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Diagnoses That Challenge Providers: A Physician Advisor Perspective

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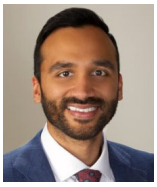

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Learning Outcomes

- At the completion of this educational activity, the learner will be able to:
  - Identify criteria to support the reporting of Acute Respiratory Failure, Encephalopathy, and Myocardial Infarction (MI) that commonly have documentation gaps
  - Explain criteria to support the reporting of Respiratory Failure, Encephalopathy, and MI, which are commonly denied when reported as secondary diagnoses
  - Explain why presenting symptoms must be linked to an associated diagnosis
  - Describe the differences between Myocardial Injury and Myocardial Infarction as well as the importance of documenting the etiology

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Encephalopathy

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Symptoms of Altered Level of Consciousness

- Altered mental status is a symptom of a variety of different types of illnesses
  - Will result in a query for an associated diagnosis, especially if investigation of AMS is the reason for the inpatient admission
- Confusion: Inability to maintain a coherent stream of thought or action
  - Documentation of “CONFUSION” or “CONFUSED” will result in disorientation (R41.0) being coded
  - Documentation of “CONFUSIONAL STATE” will result in F44.89 Other dissociative and conversion disorders being coded
- CDI professionals should query for an associated diagnosis e.g., Dementia, Encephalopathy, etc., when LOC symptoms are documented

Assigning a Code for Delirium

- Delirium is a mental state defined by confused, disoriented, and the inability to think or remember clearly. It usually starts suddenly. It is often temporary and treatable
- When "DELIRIUM" is documented disorientation (R41.0) is reported
- Delirium is classified within ICD-10-CM as a mental health condition (F05) when more specificity is provided:
  - Delirium due to know physiological condition
    - The associated physiological condition should also be documented
  - Delirium superimposed on Dementia
  - Sundowning

Reference: Delirium | MedlinePlus

Encephalopathy

- **Encephalopathy**: any diffuse disease of the brain that alters brain function or structure
- Encephalopathy may be caused by an infectious agent (bacteria, virus or prions), metabolic or Mitochondrial Dysfunction, brain tumor or increase 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

Reference: Encephalopathy Information Page | National Institute of Neurological Disorders and Stroke (nih.gov)

Type of Encephalopathy

- Educate providers to always include the type of acute encephalopathy as ***metabolic or toxic*** as clinically appropriate
  - **Acute onset**: characterized by an acute global alteration in mental status due to systemic factors and is reversible with early treatment
    - Toxic
      - Identify drug or toxic substance
    - Metabolic
      - Septic
    - Toxic Metabolic
      - Combination of toxins and metabolic derangements

Reference: Encephalopathy Information Page | National Institute of Neurological Disorders and Stroke (nih.gov)

Encephalopathy Due to UTI

- "How should **encephalopathy due to UTI be coded**?"
- "Assign codes G93.49, Other encephalopathy, and N39.0, Urinary tract infection, site not specified. The sequencing of the principal diagnosis would be based on the condition found after study to be responsible for the hospital admission"

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2018 Issue 2

Encephalopathy Caused By Other Conditions

- *Coding Clinic*® Second Quarter 2017, pages 8-9, provided two examples of encephalopathy caused by other conditions… Please clarify the appropriate code assignment for ***encephalopathy when it is caused by some other condition AND the encephalopathy is not specified***
- …When encephalopathy is linked to a specific condition, such as stroke or urinary tract infection, it is appropriate to use the code describing "other encephalopathy"
- Therefore, assign code G93.49, Other encephalopathy, ***when encephalopathy is linked to a condition, but a specific encephalopathy (e.g., metabolic, toxic, hypertensive, etc.) is not documented***

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2018 Issue 2

Encephalopathy Due to Lacunar Infarct

- A patient is admitted to the hospital due to altered mental status, gait imbalance and vertigo. The patient is diagnosed with an acute lacunar infarct and **encephalopathy secondary to the lacunar infarction**. How should this be coded?
- Assign code I63.82, Other cerebral infarction due to occlusion or stenosis of small artery, for the lacunar infarct
- In addition, assign code G93.49, Other encephalopathy, as a secondary diagnosis, since the ***encephalopathy is not inherent to the lacunar infarct***

