

Altered Level of Consciousness

Presented by MercyHealth EMS System

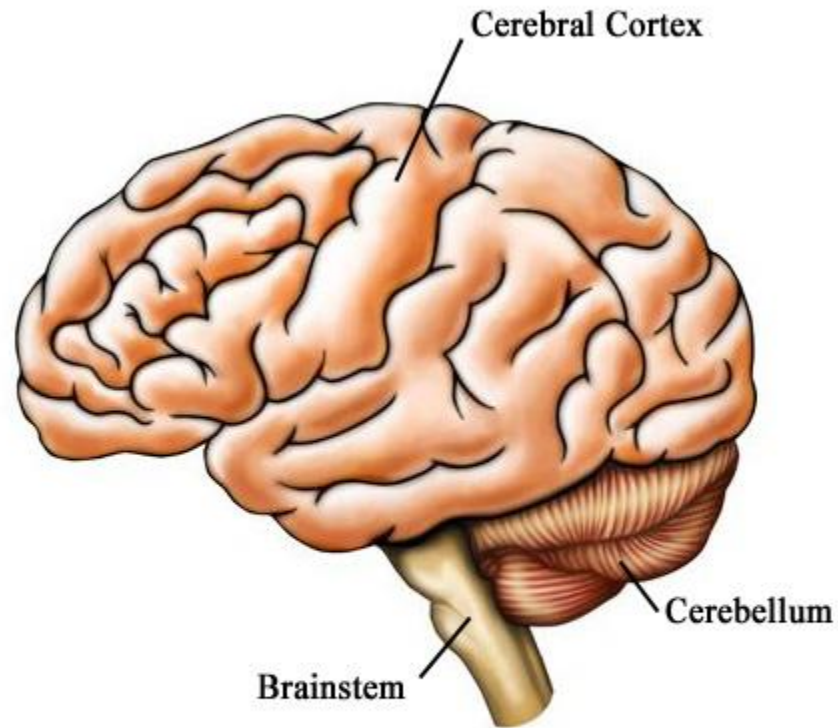
Objectives

- Review assessment of Altered Level of Consciousness
- Review the differential diagnosis for Altered Level of Consciousness
- Discuss Seizure Vs Syncope
- Review appropriate interventions for Altered Level of Consciousness, including interventions for specific causes

Pathophysiology

- Insult to the cerebral cortices or brainstem
 - Metabolic derangement, toxin, or mechanical injury
- Insult to a single cerebral cortex or portion typically causes focal deficits, not altered LOC or coma
 - Depends on force of injury in trauma
- Even focal insults to the brainstem can cause altered LOC or coma

Anatomy



(A)
SIDE VIEW OF HUMAN BRAIN

Assessment

- Altered Level of Consciousness is a broad term that may be used to describe numerous chief complaints:
 - Confused
 - Not acting himself/herself
 - Unresponsive
 - Unconscious

Level of Consciousness

A

The patient is awake.

V

The patient responds to verbal stimulation.

P

The patient responds to painful stimulation.

U

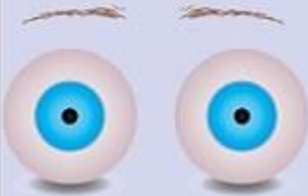


The patient is completely unresponsive.



Alert and Oriented

- Level of Consciousness and Level of Orientation are NOT the same thing!
- The “AND” in A&O means something!
- It is possible to be completely alert and totally disoriented
 - A&O x0
- It is also possible (though less likely) to be not alert but totally oriented
 - You can't say A&O x3 if they're not “A”

Glasgow Coma Scale

Behaviour	Response
 Eye Opening Response	<ol style="list-style-type: none">4. Spontaneously3. To speech2. To pain1. No response
 Verbal Response	<ol style="list-style-type: none">5. Oriented to time, person and place4. Confused3. Inappropriate words2. Incomprehensible sounds1. No response
 Motor Response	<ol style="list-style-type: none">6. Obeys command5. Moves to localised pain4. Flex to withdraw from pain3. Abnormal flexion2. Abnormal extension1. No response

What's the GCS?



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What's the GCS?



Differential

- Hypoglycemia
- Hypoxia
- Hypercapnea
- Narcotic Overdose
- CO poisoning
- Hypovolemia
- Shock
- Sepsis
- Head Injury
- Drug or alcohol intoxication
- Toxic exposures
- Syncope
- Seizures
- Arrhythmias

What assessment findings might lead you to a diagnosis of:

- Hypoglycemia, Hypoxia, Hypercapnea?
- Narcotic Overdose?
- CO Poisoning?
- Shock?
 - Hypovolemia?
 - Sepsis?
- Head Injury?
- Drug or alcohol intoxication?
- Toxic exposures?
- Syncope?
- Seizures?
- Arrhythmias?

