a critical systemic illness and may be caused by various reasons--one of the most important being sepsis.**

- "This information supersedes advice previously published in *Coding Clinic*, First Quarter 1988, pages 3-4."

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This Coding Clinic states:

**Question:**

“What is the proper diagnosis sequencing for a patient who is admitted with hepatic encephalopathy and alcoholic cirrhosis? There is disagreement among our coding staff whether the underlying condition (the cirrhosis) or the acute manifestation (the hepatic encephalopathy) should be the principal diagnosis.”

**Answer:**

- “Assign code 572.2, Hepatic coma, for the hepatic encephalopathy, as the principal diagnosis. Assign code 571.2, Alcoholic cirrhosis of liver, as a secondary diagnosis.”
- “In the case of alcoholic cirrhosis with resulting hepatic encephalopathy, the hepatic encephalopathy is a life-threatening event that requires immediate treatment. Thus the hepatic encephalopathy should be sequenced first.
- *The focus of treatment is generally aimed at the trigger of the encephalopathy, such as an infection or a heavy dose of alcohol consumption, not at the cirrhosis itself.*
Coding Clinic
Hepatic Encephalopathy-Hep B & Cirrhosis 2007

Hepatic encephalopathy due to hepatitis B & liver cirrhosis


This Coding Clinic states:

Question:
- “What codes are assigned when the patient has hepatic encephalopathy due to both acute viral hepatitis B and alcoholic liver cirrhosis?”

Answer:
- “Assign code 070.20, Viral hepatitis B with hepatic coma, acute or unspecified, without mention of hepatitis delta, code 571.2, Alcoholic cirrhosis of liver, and code 303.90, Other and unspecified alcohol dependence, unspecified.”
**Hepatic encephalopathy due to chronic hepatitis C w/cirrhosis**

- ICD-9-CM *Coding Clinic, Second Quarter 2007* Page: 6 to 7 Effective with discharges: June 30, 2007

This *Coding Clinic* states:

**Question:**

- “What codes are assigned when the patient has hepatic encephalopathy due to chronic viral hepatitis C with cirrhosis?”

**Answer:**

- “Assign code 070.44, *Chronic Hepatitis C with hepatic coma*, for hepatic encephalopathy due to chronic viral hepatitis C. Assign also code 571.5, Cirrhosis of liver without mention of alcohol, for the cirrhosis”
Coding Clinic
Viral Hepatitis and Hepatic Encephalopathy 2007

Hepatic encephalopathy due to viral hepatitis


This Coding Clinic states:

Question:

• “When assigning the code for viral hepatitis with encephalopathy, is code 572.2, Hepatic coma, assigned as an additional code, or is this information captured in category 070, Viral hepatitis at the fourth digit level, which describes "with hepatic coma"? What is the correct code assignment for hepatic encephalopathy due to a specific type of viral hepatitis?”

Answer:

• “Assign the appropriate code from category 070, Viral hepatitis, with the fourth digit indicating hepatic coma, for the viral hepatitis with hepatic encephalopathy. The hepatic encephalopathy (coma) is included in the code assignment at the fourth digit level, so it is not necessary to report 572.2, Hepatic coma, as an additional code assignment.”
Coding Clinic
Hepatic Encephalopathy 2016

Hepatic encephalopathy

- ICD-10-CM/PCS Coding Clinic, Second Quarter ICD-10 2016 Page: 35 Effective with discharges: May 27, 2016,

This Coding Clinic states:

Question:

- “We were given advice to assign a code for "hepatic failure with hepatic coma" anytime "hepatic encephalopathy" is documented. Is this correct?”

Answer:

- “Hepatic encephalopathy is not synonymous with hepatic coma". The appropriate code assignment for hepatic encephalopathy would depend on the underlying cause. When coding hepatic encephalopathy, it is the physician's responsibility to document whether or not the patient has hepatic encephalopathy "with" coma.”

- The ICD-10-CM Index to Diseases entry for "Encephalopathy, hepatic" states "see, Failure, hepatic." At the Index entry "Failure, hepatic," there are now subentries for codes to specifically describe hepatic failure with or without coma. The default for this condition is "without coma."

