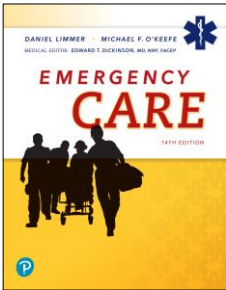


Emergency Care

Fourteenth Edition



Chapter 22
Diabetic Emergencies and Altered Mental Status

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Topics

- [Pathophysiology](#)
- [Assessing the Patient with Altered Mental Status](#)
- [Diabetes](#)
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Pathophysiology

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Pathophysiology (1 of 2)

- Normal consciousness is regulated by the reticular activating system (RAS)
- The RAS is responsible for staying awake, paying attention, and sleeping
- Brain tissue of the RAS has basic requirements
 - Oxygen to perfuse brain tissue
 - Glucose to nourish brain tissue
 - Water to hydrate brain tissue

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Pathophysiology (2 of 2)

- Altered mental status can be caused by:
 - Deficiencies in RAS requirements
 - Trauma, infection, and chemical toxins
 - Primary brain problems
 - Problems within another body system
- Altered mental status is often rapidly correctable by treating the underlying cause

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Assessing the Patient with Altered Mental Status

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Assessing the Patient with Altered Mental Status—Safety

- Patients with altered mental status can be dangerous to responders
- Always consider the safety of yourself and your team before approaching a patient who is acting strangely
- Use law enforcement when necessary



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Assessing the Patient with Altered Mental Status—Primary Assessment (1 of 2)

- Always consider the possibility of an airway and/or breathing problem in a patient with altered mental status
- Be especially attentive during the primary assessment of a patient with altered mental status
- Carefully watch for indications of inadequate breathing
 - Be alert to the need for positioning and suctioning
 - Consider administration of high-concentration oxygen if you suspect hypoxia



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Assessing the Patient with Altered Mental Status—Primary Assessment (2 of 2)

- Be alert for indicators of hypoperfusion
- Determine baseline mental status for the patient
 - This may be accomplished by greeting the patient and assessing their ability to respond
 - AVPU may help you quickly categorize the patient's initial response
- Baseline status can be difficult to determine in children because the answer questions differently than adults



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Assessing the Patient with Altered Mental Status—Secondary Assessment (1 of 2)

- Altered mental status is a subtle sign that indicates serious underlying issues
- A body system exam and complete history may reveal important information about suspected cause
- Interview family members and bystanders to obtain patient's baseline mental status
- Review medications, medic alert bracelets, and other health-related items for relevant clues



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Assessing the Patient with Altered Mental Status—Secondary Assessment (2 of 2)

- Be sure to accurately document the patient's level of consciousness over time
- Consider using the Glasgow Coma Scale to provide precise measurement of patient responses



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Diabetes

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Diabetes—Glucose and the Digestive System (1 of 4)

- Glucose is a form of sugar
 - It is the body's basic source of energy
 - Body cells require glucose to remain alive and create energy
- After sugar and carbohydrates are converted to glucose, glucose is absorbed into the blood stream



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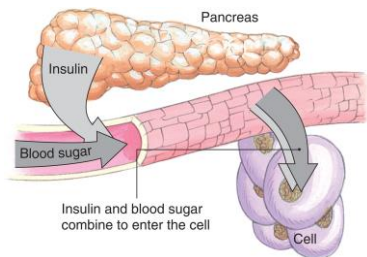
Diabetes—Glucose and the Digestive System (2 of 4)

- Glucose is a large molecule and cannot pass into the cell without insulin
 - The pancreas secretes insulin when blood glucose exceeds 90 mg/dL
 - Insulin binds to receptor sites on cells and allows glucose molecules to pass
- Normal glucose levels in the blood are essential to maintaining normal mental status



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Diabetes—Glucose and the Digestive System (3 of 4)



Insulin is needed to help the cells take in glucose.



