Vitamin B6 (Pyridoxine)

Function:

Vitamin B6 is needed to metabolize proteins and is important for a healthy immune system, nerves, bones and arteries. Vitamin B6 is a complex of three similar molecules: Pyridoxine, Pyridoxal and Pyridoxamine. All are present in foods and converted into to pyridoxal-5-phosphate, the most active coenzyme form. The primary functions of vitamin B6 are in protein metabolism, transferring amino acid and sulfur groups. Roles in synthesis of heme (for hemoglobin), niacin, neurotransmitters, connective tissues, eicosanoids, and sphingolipids in nerve sheaths are also essential. Vitamin B6 also participates in the utilization of glycogen and immune function.

Deficiency Symptoms:

Early vitamin B6 deficiency symptoms are primarily peripheral neuropathy, weakness, irritability, depression, insomnia and anxiety. More severe deficiency leads to dermatitis, nausea, vomiting, and convulsions. Carpal tunnel syndrome, premenstrual tension syndrome, and atherosclerosis may also be related to vitamin B6 deficiency. Sideroblastic anemia is indicative of vitamin B6 deficiency. Homocysteine levels in serum may be elevated by a vitamin B6 deficiency.

Repletion Information:

Dietary sources rich in vitamin B6 include:

Nutritional Supplements  Nutritional Yeasts
Potatoes  Meats
Wheat Germ  Bananas
Legumes  Fortified Cereal Products

The 1989 RDA for vitamin B6 is between 1.4-2.0 mg for adults. Oral intakes of pyridoxine hydrochloride in excess of 1000 mg daily for long time periods have caused peripheral neuropathy. Doses between 200 and 1000 mg daily for long time periods have also been associated with peripheral neuropathy. In general, doses up to 100 mg daily have exhibited long-term safety. Persons with drug-induced neuritis may tolerate higher doses, while pyridoxine may diminish the effectiveness of the medication L-DOPA in patients with Parkinson’s Disease.