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2017 Issue 2; Ask the Editor

Encephalopathy Due to Hypoglycemia

- 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***"

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2016 Issue 3

Querying for Encephalopathy Specificity

- CDI and Coding professionals should query the provider for the ***type of encephalopathy*** whenever documentation will result in the reporting of "other encephalopathy"
- Providers likely don't realize that documentation of "encephalopathy due to UTI" is less specific than "metabolic encephalopathy due to UTI"

Hepatic Encephalopathy Coding Update FY 2023

- Code K76.82, Hepatic encephalopathy, has been created to uniquely identify hepatic encephalopathy (without coma)
- It is NOT currently classified as a CC or MCC

K76.82 Hepatic encephalopathy
Hepatic encephalopathy, NOS
Hepatic encephalopathy without coma
Hepatocerebral intoxication
Portal-systemic encephalopathy

Code also underlying liver disease, such as:
acute and subacute hepatic failure without coma (K72.00)
alcoholic hepatic failure without coma (K70.40)
chronic hepatic failure without coma (K72.10)
hepatic failure with toxic liver disease without coma (K71.10)
hepatic failure without coma (K72.90)
icterus of newborn (P55-P59)
postprocedural hepatic failure (K91.82)
viral hepatitis without hepatic coma (B15.9, B16.1, B16.9, B17.10, B19.10, B19.20, B19.9)

Excludes1: acute and subacute hepatic failure with coma (K72.01)
alcoholic hepatic failure with coma (K70.41)
chronic hepatic failure with coma (K72.11)
hepatic failure with coma (K72.91)

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2022 Issue 4; New/Revised ICD-10-CM Codes

Hepatic Encephalopathy

- Hepatic encephalopathy (HE) occurs when liver disease causes toxins, like ammonia, to build up in the patient's blood. When ammonia or other toxic substances build up in the body and the liver is unable to remove them from the blood, they may travel to the brain and temporarily affect brain function.
  - There are treatments such as antibiotics that stop bacterial growth and medications that reduce ammonia and remove toxins from the body and into the colon
  - However, if the underlying cause of the liver disease is not treated and toxins continue to build, patients with advanced HE lose consciousness and go into a hepatic coma

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2022 Issue 4; New/Revised ICD-10-CM Codes

Hepatic and Toxic Encephalopathy

- **Question**: Coding Clinic, First Quarter 2021, page 13, states that it is appropriate to assign code G92, Toxic encephalopathy, for toxic metabolic encephalopathy (TME) due to acute on chronic hepatic encephalopathy. However, this advice does not seem correct since the provider did not document an associated toxic substance or an adverse effect of medication. Is it appropriate to assign code G92, when there is no external agent associated with the encephalopathy?

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2022 Issue 1; Clarifications

Hepatic and Toxic Encephalopathy

- **Answer**: The encephalopathy that occurs with liver failure is metabolic in nature from toxins generated within the body, not from external toxins. When the provider has confirmed the diagnosis of toxic metabolic encephalopathy, assign code G92.8, Other toxic encephalopathy. This code assignment does not imply external toxins and a toxin does not have to come from outside the body in order to assign this code.

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2022 Issue 1; Clarifications

Coding Toxic and Hepatic Encephalopathy

- . . . ***Toxic metabolic encephalopathy is <u>not</u> inherent to hepatic encephalopathy***, therefore code G92.8 should be assigned separately to specifically capture the TME
- Code K72.90, Hepatic failure, unspecified without coma, should be assigned if the only documentation in the medical record is "hepatic encephalopathy," without any further specification of the underlying cause. ***In this case, the underlying cause of the toxic metabolic encephalopathy was acute on chronic hepatic encephalopathy***

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2022 Issue 1; Clarifications

