

# Vitamin B1 (Thiamine) Overview

## Why We Need It?

Vitamin B1, also known as thiamine, is an essential water-soluble vitamin required for energy metabolism, nervous system function, and overall cellular health. Since the body cannot store large amounts, consistent intake is necessary to prevent deficiency.

## Functions in the Body

Energy Production: Converts carbohydrates into ATP through the Krebs cycle.

Nervous System Support: Essential for neurotransmitter synthesis and nerve impulse conduction.

Cardiovascular Health: Helps maintain proper heart function by aiding in energy production for cardiac cells.

Metabolic Function: Supports the metabolism of glucose, amino acids, and lipids.

Brain Function: Crucial for cognitive processes, memory retention, and mental clarity.

## Recommended Daily Intake

Age Groups RDA (mg/day)

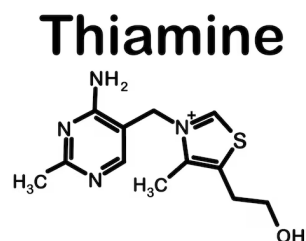
Infants (0-6 months) - 0.2 mg

Children (1-8 years) - 0.5-0.6 mg

Adolescents (9-18 years) - 0.9-1.2 mg

Adults (19+ years) - 1.1-1.2 mg

Pregnant/Breastfeeding Women - 1.4 mg



## Benefits of Supplementation

- Enhances energy levels and reduces fatigue.
- Supports nerve health and may help prevent neurological disorders.
- May improve cognitive function and reduce symptoms of brain fog.
- Essential for individuals with high carbohydrate intake, as thiamine is needed for glucose metabolism.
- Supports heart function, especially in individuals at risk of heart disease.
- Helps prevent beriberi and Wernicke-Korsakoff syndrome, conditions associated with deficiency.

## Most Bioavailable Forms

Benfotiamine – A fat-soluble derivative of thiamine that offers higher absorption and prolonged activity in the body, particularly beneficial for neuropathy and metabolic disorders.

Thiamine HCl – A commonly used water-soluble form with good absorption but shorter duration of activity.

Thiamine Mononitrate – Another stable and effective form used in supplements and fortified foods.

## Best Food Sources

1. Whole grains (brown rice, oats, whole wheat bread)
2. Legumes (lentils, black beans, peas)
3. Nuts and seeds (sunflower seeds, macadamia nuts)
4. Lean meats (pork, beef liver)
5. Eggs and dairy products
6. Vegetables (spinach, asparagus, Brussels sprouts)

## Conclusion

Vitamin B1 is a crucial nutrient for energy, brain function, and nerve health. Regular intake through diet or supplementation is necessary to support optimal metabolism, cognitive function, and cardiovascular health. Benfotiamine is the most bioavailable form for supplementation, offering superior absorption and effectiveness.