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Diabetes—Glucose and the Digestive System (4 of 4)

- Patients who are diabetic:
 - Do not produce insulin
 - Do not produce enough insulin
 - Have become resistant to the insulin that is produced



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Diabetes—Insulin and the Pancreas

- The Islets of Langerhans in the pancreas produce the hormone insulin
- Most cells outside of the brain use insulin to transfer large glucose molecules across the cell membrane
 - Insulin is a key that unlocks the cell
 - Once unlocked, glucose can enter
- When sugar intake and insulin production are balanced, the body effectively uses glucose as an energy source



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Diabetes—Diabetes Mellitus (1 of 2)

- Diabetes mellitus results from an underproduction of insulin or the inability of the cells to use insulin properly
 - Type 1 (formerly insulin-dependent diabetes)
 - Pancreatic cells do not function properly
 - Insulin is not secreted normally
 - There is too little insulin to transfer circulating glucose into cells
 - Synthetic insulin is typically prescribed to supplement inadequate natural insulin



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Diabetes—Diabetes Mellitus (2 of 2)

- Type 2 (formerly non-insulin dependent diabetes)
 - The body's cells fail to utilize insulin properly
 - The pancreas is secreting enough insulin, but the body is unable to use it
 - May be controlled through diet, oral antidiabetic medications, and sometimes insulin



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Diabetes—Diabetic Emergencies (1 of 6)

- Hypoglycemia is low blood sugar
- It is caused by:
 - Too much insulin
 - Too little sugar intake
 - Overexercising or overexertion
 - Vomiting
 - Increased metabolic rate
- When blood sugar is reduced, brain and body cells starve



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Diabetes—Diabetic Emergencies (2 of 6)

- Hypoglycemia leads to altered mental status, unconsciousness, and possible permanent brain damage
- Onset is rapid and signs include:
 - Abnormal behavior mimicking a drunken stupor
 - Pale, sweaty skin
 - Tachycardia
 - Rapid breathing
 - Seizures



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Diabetes—Diabetic Emergencies (3 of 6)

- Quick replenishment of blood sugar is critical to the outcome for a patient with hypoglycemia
- Oral glucose is often used
- Cells of the RAS in particular need glucose, which causes notable alterations in mental status



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Diabetes—Diabetic Emergencies (4 of 6)

- Hyperglycemia is high blood sugar
- It is caused by insulin deficiency
 - Body may be unable to produce insulin
 - Insulin injections may be forgotten or insufficient
- Infection, stress, and increased dietary intake are factors



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Diabetes—Diabetic Emergencies (5 of 6)

- Hyperglycemia develops over days or weeks
- Signs include:
 - Chronic thirst and hunger
 - Increased urination
 - Nausea
 - Dehydration
- The cells of the body slowly starve due because glucose cannot enter the cells from the blood



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Diabetes—Diabetic Emergencies (6 of 6)

- Starving cells begin to burn fats and proteins in a way that produces excessive wastes
- Wastes build up and combine with dehydration to cause diabetic ketoacidosis (DKA)
- Signs of DKA include:
 - Profoundly altered mental status
 - Shock (caused by dehydration)
 - Rapid breathing
 - Acetone odor on the breath



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Diabetes—Patient Assessment (1 of 5)

- Ensure scene safety
 - The patient may be agitated or violent
- Perform a primary assessment
 - Identify altered mental status
- Perform a secondary assessment
 - Gather a history from the patient or bystanders



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Diabetes—Patient Assessment (2 of 5)

- Gather a history of the present episode
 - Determine how the episode occurred, the time of onset, and the duration
 - Identify associated symptoms, any mechanism of injury, and any interruptions to the episode
 - Ask whether there have been seizures or fever



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Diabetes—Patient Assessment (3 of 5)

- Complete a SAMPLE history
 - Determine if there is a history of diabetes
 - Look for a medical ID bracelet or wallet card
 - Note any oral medications
 - Check for a home glucose meter
 - Watch for an implanted insulin pump
 - Perform blood glucose monitoring if local protocols permit you to do so



