

Vitamins



What are Vitamins?

- Compounds essential for specific metabolic functions.
- Non energy nutrients.
- Cannot be synthesized in the body.
- Acts as co-enzymes or part of enzymes responsible for promoting essential chemical reactions.



Classification of Vitamins

- Fat soluble vitamins:

These Vitamins need to be consumed with fat to have optimal absorption.

e.g., Vitamins A, D, E & K



- Water soluble vitamins:

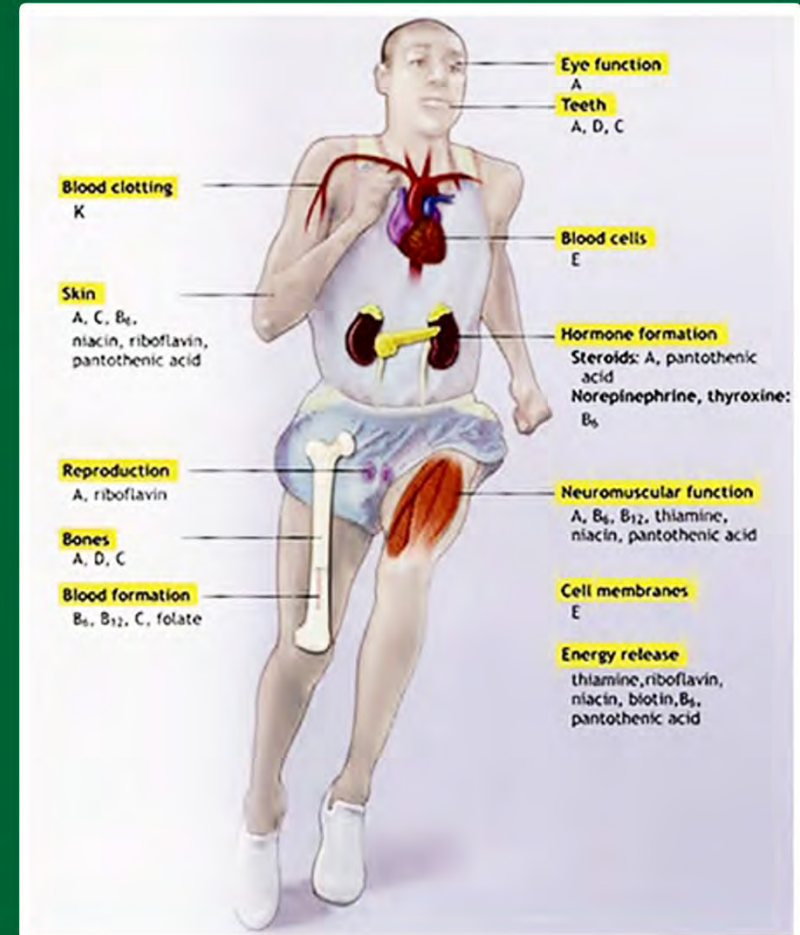
These Vitamins can be absorbed from the body easily by dissolving in water.

e.g., B-complex vitamins (8) and Vitamin C.



Functions of Vitamins?

- Each vitamin has specific jobs.
- If you have low levels of certain vitamins, you may get health problems.
- Acts as co-enzymes or part of enzymes responsible for promoting essential chemical reactions.
- Some vitamins may help prevent medical problems. Vitamin A prevents night blindness.



Functions & Sources



Vitamin	Function	Food Source
Vitamin B1 (Thiamin)	Helps with energy production in your body.	Whole grains, enriched grains, Liver, pork, dried beans, nuts and seeds.
Vitamin B2 (Riboflavin)	Helps with energy production in your body. Helps your body use other B vitamins.	Soybeans, meat and poultry, liver and eggs, Mushrooms, Milk, cheese, yogurt, Whole grains.
Vitamin B3 (Niacin)	Helps your body to use protein, fat and carbohydrate to make energy. Helps enzymes work properly in your body.	Mushrooms, Peanut, butter, meat, fish, poultry, Whole grains, enriched grains.
Biotin	Allows your body to use protein fat and carbohydrate from food.	Sweet potatoes, Nonfat milk, yogurt, Peanuts, almonds, eggs, liver, soy protein.

Functions & Sources

Vitamin	Function	Food Source
Vitamin B6 (Pyridoxin)	Helps your body to make and use protein and glycogen. Helps form haemoglobin.	Potatoes, bananas, 100% bran, instant oatmeal, Meat, fish, poultry, liver, soybeans.
Vitamin B12 (Cobalamin)	Works with vit. folate to make DNA. Helps to make healthy blood cells. Keeps nerves working properly.	Milk, cheese, yogurt, Meat, fish, poultry, liver, eggs.
Folate (folacin / folic acid)	Helps produce & maintain DNA & cells. Helps make RBC's & prevent anemia. lowers the risk of baby with birth defects.	Asparagus, cooked spinach, romaine lettuce, Brussels sprouts, beets, broccoli, corn, green peas, oranges.
Vitamin C	May help prevent cell damage and reduce risk for certain cancers. Keeps your immune system healthy.	Oranges, grapefruits, kiwi, strawberries, mangoes, papaya.

Functions & Sources

Vitamin	Function	Food Source
Vitamin A	Helps you to see in the day & night. Protects from infections by keeping skin & other body parts healthy.	Liver, some fish, Milk, cheese.
Vitamin D	Improves mineral Ca & P absorption. Strengthens bones & teeth. Improves immune system.	Milk, fish, eggs, meat.
Vitamin E	Helps maintain healthy immune system & other body processes. Acts as an antioxidant.	Vegetable oils, Avocados, leafy green vegetables, Wheat germ, sunflower seeds, some nuts, peanut, butter.
Vitamin K	Helps in blood clotting. Involved in making proteins for blood, bones & kidneys.	Broccoli, soybeans, dark green leafy vegetables such as kale, collards, turnip/beet greens.

Summary

- Vitamins are the micro nutrients without any energy value but help to generate energy.
- Water and fat soluble vitamins.
- Micro quantities make a big difference.
- Vitamins are involved in almost all biological reactions in our body.