Encephalopathy in the Setting of Dementia

- Any alteration in the baseline mental status functioning of dementia must be documented
- Documentation should include:
  - How the **acute change** is manifested:
    - Confusion, lethargy, somnolence, intoxication, coma, etc.
    - Document when the mental status improves or returns to normal
  - The **underlying cause** of the acute change:
    - **Metabolic Encephalopathy** (from an internal insult) and its cause: hypertensive, anoxic, uremic, septic, hepatic encephalopathy, hypoglycemic, etc.
    - **Toxic Encephalopathy** (from an external insult) and its cause: alcohol or drug, carbon monoxide or another chemical

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Myocardial Infarction

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Criteria for AMI: Type 1

- ***Acute Type 1 MI*** (STEMI or NSTEMI)
  - Acute Myocardial Injury as evidence by
    - Cardiac Troponin > 99th percentile Upper Reference Limit ***with***
    - At least 20% rise and/or fall over time

    and
  - **Acute Myocardial Ischemia** (one of the criteria below)
    - Symptoms of Myocardial Ischemia (chest pain, etc.)
    - New ischemic ECG changes
    - Development of pathological Q waves
    - Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality *in a patter consistent with an ischemic etiology*
    - Identification of a coronary thrombus by angiography or autopsy

Reference: Fourth Universal Definition of Myocardial Infarction

Criteria for AMI: Type 2

- ***MI due to Demand Ischemia***
- ***Type 2 MI***
  - Acute Myocardial Injury as evidence by
    - Cardiac Troponin > 99th percentile Upper Reference Limit ***with***
    - At least 20% rise and/or fall over time

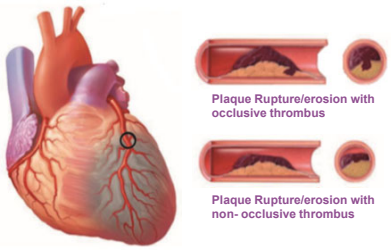
    and
  - Evidence of imbalance between myocardial oxygen supply-demand causing **Acute Myocardial Ischemia** (one of the criteria below)
    - Symptoms of Myocardial Ischemia (shortness of breath, etc.)
    - New ischemic ECG changes
    - Development of pathological Q waves
    - Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality *in a pattern consistent with an ischemic etiology*

- Mortality rates for Type 2 MI > Type 1 MI
- Often have underlying chronic CAD

Reference: Fourth Universal Definition of Myocardial Infarction

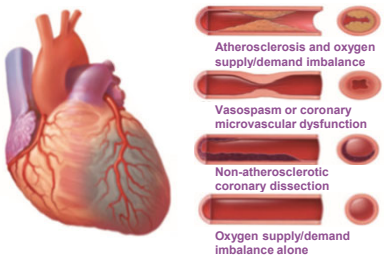
Pathophysiology of MI

Myocardial Infarction Type 1



- Event related to Atherosclerotic Plaque Rupture, ulcerations, fissuring, erosion or dissection that results in an intraluminal thrombus

Myocardial Infarction Type 2



- Event related to supply-demand mismatch

Reference: Fourth Universal Definition of Myocardial Infarction

Type 2 NSTEMI Due to Demand Ischemia

- Question
  - How should a type 2 NSTEMI due to demand ischemia be coded?
- Answer
  - Assign code I21.A1, Myocardial infarction type 2
  - Do not assign code I24.8, Other forms of acute ischemic heart disease for the demand ischemia
  - Code also the underlying cause, ***if known***
  - According to the *ICD-10-CM Official Guidelines for Coding and Reporting,* "When a type 2 AMI code is described as NSTEMI or STEMI, only assign code I21.A1. . .