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Diabetes—Patient Assessment (4 of 5)

- Determine if the patient is alert enough to swallow
- Take baseline vital signs
- Observe for signs and symptoms of diabetic emergency
 - Rapid onset of altered mental status
 - Intoxicated appearance
 - Cold, clammy skin
 - Elevated heart rate
 - Hunger



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Diabetes—Patient Assessment (5 of 5)

- Observe for signs and symptoms of diabetic emergency
 - Uncharacteristic behavior
 - Anxiety
 - Combativeness
 - Seizures
- It is important to determine both hypoglycemia and ability to swallow to administer effective field treatment



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Diabetes—Blood Glucose Meters (1 of 5)

- Blood glucose meters make it possible for patients to test glucose levels in their blood everyday
 - Testing helps patients know how much insulin to take and when and how much to eat
 - Testing helps reduce diabetes-related complications
- Continuous glucose meters can test as often as every 5 minutes via a sensor under the skin
- EMTs should not use a patient's glucose meter



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Diabetes—Blood Glucose Meters (2 of 5)



Most diabetics use home glucose meters to test their blood glucose levels.



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Diabetes—Blood Glucose Meters (3 of 5)

- Blood glucose measurement
 - Less than 60 mg/dL in symptomatic diabetic indicates hypoglycemia
 - Less than 50 mg/dL causes significant alterations in mental status, including unconsciousness
 - Greater than 140 mg/dL indicates hyperglycemia
 - Greater than 300 mg/dL for a prolonged period leads to dehydration and other, more serious symptoms



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Diabetes—Blood Glucose Meters (4 of 5)

- Always question a reading that is inconsistent with a patient's symptoms
 - The test strip may have had too little blood, been expired, or been improperly stored
 - Meter may have been out of calibration
 - Meter may not have been used properly or properly maintained



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Diabetes—Blood Glucose Meters (5 of 5)

- Glucose meters have special display readings for very high or very low glucose values
 - A reading of HIGH indicates an extremely high level in excess of 500 mg/dL
 - A reading of LOW indicates an extremely low level below 15 mg/dL



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Diabetes—Patient Care (1 of 3)

- Occasionally, mild hypoglycemia and minor altered mental status can be treated by eating or drinking
- Determine if the criteria for administration or oral glucose are present:
 - History of diabetes
 - Altered mental status
 - Patient is awake enough to swallow
- If the patient meets the criteria, let him squeeze the glucose from the tube directly into the mouth



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Diabetes—Patient Care (2 of 3)

- Reassess the patient after administration
 - If there is no improvement, consult medical direction
- If the patient is unable to swallow, treat as you would any other patient with altered mental status
 - Secure the airway
 - Provide artificial ventilations
 - Be prepared to perform CPR as needed
- If ventilations are not required, place the patient in the recovery position and request ALS



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Diabetes—Patient Care (3 of 3)

- The most important decision point in choosing to give oral glucose is the patient's ability to swallow
 - A hypoglycemic patient may need the sugar, but if the airway cannot be protected oral gel is not appropriate
 - Only administer oral glucose to patients who can swallow it and protect their airway from aspiration



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Diabetes—Hypoglycemia and Hyperglycemia Compared (1 of 2)

- Onset
 - Hyperglycemia has a slow onset
 - Hypoglycemia tends to come on suddenly
- Skin
 - Hyperglycemia involves warm, red, dry skin
 - Hypoglycemia involves cold, clammy skin
- Breath
 - Hyperglycemia involves acetone breath
 - Hypoglycemia involves no specific breath smell



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Diabetes—Hypoglycemia and Hyperglycemia Compared (2 of 2)

- Patients with hyperglycemia may also breathe deeply, be intensely thirsty, and have abdominal pain or vomiting
- It is not necessary to distinguish between the two conditions to give proper treatment in the field
- Oral glucose is recommended for anyone with a diabetic emergency
 - It helps hypoglycemic patients
 - It will not harm hyperglycemic patients