- Assign code K72.90, Hepatic failure, unspecified without coma, if the only documentation in the medical record is "hepatic encephalopathy," without any further specification.
Coding Clinic – Chronic Hep C With Hepatic Encephalopathy 2017

Chronic hepatitis C with hepatic encephalopathy
   – ICD-10-CM/PCS Coding Clinic, First Quarter ICD-10 2017 Page: 41 Effective with discharges: March 13, 2017

This Coding Clinic states:

Question:
• “The patient is admitted with chronic hepatitis C and hepatic encephalopathy. What are the diagnosis code assignments for these conditions?”

Answer:
• “Assign code B18.2, Chronic viral hepatitis C, and code K72.10, Chronic hepatic failure without coma. Sequencing of these conditions would depend on the circumstances of the admission.”
• “Hepatitis can cause cirrhosis, and lead to liver failure and hepatic encephalopathy with or without coma. Hepatic encephalopathy is not synonymous with hepatic coma, and it is not appropriate to assign a code for viral hepatitis C with coma. Sequencing of these conditions would depend on the circumstances of the admission.”
Coding Clinic – Encephalopathy d/t Sepsis 2017

Encephalopathy due to sepsis

– ICD-10-CM/PCS Coding Clinic, Second Quarter ICD-10 2017 Pages: 8-9 Effective with discharges: May 17, 2017

This Coding Clinic states:

• Question: “A patient is admitted with mental status changes and is diagnosed with Severe Sepsis secondary to UTI, AKI, and acute Encephalopathy. The provider documented “Sepsis Associated Encephalopathy." How should the Encephalopathy be coded (G94 vs. G93.41)?”

• Answer: “Assign code G93.41, Metabolic Encephalopathy, for Sepsis-Associated Encephalopathy. This code assignment can be found in the Index under:

  Encephalopathy (acute)

  • Septic G93.41” (NOTE: which defaults to “Metabolic Encephalopathy”)

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Coding Clinic – Encephalopathy d/t Stroke 2017

Encephalopathy associated with cerebrovascular accident
– ICD-10-CM/PCS Coding Clinic, Second Quarter ICD-10 2017 Page: 9 Effective with discharges: May 17, 2017

This Coding Clinic states:
Question:
• “A patient is admitted to the hospital due to altered mental status, and is diagnosed with an acute lacunar infarct and encephalopathy secondary to the lacunar infarction. Would the encephalopathy be coded separately or is it considered inherent to the acute lacunar infarct?”

Answer:
• “Assign code G93.49, Other encephalopathy, for encephalopathy that occurs secondary to an acute cerebrovascular accident/stroke. Although the encephalopathy is associated with an acute lacunar infarct, it is not inherent, and therefore is coded when it occurs.”
Coding Clinic – Encephalopathy s/p Seizure 2013

Seizure with encephalopathy due to postictal state

– ICD-9-CM Coding Clinic, Fourth Quarter 2013 Pages: 89-90 Effective with discharges: October 21, 2013

This Coding Clinic states:

Question:

• “Should encephalopathy be reported as an additional diagnosis with seizure when it's due to a postictal state? Would the encephalopathy be considered inherent to the seizure or can it be separately reported?”

Answer:

• “Assign code 780.39, Other convulsions, as the principal diagnosis. The encephalopathy due to postictal state is not coded separately since it is integral to the condition. Seizure activity may be followed by a period of decreased function in regions controlled by the seizure focus and the surrounding brain.

• The postictal state is a transient deficit, occurring between the end of an epileptic seizure and the patient's return to baseline. This period of decreased functioning in the postictal period usually lasts less than 48 hours.”
Coding Clinic – Encephalopathy d/t Hypoglycemia 2016

Encephalopathy due to diabetic hypoglycemia clarification

• ICD-10-CM/PCS Coding Clinic, Third Quarter ICD-10 2016 Page: 42 Effective with discharges: September 23, 2016

This Coding Clinic states:

Question:

• The Central Office has received several requests to clarify advice published in Coding Clinic, Third Quarter, 2015, page 21, about encephalopathy due to diabetic hypoglycemia. When the terms "encephalopathy, hypoglycemic" are referenced, the Index directs to code E16.2, Hypoglycemia. Additionally, there was no recommendation to query the provider regarding the underlying cause, which could be due to insulin or another hypoglycemic agent; and there was no mention of metabolic encephalopathy in the question.