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2017 Issue 4; New/Revised ICD-10-CM Diagnosis Codes

Myocardial Infarction Due to Demand Ischemia

- Elevated troponin due to demand ***ischemia*** = ***Type 2 MI***

I21.A Other type of myocardial infarction

I21.A1 Myocardial infarction type 2
Myocardial infarction due to demand ischemia
Myocardial infarction secondary to ischemic imbalance

Code first the underlying cause, such as:
anemia (D50.0-D64.9)
chronic obstructive pulmonary disease (J44.-)
paroxysmal tachycardia (I47.0-I47.9)
shock (R57.0-R57.9)

Reference: FY 2022 ICD-10-CM Tabular List

Demand Ischemia

- Elevated troponin due to demand ischemia = **Type 2 MI**
- Type 2 MI has a higher severity of illness than demand ischemia
- Demand Ischemia and Type 2 MI are both due to supply-demand mismatch

	Demand Ischemia	Type 2 MI
Troponin level	Normal	Abnormal
Evidence of ischemia	Yes	Yes
Supply-demand mismatch	Yes	Yes
DRG Impact	CC	MCC
HCC	Yes	Yes

Case

- 75-year-old male with a history of COPD presented to the hospital with chest tightness and difficulty breathing. “Wheezing” was noted on exam.
  - EKG is unchanged from baseline
  - 0, 2 and 6-hour troponin levels are 0.04, 0.21, 0.08 (URL = 0.04)
  - What is the diagnosis?

Common Causes of Supply-Demand Mismatch

- **Reduced myocardial perfusion**
  - Coronary Artery Spasm, microvascular dysfunction
  - Coronary Embolism
  - Coronary Artery Dissection
  - Sustained Bradyarrhythmia
  - Hypotension or Shock
  - Respiratory Failure
  - Severe Anemia
- **Increased myocardial oxygen demand**
  - Sustained Tachyarrhythmia
  - Severe Hypertension with or without Left Ventricular Hypertrophy

Case

- Patient is a 52-year-old male with a history of Type 2 Diabetes Mellitus and Hypertension admitted to the ICU with Septic Shock related to Pneumococcal Pneumonia. The patient has no chest pain, and the initial EKG is NSR with no ischemic changes. Serial troponins were checked and are as follows:
  - 1st Troponin I: 0.07
  - 2nd Troponin I: 0.18
  - 3rd Troponin I: 0.12
- URL Troponin: 0.04
- Did this patient have an MI?

Non-Ischemic Myocardial Injury

- **Myocardial Injury** should be documented for **non-ischemic** elevations in troponin
- Defined by:
  - Elevated Cardiac Troponin Values (cTn) with at least one value above the 99th percentile Upper Reference Limit (URL)
    - **Acute** Myocardial Injury
      - Rise and/or fall of cTn values
      - Clinically significant rise and/or fall defined as ≥ 20%
    - **Chronic** Myocardial Injury
      - No rise and/or fall of cTn values (<20%)
- Etiology should be documented and linked

Reference: Fourth Universal Definition of Myocardial Infarction

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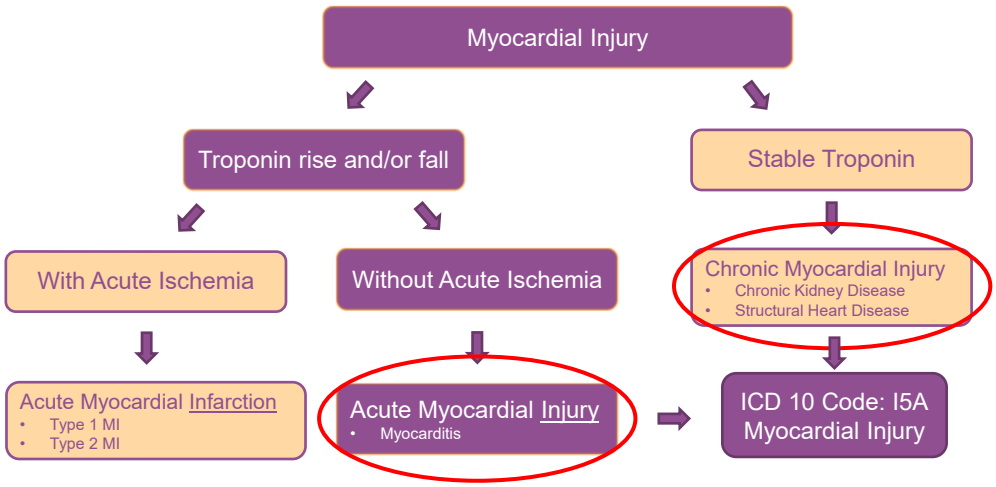
Myocardial Injury