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Other Causes of Altered Mental Status

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Other Causes of Altered Mental Status—Seizure Disorders (1 of 4)

- If brain function is upset by injury, infection, or disease, the brain's electrical activity can become irregular
- Irregularity can bring about a sudden change in sensation, behavior, or movement called a seizure
- Partial seizure affects only one part of the brain
 - May involve uncontrolled convulsion in a patient with fully alert mental status
 - Some patients may briefly lose consciousness without convulsions



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Other Causes of Altered Mental Status—Seizure Disorders (2 of 4)

- Generalized seizures affect the entire brain and affect the consciousness of the patient
- EMTs are most often called for a type of generalized seizure called a tonic-clonic seizure
 - It is characterized by unconsciousness and major motor activity
 - It often has no warning
 - The patient will thrash wildly and the entire body is involved



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Other Causes of Altered Mental Status—Seizure Disorders (3 of 4)

- Tonic-clonic seizures have three phases:
 - Tonic phase
 - Body is rigid for up to 30 seconds
 - Breathing may stop
 - Bowel and bladder control may be lost
 - Clonic phase
 - Body jerks violently for 1 to 2 minutes
 - Patient may foam at the mouth
 - Face and lips may become cyanotic



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Other Causes of Altered Mental Status—Seizure Disorders (4 of 4)

- Tonic-clonic seizures have three phases:
 - Postictal phase
 - Convulsions stop
 - Consciousness is regained
 - The patient may be drowsy or may be violent
- Some seizures are preceded by a sensation (smell, sound, general feeling) called an aura



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Other Causes of Altered Mental Status—Causes of Seizures (1 of 4)

- The most common cause of seizures in adults is failure to take prescribed antiseizure medication
- The most common cause of seizures infants and young children is high fever
- Other causes of seizures:
 - Hypoxia
 - Stroke
 - Traumatic brain injury



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Other Causes of Altered Mental Status—Causes of Seizures (2 of 4)

- Other causes of seizures:
 - Toxins
 - Hypoglycemia
 - Brain tumor
 - Congenital brain defects
 - Infection
 - Metabolic
 - Idiopathic



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Other Causes of Altered Mental Status—Causes of Seizures (3 of 4)

- Other causes of seizures:
 - Epilepsy
 - Measles, mumps, and other childhood diseases
 - Eclampsia
 - Heat stroke
 - Onset of syncope



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Other Causes of Altered Mental Status—Causes of Seizures (4 of 4)

- Epilepsy is an umbrella term used to describe multiple seizures of unknown cause
 - May be present from birth or may develop later due to injury or surgery
 - Medication allows most people with epilepsy to live a normal life without seizures



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Other Causes of Altered Mental Status—Patient Assessment

- It is important to describe the seizure to emergency department personnel
- Gather information by asking bystanders:
 - What was the person doing before seizure started?
 - Was there an aura?
 - Exactly what did the person do during the seizure?
 - Was there a loss of bladder or bowel control?
 - How long did the seizure last?
 - What did person do after the seizure?



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Other Causes of Altered Mental Status—Patient Care (1 of 8)

- A patient seizing on arrival is a priority transport
- If you are present when a convulsive seizure occurs:
 - Place the patient on floor or ground
 - Loosen restrictive clothing
 - Remove objects that may harm the patient
 - Protect the patient from injury, but do not try to hold the patient still during convulsions
 - If there is a vagus nerve stimulator, allow family members to apply the magnet



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Other Causes of Altered Mental Status—Patient Care (2 of 8)

- After convulsions have ended
 - Protect the airway
 - If patient is cyanotic, ensure an open airway and provide artificial ventilations with oxygen
 - Treat any injuries the patient may have sustained during convulsions
 - Transport to a medical facility



