



# Anemia & Malnutrition



## ▶ **Prevention of anemia due to protein-energy malnutrition** ◀

- ▶ Breast feeding for infants; who are not hospitalized.
- ▶ Hospitalized children must be fed by all nutrients; as well, they should be periodically evaluated by the doctor.

## ▶ **Treatment of anemia due to protein-energy malnutrition** ◀

The first stage of the treatment includes:

- ▶ Correction of fluid and electrolyte imbalance
- ▶ Prescription antibiotics (which do not affect on the protein synthesis) for the treatment of infection.

The second stage of the treatment includes:

- ▶ Consumption of essential nutrients
- ▶ Physiotherapy for some patients

For patients who are not able to eat protein-rich foods, gavage or intravenous feeding is recommended, to provide the nutrients they need.

## ▶ **Nutritional treatment for anemia due to protein-energy** ◀

- ▶ Consumption of sufficient fluids.
- ▶ A wide range of foods should be selected to ensure that all vitamins and minerals are included in the diet.
- ▶ Milk, seafood, nuts, green leafy vegetables, whole grains, peas, legumes and oilseeds should be consumed.

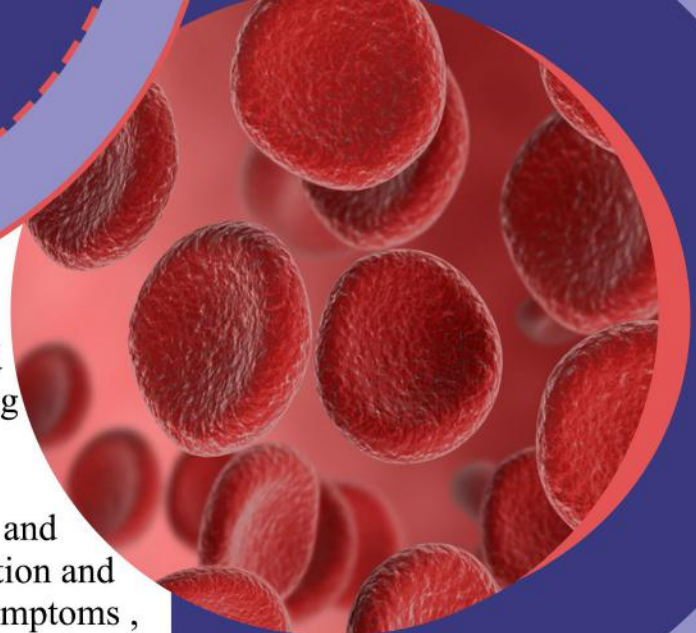


- ▶ Consumption of high-protein and high-energy sources in the diet.
- ▶ Multivitamin supplements can be taken as prescribed by your doctor.
- ▶ Consumption of foods that are selenium sources; such as walnuts, liver, fish, rice and wheat bran, caviar, eggs, red meat and poultry.
- ▶ Consumption of the sources of vitamin E; such as avocado, mango, kiwi, goose meat, pine nuts, pistachios, peanuts, cod, dark green leafy vegetables.
- ▶ Increase the intake of antioxidants, such as vitamin A. Vitamin A sources are: all yellow fruits and vegetables, meat, eggs, fish, kidneys and liver, fish liver oil (such as cod, shark and halibut).
- ▶ Consumption of the high-energy foods, beverages such as sugar cane juice and fats.
- ▶ Consumption of fresh fruits and raw vegetables is recommended.



## Anemia & Malnutrition

Anemia is diagnosed based on the following signs during taking medical history & physical examination by medical doctors: Eating habits and weight change , Body fat composition and muscle strength , Gastrointestinal symptoms , Underlying disease, Growth retardation , Nutrition status



### ▶ Anemia due to protein-energy malnutrition ◀

Protein-energy malnutrition can be caused by poor diet, protein-losing disorders (such as chronic kidney disease) and cancer. Thereby, anemia is developed due to the inadequate protein for hemoglobin and red blood cell production in protein-energy malnutrition.

Protein-energy malnutrition is more common in children; according to less protein absorption in children.

Anemia due to protein-energy malnutrition affects various body systems; therefore, predispose people to severe diseases and death, by increasing the risk of micronutrient deficiency, dehydration, infection, and sepsis (infection of the blood).



Protein-energy malnutrition can cause the following disorders:

- ▶ Kwashiorkor
- ▶ Marasmus
- ▶ Catabolism

### ▶ Symptoms of anemia due to protein-energy malnutrition ◀

Symptoms of anemia due to protein-energy malnutrition are as the following:

- ▶ Severe fatigue
- ▶ Weakness
- ▶ Paleness
- ▶ Headache and dizziness
- ▶ Cold hands and feet
- ▶ Nail fragility
- ▶ Chest pain
- ▶ Dyspnea