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Non-Ischemic Myocardial Injury

- Code **I5A, Non-ischemic Myocardial Injury (non-traumatic)**, created to identify a non-traumatic, non-ischemic Myocardial Injury
- A diagnosis of MI is ***reserved for patients with Myocardial Ischemia as the cause of Myocardial Injury***, whether attributable to Acute Atherothrombosis (type 1 MI) or supply/demand mismatch without Acute Atherothrombosis (type 2 MI)

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2021 Issue 4

Non-Ischemic Myocardial Injury

- Myocardial Injury (e.g., elevated troponins) in the absence of ischemia is ***Acute or Chronic Non-ischemic Myocardial injury***

Injury
- myocardial (acute) (chronic) (non-ischemic) (non-traumatic) I5A

Acute, chronic, non-ischemic, and non-traumatic are non-essential modifiers; therefore, the provider does not need to use these descriptors in their documentation for I5A to be reported

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2021 Issue 4 and FY 2022 ICD-10-CM Alphabetic Index

Myocardial Injury

- Based on high-sensitivity troponin tests, clinicians can now distinguish whether patients have suffered a ***non-ischemic myocardial injury*** ***versus one of the other MI subtypes***. This new code for Myocardial Injury (I5A) will allow for the appropriate classification of these patients
- When assigning code I5A, sequence the underlying cause first, such as ***Acute Kidney Failure***, Acute Myocarditis, etc., if known and/or applicable
  - CDIs may have the opportunity to see if criteria are present to support a query for myocardial injury in the setting of AKI

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2021 Issue 4

Non-Ischemic Myocardial Injury

- **Q:** A patient presents to the Emergency Department after becoming progressively somnolent. Diagnostic workup revealed elevated troponin level and intermittent atrial fibrillation and the patient was admitted for further cardiology management
  - No chest pain; no electrocardiogram (ECG) changes; troponin levels stabilized
  - Provider diagnosed non-ischemic Myocardial Injury
- How would Non-ischemic Myocardial Injury be coded?
- **A:** Assign code I5A, Non-ischemic Myocardial Injury (non-ischemic), for non-Ischemic Myocardial injury

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2021 Issue 4

Myocardial Injury Associated With CKD

- Majority of patients with CKD will have elevation of high-sensitivity cardiac troponin value
- Autopsy studies have shown that patients with elevated troponin values invariably have evidence of Myocardial Injury
- Possible mechanisms
  - Increased ventricular pressure
  - Small vessel coronary obstruction
  - Anemia
  - Hypotension
  - Direct toxic effects of uremia
- There may be a query opportunity for the provider to diagnose
  - **Chronic Myocardial Injury** due to ESRD

Troponin Elevation

- Elevated troponin = Myocardial Injury
- The clinical question: “Is it of ischemic or non-ischemic etiology?”
- ***Demand ischemia is comparable to angina***
- Both lack Acute Myocardial Injury
  - Normal troponin
- If the clinical scenario is ***angina, troponin*** elevation moves it to Myocardial ***Infarction*** *Type 1 (STEMI/NSTEMI)*
- If the clinical scenario is ***Demand Ischemia***, ***troponin elevation*** moves it to Myocardial ***Infarction*** *Type 2*
  - In the setting of elevated troponin, continuing to call it Demand Ischemia is a clinical error

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Respiratory Failure

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Potential Query Triggers: Hypoxia/Hypoxemia

- Hypoxia/Hypoxemia
  - Classified as a symptom in ICD-10-CM (R09.02)
  - Indicates deficient oxygenation of the blood
    - Shortness of breath is typically the chief symptom
    - Can be life-threatening
  - Causes include severe pneumonia, heart failure, COPD, pulmonary embolism and pulmonary fibrosis
  - The underlying cause (etiology) determines the treatment course
  - **Is** considered **inherent** in Acute Respiratory Failure
  - Is <u>not</u> inherent to COPD exacerbation or Pneumonia

