

Vitamins

Vitamins are such organic compounds, which may be in small amounts but are very necessary for the proper functioning of our body. We get this from food. Our body does not make vitamins by itself or in minimal quantities, so food makes up for their deficiency.

Introduction:

- Organic compound required in small amounts in the diet to maintain normal metabolic functions are known as 'Vitamins'.
- Many vitamins act as (or) are converted into coenzymes; they neither provide energy nor are incorporated into tissues.
- These also regulate the Bio-chemical processes in the body.

Vitamins are classified into two groups

1. **Fat soluble vitamins** (A, D, E, K). These are rich in liver cells.
2. **Water soluble vitamins** (C, B-complex). These are present in much smaller amounts in cells.

Fat Soluble Vitamins

Vitamin A:

- Vitamin A is also known as '**Retinol**'.
- It is necessary to keep the epithelium of the body healthy. This vitamin is essential for the production of rhodopsin in the pigment of the eyes. This vitamin works as a stimulant for eyesight, bone development and physical growth.
- **Deficiency diseases:** Night blindness, redness in eyes (Exophthalmia), degeneration of lachrymal glands.
- **Sources:** Milk, egg, cheese, green vegetables, etc.

Vitamin D:

- Vitamin D is also known as '**Calciferol**'.
- **Deficiency diseases:** Rickets in children, Osteomalacia in adults.
- **Sources:** fish oil, milk, eggs

Vitamin E:

- Vitamin E is also known as '**Tocopherol**'.
- **Deficiency diseases:** Sterility nutritional nuclear dystrophy, neurosis of heart muscles.
- **Sources:** Leaf vegetables, milk, butter, vegetable oil etc.

Vitamin K:

- Vitamin K is also known as '**Anti hemorrhagic**'.
- Deficiency diseases: Blood coagulation is prevented, continuous bleeding occurs.
- **Sources:** Tomato, green vegetables, also produced in the intestines

Water Soluble Vitamins

Vitamin 'B Complex': Vitamin B Complex is a mixture of B1, B2, B3, B5, B6, B7, B9, and B12.

Vitamin B1:

- Vitamin B1 is also known as **Thiamin**.
- **Deficiency diseases:** Beri Beri disease which affects the legs.
- **Sources:** Groundnut, Sesame, Dry Chilli, Undissolved Lentils etc.

Vitamin B2:

- Vitamin B2 is also known as Riboflavin.
- **Deficiency diseases:** Dark red tongue, dermatitis, cheilosis occurs at the corners of mouth & lips.
- **Sources:** Yeast, liver, meat, green vegetables, milk

Vitamin B3:

- Vitamin B3 is also known as **Pantothenic acid**.
- **Deficiency diseases:** Burning sensations of feet.
- **Sources:** Meat, peanuts, potatoes, tomatoes, leafy vegetables

Vitamin B5:

- Vitamin B5 is also known as Nicotinic acid/Niacin.
- **Deficiency diseases:** Pellagra, dermatitis, diarrhea.
- **Sources:** Meat, Milk, Groundnut, Sugarcane, Tomato

Vitamin B6:

- Vitamin B6 is also known as **Pyridoxine**.
- **Deficiency diseases:** Dermatitis and convulsions.
- **Sources:** liver, meat, cereals

Vitamin B7:

- Vitamin B7 is also known as **Biotin** (also considered as vitamin H).
- **Deficiency diseases:** Dermatitis, blood cholesterol increases, loss of hair and paralysis.

- **Sources:** meat, egg, liver, milk

Vitamin B9:

- Vitamin B9 is also known as Folic acid.
- **Deficiency diseases:** Anemia, inflammation of tongue, gastro intestinal disorders.
- **Sources:** asparagus, avocados, Brussels sprouts, and leafy greens like spinach and lettuce.

Vitamin B12:

- Vitamin B12 is also known as '**Cynocobal amine**'.
- **Deficiency diseases:** Pernicious anemia, hyperglycemia.
- **Sources:** meat, liver, milk

Vitamin C:

- Vitamin C is also known as '**Ascorbic acid**'.
- **Deficiency diseases:** Scurvy, delay in wound healing.
- **Sources:** Lemons, oranges, tomatoes, citrus, peppers, sprouts