VITAMIN B₁
B Vitamins: Establishing Healthy Growth

VITAMIN B₁ BASICS
Also known as: Thiamine
Important for: Nervous system, muscles, heart function, healthy growth
Animal Sources: Fish (eel, tuna), pork, kidney, heart, liver
Grain/Fruit/Vegetable Sources: Brewer’s yeast (best source), whole grain cereals and bread, leafy vegetables, potatoes, dried legumes, dried fruit, nuts

OVERVIEW
Vitamin B₁ is a water soluble vitamin that is part of the vitamin B complex group. Vitamin B₁ plays an important role in energy metabolism and is required for proper functioning of the nervous system and muscles, which contribute to a functional cardiovascular system.

DISCOVERY AND HISTORY
The active principle of vitamin B₁ was discovered in 1897 by Dutch physician and pathologist Christiaan Eijkman, who was researching the causes of beriberi, a common and sometimes fatal disease that causes fatigue, weakness and heart failure. Eijkman worked with chickens that were fed cooked white rice and unpolished uncooked rice – and he discovered that diet had a huge impact on which birds lived and which birds got sick and died. Later research on Eijkman’s “anti-beriberi factor” by Polish-American scientist Casimir Funk led to the coining of the word “vitamin” in 1912. By 1926, vitamin B₁ was isolated and given the name thiamine. Eijkman was awarded a Nobel Prize in 1929 for his research around vitamin B₁.

VITAMIN B₁ DEFICIENCY
A deficiency of vitamin B₁ alone is uncommon because it usually occurs in combination with a deficit in other B vitamins. However, there are health problems associated with low levels of vitamin B₁, including:

• Delayed growth and development
• Impaired immune functions
• Fatigue
• Difficulty breathing
• Loss of mental alertness
• Heart damage
• Weight loss
• Weakness and muscular atrophy
• Night blindness
• Eye lesions
• Paralysis

POPULATIONS AT RISK OF VITAMIN B₁ DEFICIENCY
Vitamin B₁ deficiency and the corresponding disease beriberi occur sporadically in Southeast Asia. Severe vitamin B₁ deficiency is extremely rare in developed countries, but certain populations are more at risk:

• People who get the majority of their calories from sugar
• Alcoholics

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