Reference: AHA *Coding Clinic* for ICD-9 - 2006 Issue 2; Ask the Editor

Potential Query Triggers: Respiratory Distress

- Acute Respiratory ***Distress***
  - Classified as a symptom in ICD-10-CM (R06.03)
  - Refers to difficulty breathing that may be due to conditions such as Asthma, aspiration, trauma, Heart Disease, Pneumonia, etc.
  - Is not associated with a respiratory system inability to supply adequate oxygen and/or eliminate carbon dioxide to maintain metabolism

Reference: AHA *Coding Clinic* for ICD-10-CM and ICD-10-PCS - 2017 Issue 4; New/Revised ICD-10-CM Diagnosis Codes

Potential Query Trigger: Respiratory Insufficiency

- Respiratory ***Insufficiency***:
  - Classified as a symptom in ICD-10-CM (R06.89)
  - "Other Abnormalities of Breathing"
    - Breath Holding Spell
    - Pulmonary Inadequacy
    - Yawning
    - Sighing

Respiratory Failure

- Respiratory Failure results when oxygen levels in the bloodstream become too low (hypoxemia), and/or carbon dioxide is too high (hypercapnia), causing damage to tissues and organs, or when there is poor movement of air in and out of the lungs
- In all cases, respiratory failure is treated with oxygen and treatment of the underlying cause of the failure

Reference: AHA *Coding Clinic* for ICD-9 - 2011 Issue 4; VOLUMES 1 & 2 NEW/REVISED CODES

The Impact of Acute Respiratory Failure

- Acute respiratory failure ***will always*** occur with another condition, it is important that documentation clearly states when Acute Respiratory Failure is the reason for the admission
  - *"Patient with End-Stage Heart Failure is admitted for Acute Respiratory Failure"*
- Patient with acute respiratory failure require immediate, critical care services supporting the medical necessity of an admission and demonstrating patient complexity
  - Heart Failure is a chronic condition that can be treated in the outpatient setting

Respiratory Failure Documentation Essentials

- Provider documentation should include signs of **respiratory distress, hypoxemia and/or hypercarbia,** and relevant clinical data
- Acute Respiratory Failure ***can be*** diagnosed based on the initial presentation and treatment received in the ER
  - A baseline oxygen saturation level should be obtained when possible
  - As long as the patient continues to require ***treatment to maintain vital signs within normal limits*** e.g., oxygenation, respiratory treatments, medications, etc., acute respiratory failure may be a clinically valid diagnosis that should be reported

Acute Hypoxic Respiratory Failure

- **Acute Hypoxic Respiratory Failure**: Symptoms of Respiratory Distress + Hypoxemia
  - Providers should indicate if “improving” or “resolving” if criteria aren’t present at the time of their current assessment
  - The physical exam and review of systems should clinically reflect the diagnosis (be weary of copy and paste)
- **Chronic Respiratory Failure**: oxygen dependence at baseline (any amount)
- **Acute on Chronic**: Any exacerbation of chronic oxygen requirement
- Providers should document hypercarbia when clinically appropriate

Acute Respiratory Failure

Acute Hypoxemic Respiratory Failure (Type 1)

- pO_2 < 60 mmHg or SPO_2 < 91% on room air
- pO_2/FiO_2 ratio of < 300

Acute on Chronic Hypoxemic Respiratory Failure

- pO_2 decreased of $\geq$ 10 mmHg from baseline
- pO_2 < 60 mmHg or SPO_2 < 91% on usual home O_2

Acute Hypercapnic Respiratory Failure

- pCO_2 > 50 mmHg and pH < 7.35

Acute on Chronic Hypercapnic Respiratory Failure

- pCO_2 > 50 mmHg and pH < 7.35
- pCO_2 increase of > 10 mmHg and pH < 7.35

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Thank you. Questions?

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