

# Diseases Caused By Nutritional Deficiencies

## Kwashiorkor



# Definition :

Kwashiorkor is a disease caused by the lack of protein in a child's diet.



Kwashiorkor is a type of protein energy malnutrition (PEM)

Kwashiorkor is most common in countries where there is a limited supply or lack of food. It is mostly found in children and infants in tropical or subtropical areas such as( Africa, Asia, and South America)

# Symptoms

The **symptoms** of kwashiorkor include :

**Change in skin and hair color and texture**

**Fatigue**

**Diarrhea**

**Loss of muscle mass**

**Failure to grow or gain weight**

**Edema (swelling) of ankles, feet, and belly**

**Damaged immune system, which can lead to more frequent and severe infections**

**Irritability**

**Rash (dermatitis)**

**Shock (late stage)**





Flag sign

Growth failure

Apathy, irritability

Anemia

Fatty liver

Villous atrophy of small intestine, diarrhea

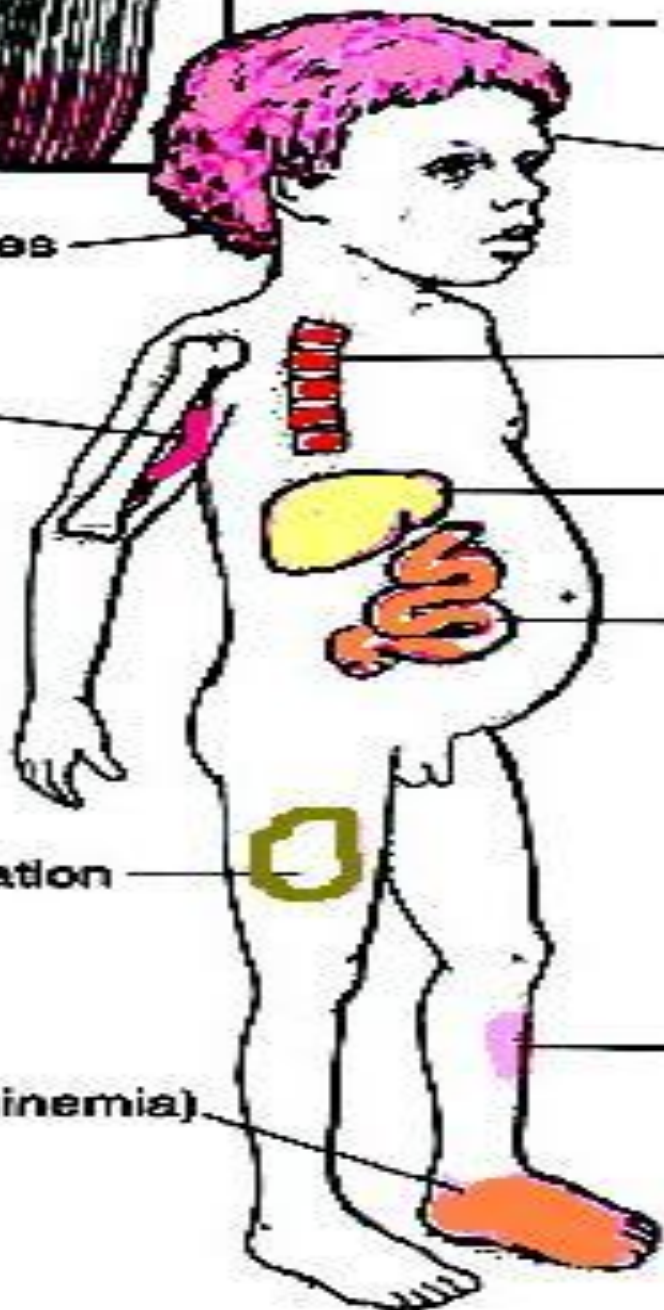
Dermatoses

Hair changes

Muscle wasting

Depigmentation of skin

Edema (hypoalbuminemia)



## CAUSE & EFFECT

Cause

Effect

Poor  
Nutrition

Protein  
Deficiency

Edema

Enlarged  
liver

Loss of teeth



# What Are the **Complications** of Kwashiorkor ?

Even with treatment, children who have had kwashiorkor may never reach their full growth and height potential. If treatment comes too late, a child may have permanent physical and mental disabilities.

If left untreated, the condition can lead to coma, shock, or death.



# How Is Kwashiorkor Treated ?

Kwashiorkor can be corrected by eating more protein and more calories overall, especially if treatment is started early.



However, children who have had this condition will never reach their full potential for height and growth.

Treatment depend on the severity of the condition.

People who are in shock need immediate treatment to restore blood volume and maintain blood pressure.

Normal



Kwashiorkor