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Other Causes of Altered Mental Status—Patient Care (3 of 8)

- Never place anything in the mouth of a seizing patient
- Two or more convulsive seizures in a row or a single seizure of more than 10 minutes is status epilepticus
 - This is a high-priority emergency requiring immediate transport to the hospital
 - ALS intercept may also be necessary



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Other Causes of Altered Mental Status—Types of Seizures (1 of 4)

- Simple partial seizures involve tingling, stiffening, or jerking of one part of the body
 - Aura may occur
 - There is no loss of consciousness
 - In some cases, the jerking may spread and develop into a tonic-clonic seizure



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Other Causes of Altered Mental Status—Types of Seizures (2 of 4)

- Complex partial seizure is characterized by abnormal behaviour that varies widely
 - May involve confusion, glassy stare, aimless motion, lip-smacking, or fidgeting
 - Patient may appear to be drunk or on drugs
 - Patient is not violent but may struggle if restrained
 - Seizure is often preceded by aura
 - There is no loss of consciousness, but there is no memory of the episode



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Other Causes of Altered Mental Status—Types of Seizures (3 of 4)

- Generalized seizures include two types:
 - Absence (petit mal) seizure
 - Brief, 10-second temporary loss of concentration or awareness
 - May occur hundreds of times per day
 - Does not involve motor activity
 - Tonic-clonic seizure
 - Involves the entire body



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Other Causes of Altered Mental Status—Types of Seizures (4 of 4)

- Patients with epilepsy tend to be knowledgeable about their condition and seizures may be common
 - They may refuse transport
 - Ensure patients who refuse transport are not left alone and do not drive



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Other Causes of Altered Mental Status—Stroke (1 of 3)

- Stroke is the death or injury of brain tissue from oxygen deprivation
 - Ischemic stroke is caused by a blockage that occurs due to a clot or embolism obstructing an artery
 - Hemorrhagic stroke is caused by bleeding from a ruptured blood vessel in the brain
 - Often a result of long-standing high blood pressure
 - Can also occur when a weak area of an artery bulges and eventually ruptures



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Other Causes of Altered Mental Status—Stroke (2 of 3)

- Different patients exhibit different signs depending on the size and location of the arteries involved
 - One-sided weakness (hemiparesis)
 - Difficulty speaking or a complete inability to speak
 - Headache caused by bleeding from ruptured vessel
 - Deviation of the eyes
 - Inability to recognize parts of the patient's own body



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Other Causes of Altered Mental Status—Stroke (3 of 3)

- Communicating with a stroke patient can be difficult because damage to the brain affects word use
 - Aphasia is a general term for difficulty communicating
 - In expressive aphasia, the patient knows what they want to say but uses the wrong words
 - In receptive aphasia, the patient cannot understand you so responds in ways that don't make sense



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Other Causes of Altered Mental Status—Transient Ischemic Attack

- In transient ischemic attack (TIA), the patient exhibits stroke signs that resolve within 24 hours
- Small clots temporarily block circulation to part of the brain and causes stroke-like symptoms
 - Symptoms resolve when the clots break up
 - The period of hypoxia is short and there is no permanent damage
- The patient is at risk of a full-blown stroke and should be evaluated as soon as possible



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Other Causes of Altered Mental Status—Patient Assessment (1 of 9)

- Evaluate using the Cincinnati Prehospital Stroke Scale
 - Ask the patient to grimace or smile
 - Abnormal response is unequal or no movement
 - Ask the patient to close the eyes and extend the arms straight forward for 10 seconds
 - Abnormal response is for one arm to drift or not move or for the arms to turn



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Other Causes of Altered Mental Status—Patient Assessment (2 of 9)



Assess for arm drift by asking the patient to close her eyes and extend her arms, palms up, for 10 seconds. A patient who has not suffered a stroke can usually hold her arms in an extended position with eyes closed.