Answer:

• Codes E11.649, Type 2 diabetes mellitus with hypoglycemia without coma, and G93.41, Metabolic encephalopathy, are the correct code assignments for metabolic encephalopathy due to diabetic hypoglycemia. The fact that the provider specifically documented "metabolic encephalopathy" in his final diagnostic statement was inadvertently omitted from the published question.
Coding and Documentation Challenges
Coding and Documentation Challenges

- Encephalopathy is **RARELY** the principle diagnosis as it is due to another underlying condition.

- **Reminder:** Encephalopathy due to a UTI as the underlying condition:
  - In this scenario, the UTI would not likely cause an inpatient admission and therefore, this is a circumstance in which **encephalopathy would be sequenced as the PDx** if the patient presented for the AMS.

- **Toxic encephalopathy** due to drugs will have a poisoning code or an adverse effect code assigned to the case also. Sequencing will depend on if the drug was taken/administered correctly.

- **Septic encephalopathy** will code out to metabolic encephalopathy
  - Sepsis must be consistently documented and a solid diagnosis for the patient.
Coding and Documentation Challenges

• Many providers will document AMS before they will document encephalopathy
  – *Provider education is a must for this diagnosis*
  – In order to effectively query, the appropriate clinical indicators for BOTH the underlying condition AND the altered mental status changes must be present
  – *Query choices must reflect the type of encephalopathy and acuity if Hepatic Encephalopathy is a query choice*
  – Remember, *all query choices must be possible from the clinical indicators presented in the query*

• Many providers will document delirium instead of encephalopathy
  – Provider education is a must for this set of diagnoses
Coding and Documentation Challenges

• Reminder: Delirium is coded in addition to encephalopathy
  – Delirium is the psychological manifestation of the underlying condition
  – Encephalopathy is the medical manifestation of the underlying condition

• Many providers are reluctant to diagnose encephalopathy with a patient that also has dementia
  – Provider education is a must for this set of diagnoses
  – Remember, patient’s with dementia can still develop Encephalopathy and a baseline of the patient’s normal mental state should be reflected in the medical documentation to show a deviation from and a return to their baseline with the underlying condition being resolved

• The CDI can query the provider if encephalopathy is not documented in the record if a baseline for the dementia is documented and the patient has S/S of AMS that resolves with treatment of the underlying condition

• See Dr. Kennedy’s presentation on G94- Encephalopathy Unspecified
Querying for Encephalopathy
When Encephalopathy is NOT Documented

• To identify the possibility of a patient having encephalopathy, some sort of alteration in mental status must be documented along with the presence of an underlying cause that could be responsible for the mental status changes.

• When encephalopathy is NOT documented, do the following:
  – Once the mental changes are identified, look for the possible source of the mental status changes such as: infection, toxins including drug usage/overdose or medication reactions, electrolyte imbalances such as hyponatremia or fluctuations in glucose such as hypoglycemia or hyperglycemia, etc.
  – Once the underlying cause is treated, see if the patient starts to return to their baseline mental status.
  – If so, then you are very likely dealing with encephalopathy and a query is likely warranted.
Example of Toxic Encephalopathy Query

Clinical Indicators:
2/1 ER: “Patient presents with AMS after mistakenly taking twice his normal dose of “Dilantin” Admitting Dx: “Drug OD-Dilantin”, “AMS,” “Hx Seizure disorder”
2/1 H/P: “Pt presents with confusion, lethargy and is A/O x 1 to person only” “Activated Charcoal was administered PO via NGT” Dx: “AMS” “Dilantin Toxicity”
2/3 Hospitalist/Dr Jones: “Pt has returned to their normal mental status. Dilantin levels are now WNL” May resume normal dose of Dilantin” DC to home. DCS Dx: “AMS” “Dilantin Toxicity”

Labs:
2/1 Phenytoin: 45
2/2 Phenytoin: 22
2/3 Phenytoin: 10

Medications: Activated Charcoal, IVF @ 50cc/hr

Based on the clinical indicators above, please clarify if the pt has any of the following:
1. Toxic Encephalopathy d/t Dilantin Toxicity
2. Toxic Encephalopathy ruled out
3. Other - please specify
4. Clinically unable to determine
Example of Metabolic Encephalopathy Query

