Chapter 20
Diabetes and Altered Mental Status

Overview
- Causes of Altered Mental Status
  - Diabetic Emergency
  - Seizures
  - Stroke
  - Other Possible Causes
- Emergency Care of Patients with Altered Mental Status
  - Assessment
  - Airway Management
  - Treatment for Diabetic Emergency

Causes of Altered Mental Status
- Hypoglycemia
- Poisoning
- Intoxication
- Infection
- Hypothermia
- Hyperthermia
- Head trauma
- Decreasing oxygen levels (hypoxia)
Diabetic Emergencies

• Insulin
  ➢ A hormone that allows for the breakdown of glucose into usable energy

Diabetic Emergencies

• Glucose
  ➢ A basic sugar that is present in some form in most foods

Diabetic Emergencies

• Diabetes mellitus
  ➢ A disease that results from failure of the pancreas to produce either enough insulin or usable insulin
Diabetic Emergencies

- Two forms of diabetes
  - Insulin-dependent
    - The pancreas no longer produces any insulin
  - Non-insulin-dependent
    - Some production of insulin still occurs

Diabetic Emergencies

- Common diabetic medications
  - Insulin
    - Humulin
  - Oral medications
    - Diabinese
    - Orinase
    - Micronase

Diabetic Emergencies

- Blood sugar levels
  - Hypoglycemia
    - A symptomatic decrease in blood sugar concentration
  - Hyperglycemia
    - A symptomatic increase in blood sugar concentration
Diabetic Emergencies

- Signs and symptoms of hypoglycemia
  - Rapid onset of altered mental status
  - Intoxicated appearance
  - Elevated heart rate
  - Cold, clammy skin
  - Anxiety
  - Hunger
  - Seizures

Seizures

- A convulsive movement of the body, or an impaired mental state, caused by random discharge of the brain's electrical impulses

Seizures

- Common causes
  - Fever
  - Infection
  - Poisoning
  - Overdose
  - Intoxication
  - Hypoglycemia
  - Head trauma
  - Hypoxia
  - Epilepsy
  - Brain tumor
  - Unknown
Stroke

- Strokes occur when arteries in the brain become blocked or break
- Most strokes occur from clots blocking arteries and are called ischemic

Stroke

- Signs and symptoms
  - Sudden weakness or numbness (often on one side of the body)
  - Confusion
  - Trouble speaking or seeing
  - Headache
  - Difficulty walking

Stroke

- Assessment
  - Cincinnati Prehospital Stroke Scale
    - Speech
    - Facial droop
    - Arm drift
Stroke

- Cincinnati Prehospital Stroke Scale
  - To assess speech
    - Have the patient repeat the sentence “The sky is clear in Cincinnati.”
    - If the patient slurs the words, this test result is positive

- Next, examine the patient’s face
  - If one side of the face or mouth droops, that is a positive sign
  - Ask the patient to smile
    - If one corner of the mouth does not rise as high as the other, that would be a positive sign as well

- Ask the patient to hold their arms in front of their body with the palms turned down and close their eyes
  - If one arm drifts away or to the floor, this is a positive sign
Stroke
- Cincinnati Prehospital Stroke Scale
  - A patient with two or three positive signs on the Cincinnati Prehospital Stroke Scale is very likely to be suffering a stroke
  - Any patient you suspect of having a stroke should be given oxygen and transported immediately to the hospital
  - There are many excellent treatments for strokes, but they must be given quickly after symptoms begin
  - Strokes are true medical emergencies and these patients should be transported without delay

Causes of Altered Mental Status
- Other causes
  - Poisoning
  - Intoxication
  - Infection
  - Head trauma
  - Decreased oxygen levels
  - Hypothermia or hyperthermia

Emergency Care of Patients with Altered Mental Status
Emergency Care of Patients with Altered Mental Status

- Diabetic emergencies
  - Assessment
  - Airway management
  - Administration of oral glucose

Examine the environment for clues.

Maintaining and reassessing the airway of a patient with altered mental status is your top priority!
Emergency Care of Patients with Altered Mental Status

- General treatment
  - Airway maintenance
  - High-flow oxygen
  - Assist ventilations as needed
  - Administration of oral glucose
  - Transport

Emergency Care of Patients with Altered Mental Status

- Administration of oral glucose
Emergency Care of Patients with Altered Mental Status

- Administration of oral glucose
Oral Glucose

- Generic name
  - Oral glucose

- Trade name
  - Glucose, Insta-Glucose

Oral Glucose

- Indications
  - Patients with altered mental status with a known history of diabetes controlled by medication

Oral Glucose

- Contraindications
  - Unresponsive
  - Unable to swallow

Never give oral glucose to a patient who is unresponsive or who cannot swallow.
Oral Glucose

- Administration technique
- Obtain order from medical direction (either online or offline)
- Ensure signs and symptoms of altered mental status with a known history of diabetes
- Ensure patient is conscious and can swallow and protect his or her airway
- Administer glucose
  - Between cheek and gum
  - Place on tongue depressor between cheek and gum
- Perform ongoing assessment

Video Clip: Administration of Oral Glucose

Oral Glucose

- Mechanism of action
  - Increases blood sugar
Oral Glucose

- Side effects
  - None when given properly
  - May be aspirated by the patient without a gag reflex

Oral Glucose

- Reassessment strategies
  - If patient loses consciousness or has a seizure, remove tongue depressor from mouth

Emergency Care of Patients with Altered Mental Status

- Seizures
  - Protect the patient from the environment
  - Maintain an open airway
  - Administer high-flow oxygen
  - Transport
Emergency Care of Patients with Altered Mental Status

- Stroke
  - Maintain a position of comfort
  - Maintain and protect the airway
  - Administer high-flow oxygen
  - Transport

Summary

- Causes of Altered Mental Status
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  - Seizures
  - Stroke
  - Other Possible Causes

- Emergency Care of Patients with Altered Mental Status
  - Assessment
  - Airway Management
  - Treatment for Diabetic Emergency