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Other Causes of Altered Mental Status—Patient Assessment (3 of 9)



Assess for arm drift by asking the patient to close her eyes and extend her arms, palms up, for 10 seconds. A stroke patient will often display arm drift or palm rotation. That is, one arm will remain extended, but the arm on the affected side will drift downward or turn over.



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Other Causes of Altered Mental Status—Patient Assessment (4 of 9)

- Evaluate using the Cincinnati Prehospital Stroke Scale
 - Ask the patient to say, “You can’t teach an old dog new tricks”
 - Abnormal response is slurred speech, wrong words, or no speech



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Other Causes of Altered Mental Status—Patient Assessment (5 of 9)



Assess for speech difficulties. A stroke patient will often have slurred speech, use the wrong words, or be unable to speak at all. © Daniel Limmer



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Other Causes of Altered Mental Status—Patient Assessment (6 of 9)

- Other signs and symptoms can fluctuate in severity
 - Confusion
 - Dizziness
 - Numbness, weakness, or paralysis (often one-sided)
 - Loss of bowel or bladder control
 - Impaired vision
 - High blood pressure
 - Difficult respirations or snoring



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Other Causes of Altered Mental Status—Patient Assessment (7 of 9)

- Other signs and symptoms can fluctuate in severity
 - Nausea or vomiting
 - Seizures
 - Unequal pupils
 - Headache
 - Loss of vision in one eye
 - Unconsciousness (uncommon)



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Other Causes of Altered Mental Status—Patient Care (4 of 8)

- Recognition is the most important step in stroke care
- Many conditions mimic stroke, but it is always better to overtreat a suspected stroke
- Stroke is time sensitive and the longer the vessel is blocked, the more damage will occur
- The most important treatment is often rapid transport to an appropriate destination



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Other Causes of Altered Mental Status—Patient Care (5 of 8)

- For a conscious patients who can maintain the airway:
 - Calm and reassure the patient
 - Monitor the airway
 - Administer high-concentration oxygen if saturation is below 94 percent or if hypoxia or distress are present
 - Transport the patient



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Other Causes of Altered Mental Status—Patient Care (6 of 8)

- For an unconscious patient or a patient who cannot maintain the airway:
 - Maintain an open airway
 - Administer oxygen for adequate oxygen saturation
 - Transport to a hospital with the capabilities to manage a stroke patient (per local protocol)



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Other Causes of Altered Mental Status—Patient Care (7 of 8)

- Use of some treatments is time sensitive
- Patients must meet specific criteria for clot-busting drugs:
 - Onset of stroke less than 3 hours prior
 - CT scan showing no evidence of hemorrhagic stroke
 - Blood pressure that is not excessively hypertensive
- Be sure to document the exact time of symptom onset



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Dizziness and Syncope

- Dizziness and syncope can indicate serious or life-threatening problems
- You may be unable to diagnose the cause of syncope, Other Causes of Altered Mental Status—but you can treat life threats and gather information
- Determine what the patient means by dizziness
 - Weakness
 - Vertigo
 - Lightheadedness



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Other Causes of Altered Mental Status— Dizziness and Syncope

- Syncope is a brief loss of consciousness with a spontaneous recovery
 - Patients often have some warning that a syncopal episode is about to occur
 - May experience lightheadedness, dizziness, vision changes, or sweating
 - In some cases, bladder or bowel incontinence may occur



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Other Causes of Altered Mental Status— Causes of Dizziness and Syncope (1 of 3)

- Cardiovascular causes
 - Bradycardia and tachycardia
 - Acute myocardial infarction
 - Abnormal heart anatomy
 - Sensitive carotid sinus
 - Stimulation of the vagus nerve (vasovagal syncope)



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Other Causes of Altered Mental Status— Causes of Dizziness and Syncope (2 of 3)

- Hypovolemic causes (low fluid/blood volume)
 - Dehydration
 - Internal bleeding
 - Trauma
- Metabolic and structural causes
 - Inner and middle ear problems
 - Hypoglycemia
 - Stroke
 - Seizure