Clinical Indicators:
2/1 ER: “Patient presents with AMS”
2/1 H/P: “Patient presents with increased confusion per spouse” “Pt also has N/V/D x 3d” “Gastritis”, “AKI 2/2 Dehydration” “AMS”
2/4 Hospitalist/Dr Jones: “N/V/D and dehydration resolved” “AKI resolved s/p IVF,” “Confusion resolved, pt now A/O x 3”

Labs:
2/1 Crt 2.6, GFR 45/50
2/2 Crt 1.8, GFR 47/52

Meds: IV Bolus of NS 500cc then IVF @ 100cc/hr

Based on the clinical indicators above, please clarify if the pt has any of the following:

1. Metabolic Encephalopathy-Multifactorial d/t AKI, Gastritis and Dehydration-resolved
2. Metabolic Encephalopathy d/t other - please specify
3. Metabolic Encephalopathy ruled out
4. Other - please specify
5. Clinically unable to determine
Example of Toxic-Metabolic Encephalopathy Query

- Clinical Indicators:
  - 2/1 ER: “Patient presents with AMS” Pt recently prescribed “Xanax” and symptoms began shortly after the 1st dose. Pt continued taking correct dose of Xanax –last dose 2/1”
  - 2/1 H/P: “Patient with increased confusion per spouse. N/V/D x 3d, Gastritis, AMS, hold Xanax Flumazenil 0.2mg IV x 1 dose, hyponatremia”
  - 2/4 Hospitalist/Dr Jones: “Pt now A/O x 3, Hyponatremia resolved, dc Xanax”
  - Meds: IV Bolus of NS 500cc then IVF @ 100cc/hr, Flumazenil 0.2mg IV x 1 dose
  - Labs: 2/1 NA 127, 2/1 NA 128, 2/2 NA 130, 135

- Based on the clinical indicators above, please clarify if the pt has any of the following:
  - Toxic Metabolic Encephalopathy-Multifactorial d/t hyponatremia, Xanax adverse effect
  - Toxic Metabolic Encephalopathy d/t other - please specify
  - Toxic Metabolic Encephalopathy ruled out
  - Hyponatremia only
  - Other - please specify
  - Clinically unable to determine
Query Opportunity for Hepatic Encephalopathy

• The goal with any form of encephalopathy is to accurately reflect the acuity level of the patient

• Hepatic encephalopathy has two types of acuity to choose from:
  – Acute/subacute or chronic

• Hepatic encephalopathy can be coded as:
  – Acute/subacute = MCC
  – Chronic = non CC/MCC

• Most often providers forget to add the *acuity* to hepatic encephalopathy
  – If the provider does not state the acuity and they are actively treating the high ammonia levels (lactulose) and the AMS is improving with treatment of the underlying liver disease, *query the provider for the type*
Example of Hepatic Encephalopathy Query

Clinical Indicators:
2/1 ER: “Pt presents with lethargy, increased confusion over baseline with gait imbalance, PMH- admitted for Encephalopathy 1 month ago”
2/1 H/P: “Encephalopathy, Cirrhosis r/t ETOH abuse”
2/2-2/4 Hospitalist/Dr Jones: “AMS and gait imbalance improving”

Labs:
2/1 Ammonia 105, 2/4 Ammonia 40
Meds: Lactulose 300ml PR QID

Based on the clinical indicators above, please clarify if the pt has any of the following during this admission:

1. Acute/Subacute Hepatic Encephalopathy d/t cirrhosis
2. Acute/Subacute Hepatic Encephalopathy d/t other-please specify
3. Chronic Hepatic Encephalopathy
4. Other - please specify
5. Clinically unable to determine
Example of Septic Encephalopathy Query

- Clinical Indicators:
  - 2/1 ER: “Pneumonia, Sepsis, AMS, pt oriented to self only”
  - 2/1 H/P: “Sepsis, PNA, AMS/Confusion, lethargy, A/O x 1”
  - 2/2 Hospitalist/Dr Jones: “Sepsis, PNA, Delirium”

