**EKWE BERTILLA CHINWENDU**

**17/mhs01/110**

**BCH assignment**

1. **KETOGENESIS**

**Ketogenesis** is the [biochemical](/wiki/Biochemistry" \o "Biochemistry) process through which organisms produce [ketone bodies](/wiki/Ketone_bodies" \o "Ketone bodies) through [breakdown of fatty acids](/wiki/Fatty_acid_metabolism" \o "Fatty acid metabolism) and [ketogenic amino acids](/wiki/Ketogenic_amino_acid" \o "Ketogenic amino acid). This process supplies energy under circumstances such as [fasting](/wiki/Fasting" \o "Fasting) or [caloric restriction](/wiki/Caloric_restriction" \o "Caloric restriction) to certain organs, particularly the [brain](/wiki/Brain" \o "Brain), [heart](/wiki/Heart" \o "Heart) and [skeletal muscle](/wiki/Skeletal_muscle" \o "Skeletal muscle). Insufficient [gluconeogenesis](/wiki/Gluconeogenesis" \o "Gluconeogenesis) can cause [hypoglycemia](/wiki/Hypoglycemia" \o "Hypoglycemia) and excessive production of ketone bodies, ultimately leading to a life-threatening condition known as ketoacidosis

**2. KETONAEMIA**

the presence of an abnormally high concentration of ketone bodies in the blood

**3. KETONURIA**

the excretion of abnormally large amounts of ketone bodies in the urine, characteristic of diabetes mellitus, starvation, or other medical conditions.

Causes. Metabolic abnormalities such as **diabetes**, renal glycosuria, or glycogen storage disease. Dietary conditions such as starvation, fasting, low-carbohydrate diets, prolonged vomiting, and anorexia including caused by hyperemesis gravidarum.

4. CONSEQUENCES OF KETOSIS

Ketosis is generally considered to be safe for most people. However, it may lead to a few side effects, especially in the beginning.

**hese may include:**

* Headache.
* Fatigue.
* Brain fog.
* Increased hunger.
* Poor sleep.
* Nausea.
* Decreased physical performance ( 7 ).

That's because, for people with **diabetes**, ketosis can trigger a dangerous condition called ketoacidosis. This occurs when the body stores up too many ketones—acids produced as a byproduct of burning fat—and the blood becomes too acidic, which can damage the liver, kidneys, and brain. Left untreated, it can be fatal.

4. MANAGEMENT OF KETOACIDOSIS

Diabetic ketoacidosis (DKA) is a rare yet potentially fatal hyperglycemic crisis that can occur in patients with both type 1 and 2 diabetes mellitus. Due to its increasing incidence and economic impact related to the treatment and associated morbidity, effective management and prevention is key. Elements of management include making the appropriate diagnosis using current laboratory tools and clinical criteria and coordinating fluid resuscitation, insulin therapy, and electrolyte replacement through feedback obtained from timely patient monitoring and knowledge of resolution criteria. In addition, awareness of special populations such as patients with renal disease presenting with DKA is important. During the DKA therapy, complications may arise and appropriate strategies to prevent these complications are required. DKA prevention strategies including patient and provider education are important.

# Management of Diabetic Ketoacidosis

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