Syncope Versus Seizure

- Transient loss of consciousness and postural tone with rapid return to baseline
- May be some jerking movements, less than 15 seconds
- Not usually incontinent
- May feel nauseous or lightheaded prior to episode
- Motor activity such as tonic-clonic, jaw, and facial movements, usually lasting 30 seconds or more
- Unresponsive during event
- Followed by a postictal phase, slow recovery
- May have aura

Syncope Versus Seizure



Assessment

Priorities	Assessment Findings
Chief Complaint	“Confused” “Unresponsive”, Not acting themselves”
OPQRST	Determine onset and duration. Triggering events (e.g. Trauma)
Associated Symptoms/ Pertinent Negatives	Headache, Weakness, Slurred speech, Aphasia, Incontinent
SAMPLE	Medication consistent with possible causes. (E.g. Alzheimer’s, CVA, Diabetes, Seizures,)
Initial Exam	Check ABC’s and correct any immediate life threats
Detailed Focused Exam	<p>Vitals: BP, HR, RR, Temp, SpO₂</p> <p>General Appearance: Unresponsive, pale, diaphoretic? Signs of trauma?</p> <p>HEENT: PERRL? Pupils constricted or dilated?</p> <p>Lungs: Wheezes, rales or rhonchi? Signs of respiratory distress or hypoventilation?</p> <p>Heart: Rate and rhythm? Signs of hypo-perfusion?</p> <p>Neuro: Unresponsive? Focal deficits (CVA)?</p>
Data	Blood Glucose, SpO ₂ , EtCO ₂ , 12-Lead ECG
Goals of Therapy	Restore normal mental status, Maintain ABC’s
Monitoring	Cardiac monitoring, repeat vitals

Treatment Priorities

- ABCs still apply!
- Correct underlying conditions identified in your assessment

GCS Less than 8, Intubate! (?)

- Commonly used phrase that uses decreased mental status as an indication for intubation
- **HOWEVER:** This indication is primarily for trauma patients
- For unresponsive medical patients, the decision to intubate is multifactorial, and not simply based on GCS <8

EMERGENCY MEDICAL RESPONDER/EMT

- Routine medical care
- Oxygen 2-4 LPM per nasal cannula to keep SpO₂ ≥ 94%; May give high-flow oxygen by non-rebreather mask
- Consider assisting ventilations with bag-valve-mask with high-flow oxygen
- Consider oropharyngeal airway or nasopharyngeal airway
- Consider non-visualized airway of appropriate size
- If a narcotic overdose is suspected, consider **Naloxone (Narcan)** 0.5mg up to 2mg IN or IM(EMT and above) to increase the respirations. Using smaller doses of Narcan is recommended, as the goal is only to increase respirations, not fully awaken patient. Repeat dose as necessary based on patients respiratory effort. Refer to *Toxic Exposure/Overdose Guidelines*
- Check glucose level, if < 70, follow *Hypoglycemia Guidelines*
- If neuro deficits, suspect stroke, refer to *Stroke Guidelines*

AEMT

- IV 0.9% NS @ KVO
- If SBP < 90 mmHg and lung sounds are clear, initiate a fluid bolus of 500 ml Normal Saline
- If a narcotic overdose is suspected, consider **Naloxone (Narcan)** 0.5mg up to 2mg IV/ IN/ IO/IM to increase the respirations. Using smaller doses of Narcan is recommended, as the goal is only to increase respirations, not fully awaken patient. Repeat dose as necessary based on patients respiratory effort. Refer to *Toxic Exposure/Overdose Guidelines*

PARAMEDIC

- Consider RSA. See *Respiratory Distress Guidelines*
- Suspected toxic overdose, refer to *Toxic Exposure/Overdose Guidelines*

Case

- You are called to a 72 year old female for altered level of consciousness
- You find her laying in bed, eyes closed, not moving
- She does appear to be breathing spontaneously
- How would you assess this patient's mental status and level of consciousness?

Case

- You are called for a 24 year old male, unresponsive
- His eyes are closed, he is not moving, he is breathing spontaneously, but at a slow rate
- He does not respond when you apply verbal or painful stimuli
- How would you assess this patient's mental status and level of consciousness?
- How would you manage him?

Questions?



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References

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