- Labs:
  - 2/1 Lactic Acid 2.5

- Meds: IVF Bolus of 1L then NS IVF @ 100cc/hr thereafter, Levaquin

Based on the clinical indicators above, please clarify if the pt has any of the following during this admission:

1. Septic Encephalopathy superimposed on Delirium
2. Septic Encephalopathy ruled out
3. Delirium only
4. Other - please specify
5. Clinically unable to determine
Conclusion
Conclusion/Review

- Encephalopathy is a medical condition that represents an alteration in mental status *due to an underlying condition*
- Encephalopathy is corrected along with the correction of the underlying cause **Hallmark sign of encephalopathy**
- There are various types of encephalopathy that represent the underlying cause or where the issue is originating from (e.g., toxic, metabolic, hepatic, septic, etc.)
- Toxic encephalopathy will involve a poisoning code or a code for adverse effect when the encephalopathy is due to a drug. **Sequencing will depend on whether the drug was given/taken correctly**
- Hepatic encephalopathy needs an acuity when documented in order to capture the severity level of the patient
Conclusion/Review

- **Metabolic encephalopathy** arises from inside the body
- **Septic encephalopathy** reverts to *metabolic encephalopathy* when coded (there is a selection for septic under the encephalopathy pathway)
- Clinical indicators for queries should include the indicators for the underlying condition and the mental status changes
- A baseline of the patient’s mental status is needed when the patient has the diagnosis of **dementia** so that the CDI can measure a deviation from baseline and a return to that baseline once the underlying condition is corrected
References
References

- Richard Pinson, MD, FACP, *Encephalopathy*, ACP Hospitalist, Coding Corner, Jan 2015, see full article at: [https://acphospitalist.org/archives/2015/01/coding.htm](https://acphospitalist.org/archives/2015/01/coding.htm)
- *ICD-10-CM/PCS Coding Clinic*, Second Quarter ICD-10 2017 Pages: 8-9 Effective with discharges: May 17, 2017
- *ICD-10-CM/PCS Coding Clinic*, First Quarter ICD-10 2017 Page: 41 Effective with discharges: March 13, 2017
References

• **ICD-9-CM Coding Clinic, First Quarter 2002** Page: 3 Effective with discharges: March 15, 2002
• **ICD-9-CM Coding Clinic, Second Quarter 2007** Page: 7 Effective with discharges: June 30, 2007
• **ICD-9-CM Coding Clinic, Second Quarter 2007** Page: 6 to 7 Effective with discharges: June 30, 2007
• **ICD-10-CM/PCS Coding Clinic, Second Quarter ICD-10 2016** Page: 35 Effective with discharges: May 27, 2016
Thank you. Questions?

Dawn.Valdez@ardenthealth.com

In order to receive your continuing education certificate(s) for this program, you must complete the online evaluation. The link can be found in the continuing education section at the front of the program guide.
Altered Mental Status

- Toxic Encephalopathy
- Exposure to a known Toxin
- Environmental Factors-Heat Stroke/Dehydration
- Industrial Toxins, Heavy Metal Toxicity
- Medication – Adverse Reaction or Poisoning
- Liver Toxicity d/t Medications
- Muscle Rigidity, Spastic Movts, Gait Changes

- Metabolic Encephalopathy
- S/S of Infection present
- Chronic Illness/Flare Up
- Severe Vitamin Deficiencies/Severe Malnutrition
- Electrolyte Abnormalities
- Elevated Lactic Acid Levels
- Hypo/Hyperglycemia
- Hypoxic States Respiratory Failure

- Hepatic Encephalopathy
- Known PMH of liver disease
- Flare up of chronic liver disease
- Elevated Ammonia Levels
- Elevated Liver Enzymes
- Elevated Lactic Acid Levels
- Liver Toxicity d/t Medications

- Septic Encephalopathy
- Sepsis with Infection Identified
- Agitation, Stupor, Coma
- AMS clears with ABX
- Elevated Lactic Acid Levels
- Severe Hypotension/Shock
- Evidence of Hypoxia/ARF

ACDIS Conference Material May 2018
Dawn Valdez, RN, LNC, CDIP, CCDS
Taking the Mystery out of Encephalopathy
Post Lecture Quiz

