B vitamins:
- Help the body use energy from food.
- Keep the nerves in good condition.
- Keep the skin healthy.
- Are found in a variety of foods.
- Are water soluble.

There are six important B vitamins:
- B₁ also called thiamine.
- B₂ also called riboflavin.
- B₆ also called pyridoxine.
- B₁₂ also called cyanocobalamin.
- Niacin.
- Folic acid

B₁ also known as thiamine:
- Helps the nerves.
- Helps the appetite.
- Helps the body digest food.

Not enough thiamine in the diet will eventually lead to a condition called beriberi (inflammation and degeneration of the nervous system, the digestive system, and the heart). Clinical signs of deficiencies include:
- Mental confusion.
- Anorexia (loss of appetite).
- Muscular weakness.
- Ataxia (uncoordinated voluntary muscle movement).
- Peripheral paralysis.
- Ophthalmoplegia (paralysis of the eye muscles).
- Edema (water retention).
- Muscle wasting (dry beriberi).
- Tachycardia (rapid heartbeat).
- Enlarged heart.

B₁ is found in the following food groups:
- Breads, Cereals, Rice, Pasta—enriched and fortified whole grain breads and cereals.
- Meat, Poultry, Fish—lean pork, kidney, liver, heart, dried beans and peas, seeds, and nuts.

B₂ also known as riboflavin:
- Keeps the skin healthy.
- Keeps the eyes healthy.
- Helps the body use protein, fat, and carbohydrates. These give you energy.

Without enough riboflavin in the diet, lesions may occur.
Clinical signs of deficiencies include:
- Cheilosis (cracks in the corner of the mouth, scaly lips).
- Angular stomatitis (inflammation of the mouth).
- Scrotal and vulval skin changes.

B₆ also known as pyridoxine:
- Helps the body use protein; assists in protein metabolism.
- Helps the body make blood cells.

In infants, dietary deprivation of vitamin B₆ may result in:
- Epileptic-form convulsions.
- Loss of weight.
- Abdominal distress.
- Vomiting.
- Hyperirritability.

In adults, dietary deprivation of vitamin B₆ may cause:
- Depression.
- Confusion.

B₆ is found in the following food groups:
- Breads, Cereals, Rice, Pasta—brown rice, oats, whole wheat breads and cereals.
- Fruits—fresh fruits.
- Vegetables—fresh vegetables.
- Meat, Poultry, Fish—chicken, fish, kidney, liver, eggs, soybeans, peanuts, and walnuts.

B₁₂ also known as cyanocobalamin:
- Helps the body grow.
- Maintains health in patients with pernicious anemia.

Dietary deficiency of B₁₂ is rare. Clinical signs of deficiency include:
- Sore tongue.
- Weakness.
- Demyelination of the spinal cord and brain and the optic and peripheral nerves (the loss of sheath tissue which normally covers the nerve fibers).

B₁₂ is found in the following food groups:
- Meat, Poultry, Fish
- Milk, Cheese, Yogurt
Niacin:

- Keeps the skin healthy.
- Keeps the tongue healthy.
- Keeps the nerves in good condition.
- Participates in many metabolic processes, including fat synthesis, tissue respiration, and the breakdown of carbohydrates to produce energy.

A niacin deficiency results in:

- Pellagra (dermatitis, inflammation of the mucous membrane).
- Dementia (confusion, apathy).

**Niacin is found in the following food groups:**

- **Breads, Cereals, Rice, Pasta**—enriched whole grain breads and cereals.
- **Vegetables**—corn.
- **Meat, Poultry, Fish**—lean meats and eggs.

Folic acid:

- Builds blood cells.
- Works with B 12
- Prevents anemia in pregnancy
- Makes new cells for developing babies
- Supplements are often recommended during pregnancy

Not enough folic acid may result in:

- Anemia
- Birth defects of the spinal cord
- Red and sore tongue
- Reduced sense of taste

**Folic acid is found in the following food groups:**

- **Breads, Cereals, Rice, Pasta**—whole grain breads and cereals.
- **Vegetables**—green leafy vegetables, dried beans, and peas.
- **Meat, Poultry, Fish**—liver, seeds, and nuts.
- **Fruits**—citrus fruits and juices.
- **Yeast**

### RDA For B Vitamins:*  

<table>
<thead>
<tr>
<th>Category</th>
<th>Age (years) Or Condition</th>
<th>B₁ thiamine (mg)</th>
<th>B₂ riboflavin (mg)</th>
<th>B₆ pyridoxine (mg)</th>
<th>B₁₂ cyanocobalamin (µg)**</th>
<th>niacin (mg NE)***</th>
<th>folic acid (mg)</th>
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<tbody>
<tr>
<td>Infants</td>
<td>0-6 months</td>
<td>0.3</td>
<td>0.4</td>
<td>0.3</td>
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<td>6 months-1 year</td>
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<td>0.5</td>
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<td>6</td>
<td>5</td>
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<td>Children</td>
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<tr>
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<td>2nd 6 months</td>
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<td>1.8</td>
<td>2.1</td>
<td>2.6</td>
<td>20</td>
<td>280</td>
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</tbody>
</table>

*Recommended Dietary Allowances (RDA) for B vitamins vary according to age groups and conditions.

**Microgram. A microgram is equal to one millionth of a gram.

***One NE (niacin equivalent) is equal to 1 mg of niacin or 60 mg of dietary tryptophan.

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**For more information**, call your county Extension office. Look in your telephone directory under your county’s name to find the number.

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