

UNIT TERMINAL OBJECTIVE

5-3 At the completion of this unit, the EMT-Intermediate student will be able to utilize the assessment findings to formulate a field impression and implement a treatment plan for the patient with a diabetic emergency.

COGNITIVE OBJECTIVE

At the completion of this unit, the EMT-Intermediate student will be able to:

- 5-3.1 Describe the pathophysiology of diabetes mellitus. (C-1)
- 5-3.2 Describe the effects of decreased levels of insulin on the body. (C-1)
- 5-3.3 Correlate abnormal findings in assessment with clinical significance in the patient with a diabetic emergency. (C-3)
- 5-3.4 Discuss the management of diabetic emergencies. (C-1)
- 5-3.5 Describe the mechanism of ketone body formation and its relationship to ketoacidosis. (C-1)
- 5-3.6 Describe the effects of decreased levels of insulin on the body. (C-1)
- 5-3.7 Discuss the pathophysiology of hypoglycemia. (C-1)
- 5-3.8 Recognize the signs and symptoms of the patient with hypoglycemia. (C-1)
- 5-3.9 Describe the management of a hypoglycemic patient. (C-1)
- 5-3.10 Integrate the pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with hypoglycemia. (C-3)
- 5-3.11 Discuss the pathophysiology of hyperglycemia. (C-1)
- 5-3.12 Recognize the signs and symptoms of the patient with hyperglycemia. (C-1)
- 5-3.13 Describe the management of the hyperglycemic patient. (C-1)
- 5-3.14 Differentiate between diabetic emergencies based on assessment and history. (C-3)
- 5-3.15 Correlate abnormal findings in the assessment with clinical significance in the patient with a diabetic emergencies. (C-3)
- 5-3.16 Develop a patient management plan based on field impression in the patient with a diabetic emergency. (C-3)

AFFECTIVE OBJECTIVES

None identified for this unit.

PSYCHOMOTOR OBJECTIVES

None identified for this unit.

DECLARATIVE

I. Introduction

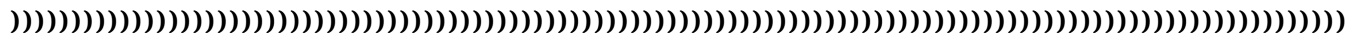
A. Define

- 1. Diabetes mellitus
- 2. Hypoglycemia
- 3. Hyperglycemia

II. Specific illnesses

A. Diabetes mellitus

- 1. Epidemiology
 - a. Incidence
 - b. Morbidity/ mortality
 - c. Long term complications
 - d. Risk factors
- 2. Pathophysiology
 - a. Types
 - (1) Type I-insulin dependent
 - (2) Type II-non insulin dependent
 - b. A chronic system syndrome characterized by hyperglycemia caused by a decrease in the secretion or activity of insulin
 - c. Normal insulin metabolism
 - d. Abnormal metabolism/ ketone formation
 - (1) When insulin supply is insufficient, glucose cannot be used for cellular energy
 - (2) Response to cellular starvation
 - (3) Body releases and breaks down stored fats and protein to provide energy
 - (4) Fatty acids produce ketones
 - (5) Excess ketones upset pH balance and acidosis develops (DKA)
- 3. Assessment findings
 - a. History
 - (1) Has insulin dosage changed recently?
 - (2) Has the patient had a recent infection?
 - (3) Has the patient suffered any psychologic stress?
 - b. Signs and symptoms
 - (1) Altered mental status
 - (2) Abnormal respiratory pattern (Kussmaul's breathing)
 - (3) Tachycardia
 - (4) Hypotension
 - (5) Breath has a distinct fruity odor
 - (6) Abnormal increase in urination
 - (7) Warm dry skin
 - (8) Weight loss
 - (9) Weakness
 - (10) Dehydration
 - c. Blood glucose analysis
- 4. Management
 - a. Airway and ventilation
 - b. Circulation



- (7) Abdominal pain
- (8) Hyperventilation
- (9) Kussmaul's respiration
- 4. Management
 - a. Airway and ventilation
 - (1) Oxygen
 - (2) Positioning
 - (3) Suction
 - (4) Assisted ventilation
 - (5) Advanced airway devices
 - b. Circulatory support
 - (1) Venous access
 - (2) Blood analysis
 - c. Pharmacological interventions
 - (1) Rehydration
 - d. Non-pharmacological interventions
 - (1) General comfort measures
 - e. Transport considerations
 - (1) Appropriate mode
 - (2) Appropriate facility
 - f. Psychological support/ communications strategies