Date: __________________

Name: ____________________________________________

Title: ______________________________________________

1. Provide a brief description of the 4 types of Encephalopathy presented in this lecture:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

2. Name 2 clinical indicator for Toxic Encephalopathy:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

3. Name 2 clinical indicators for Metabolic Encephalopathy d/t Hyponatremia:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
4. Name 2 clinical indicators for Hepatic Encephalopathy:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

5. Name 2 clinical indicators for Septic Encephalopathy:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

6. What are two things that a CDI needs to have documented in order to successfully query/code Encephalopathy in a patient with Dementia?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

7. Provide 2 examples of how a query for Encephalopathy could be leading:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

8. What is the hallmark sign of Encephalopathy:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
9. What is the clinical indicator that you have to have to validate the diagnosis of Hepatic Encephalopathy:
______________________________________________________________________________

10. Explain the difference between Delirium and Encephalopathy:
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
1. **Provide a brief description of the 4 types of Encephalopathy presented in this lecture:**

   a. **Toxic Encephalopathy:** AMS that **arises from something outside the body** such as toxins or a poisoning, adverse event.
   b. **Metabolic Encephalopathy:** AMS that **arises from something inside the body** such as hyponatremia, infection, acidosis, hypoxic states etc.
   c. **Hepatic Encephalopathy:** AMS that **arises from an elevation of ammonia levels** that originates from liver disease
   d. **Septic Encephalopathy:** AMS that **arises from Sepsis and is considered an end organ failure** qualifying the case for the dx of Severe Sepsis

2. **Name 2 clinical indicator for Toxic Encephalopathy:**

   a. Alteration in mental status- I would use the description documented in the record that outlines the mental status changes.
   b. The substance/toxin or drug that is contributing to the AMS
   c. Since the treatment of the underlying condition is what ultimately corrects Encephalopathy, I would also list the treatment given

3. **Name 2 clinical indicators for Metabolic Encephalopathy d/t Hyponatremia:**

   a. Alteration in mental status- I would use the description documented in the record that outlines the mental status changes.
   b. Sodium levels, typically less than 130 is considered hyponatremia
   c. Since the treatment of the underlying condition is what ultimately corrects Encephalopathy, I would also list the treatment given

4. **Name 2 clinical indicators for Hepatic Encephalopathy:**

   a. Alteration in mental status- I would use the description documented in the record that outlines the mental status changes.
   b. Ammonia levels, typically greater than 45 is considered abnormal but the high range of normal will vary for each hospital
c. Since the treatment of the underlying condition is what ultimately corrects Encephalopathy, I would also list the treatment given

5. **Name 2 clinical indicators for Septic Encephalopathy:**
   a. Alteration in mental status- I would use the description documented in the record that outlines the mental status changes.
   b. Since the treatment of the underlying condition is what ultimately corrects Encephalopathy, I would also list the treatment given
   c. I would list some of the symptoms of the Sepsis especially the Lactic Acid since it can alter neuronal activity

6. **What are two things that a CDI needs to have documented in order to successfully query/code Encephalopathy in a patient with Dementia?**

   The baseline mental status of the patient with Dementia and a return to that baseline after treating the underlying condition

7. **Provide 2 examples of how a query for Encephalopathy could be leading:**
   a. Not providing enough or valid clinical indicators
   b. Providing choices that are leading such as only providing once choice OR asking if the patient has a specific diagnosis. For Example: Does the patient have sepsis?
   c. Choices: Sepsis, other, Clinically Unable to Determine would be leading d/t the fact that the CDI would only be offering a MCC as a choice. (“Other and CUTD” could be non MCC’s depending on if they are chosen but a CDI should not rely on that occurring and should provide valid choices. Listing the Diagnosis as ruled out is always an option when there are no other possible choices based on the clinical indicators identified.

8. **What is the hallmark sign of Encephalopathy:**
   a. A return to baseline when the underlying cause for the Encephalopathy is corrected.

9. **What is the clinical indicator that you have to have to validate the diagnosis of Hepatic Encephalopathy:**
   a. An elevated Ammonia level

10. **Explain the difference between Delirium and Encephalopathy:**

    Delirium is a psychological condition whereas Encephalopathy is a medical condition. Both can be present at the same time and both can and should be coded when the documentation validates both diagnoses.