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Other Causes of Altered Mental Status— Causes of Dizziness and Syncope (3 of 3)

- Environmental and toxicological causes
 - Alcohol
 - Drugs that depress the central nervous system
 - Carbon monoxide poisoning
 - Panic and anxiety attacks
- Other causes
 - In half of the cases, no cause is ever found



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Other Causes of Altered Mental Status—Patient Assessment (8 of 9)

- Rapidly identify and treat life threats.
- Ask questions to gather important information during the secondary assessment:
 - Describe what you mean by "dizziness."
 - Did you have any warning? If so, what was it?
 - When did it start?
 - How long did it last?
 - What position were you in?
 - Have you had any similar episodes in the past?



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Other Causes of Altered Mental Status—Patient Assessment (9 of 9)

- Ask questions to gather important information during the secondary assessment:
 - Are you on medication for this kind of problem?
 - Did you have any other signs or symptoms?
 - Did you witness any unpleasant sight or experience a strong emotion?
 - Did you hurt yourself?
 - Did anyone witness involuntary movements of the extremities, like seizures?



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Other Causes of Altered Mental Status—Patient Care (8 of 8)

- The greatest danger for a patient with syncope is falling
 - Ensure the patient is in a safe environment
 - Help the patient into a safe position on the floor
- Provide aftercare
 - Lay the patient flat
 - Loosen tight clothing around neck
 - Administer oxygen based.
 - Call for ALS
 - Treat any injuries the patient may have incurred



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Chapter Review



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Chapter Review (1 of 5)

- Diabetic emergencies are usually caused by ineffective management of the patient's diabetes.
- Diabetic emergencies are often brought about by hypoglycemia, or low blood sugar.
- The chief sign of this hypoglycemia is altered mental status.



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Chapter Review (2 of 5)

- Whenever a patient has an altered mental status, a history of diabetes, and is able to swallow, administer oral glucose.
- Seizures may have a number of causes. Assess and treat for possible spinal injury, protect the patient's airway, and provide oxygen as needed.



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Chapter Review (3 of 5)

- You should gather information about the seizure to give to hospital personnel.
- A stroke is caused when an artery in the brain is blocked or ruptures.



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Chapter Review (4 of 5)

- Signs and symptoms of stroke commonly include an altered mental status, numbness or paralysis on one side, and difficulty with speech
- For stroke patients, ensure an open airway and provide supplemental oxygen. Determine the exact time of onset of symptoms and transport promptly.
- Dizziness and syncope (fainting) may have a variety of causes.



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Chapter Review (5 of 5)

- In the case of syncope, loosen clothing around neck and place patient flat with raised legs if there is no reason not to. Treat any injuries and transport.
- In all patients with altered mental status, your decision to administer oxygen will be based on the pulse oximetry reading as well as the patient's level of respiratory distress and other signs of hypoxia.



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Remember (1 of 2)

- Determine whether the patient's altered mental status is being caused by hypoxia.
- In a patient with a hypoglycemic emergency, determine whether the mental status will allow the administration of oral glucose.



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Remember (2 of 2)

- Assess the seizure patient to determine the need for artificial ventilation.
- Determine when the symptoms of a stroke began.



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Questions to Consider (1 of 2)

- List the chief signs and symptoms of a diabetic emergency.
- Explain how you can determine a medical history of diabetes.
- Explain what treatment may be given by an EMT for a diabetic emergency and the criteria for giving it.



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Questions to Consider (2 of 2)

- Explain the care that should be given to a conscious and to an unconscious patient with suspected stroke.
- Explain the care that should be given to a patient who has experienced dizziness or syncope.



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Critical Thinking

- A 62-year-old male is witnessed to have a tonic-clonic seizure. You find him actively seizing. His skin is pale and moist and slightly cyanotic. Discuss the immediate treatment necessary.

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